

MCC-NIES
List of Strains, 9th Edition (2013)
Microalgae, Endangered Macroalgae and Protists

**Microbial Culture Collection
(MCC) at National Institute for
Environmental Studies (NIES)**



**Core facility for algal resources
of National BioResource
Project (NBRP)**



**Kawachi, M., Ishimoto, M., Mori, F., Yumoto, K., Sato, M., Noël, M.-H.
2013. MCC-NIES List of Strains, 9th Edition, Microbial Culture
Collection at National Institute for Environmental Studies, Tsukuba,
Japan.**

<http://mcc.nies.go.jp/>

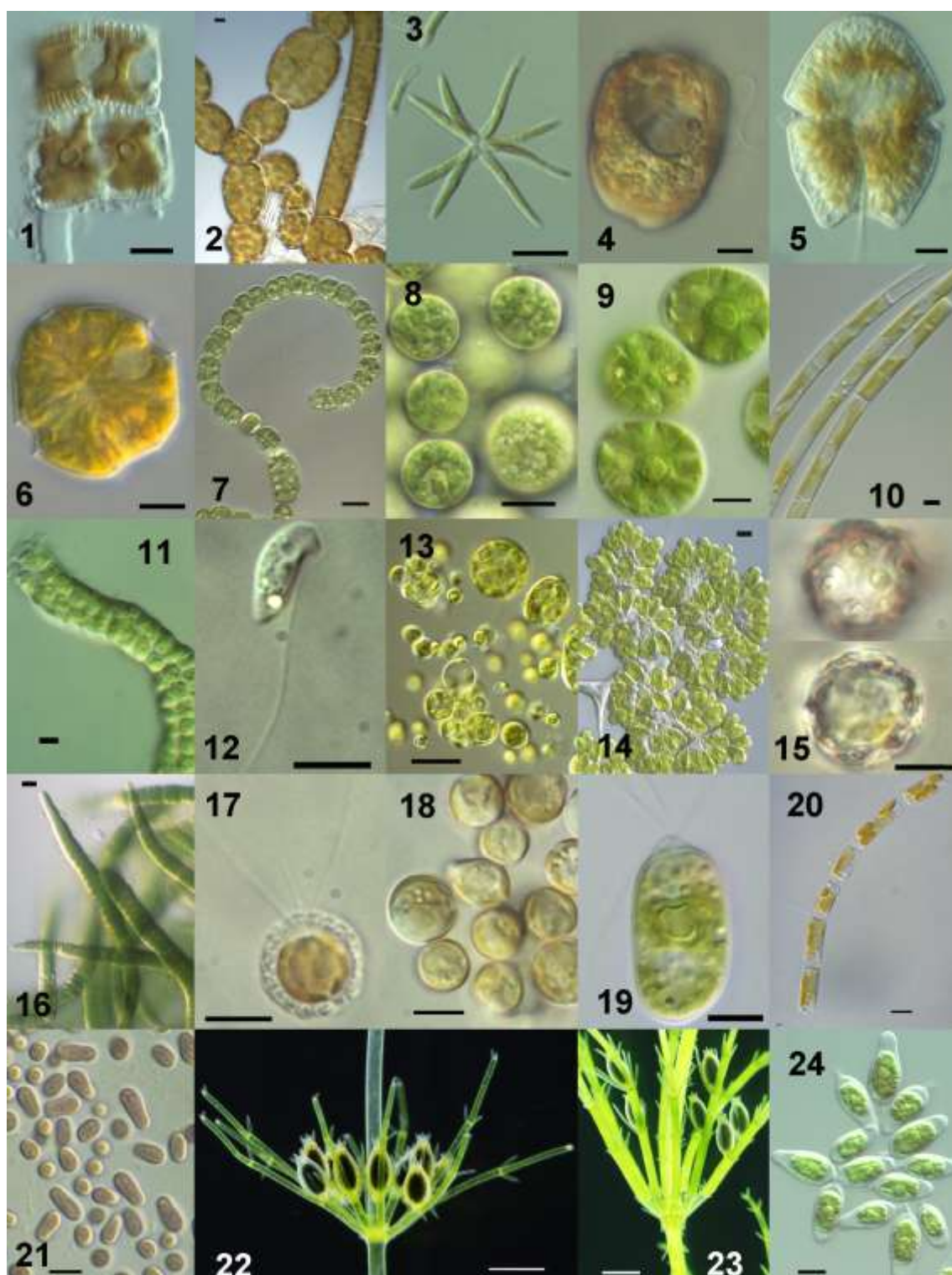


Plate 1. Micrographs of NIES strains (alphabetical order). 1. *Achnanthes* (NIES-330), 2. *Acinetospora* (NIES-548), 3. *Actinastrum* (NIES-415), 4. *Adenoides* (NIES-1402), 5. *Akashiwo* (NIES-1832), 6. *Alexandrium* (NIES-674), 7. *Anabaena* (NIES-75), 8. *Asterochloris* (NIES-1298), 9. *Asterooccus* (NIES-1331), 10. *Aulacoseira* (NIES-333), 11. *Blidingia* (NIES-1837), 12. *Bodo* (NIES-1439), 13. *Botrydium* (NIES-622), 14. *Botryococcus* (NIES-836), 15. *Calcidiscus* (NIES-1305), 16. *Calothrix* (NIES-334), 17. *Calyptosphaera* (NIES-997), 18. *Calyptosphaera* (NIES-1811), 19. *Carteria* (NIES-421), 20. *Chaetoceros* (NIES-377), 21. *Chamaesiphon* (NIES-433), 22. *Chara* (NIES-1589), 23. *Chara* (NIES-1601), 24. *Characiochloris* (NIES-638). Scale bars = 10 μ m, scale bars in Figs 22 and 23 = 1 mm.

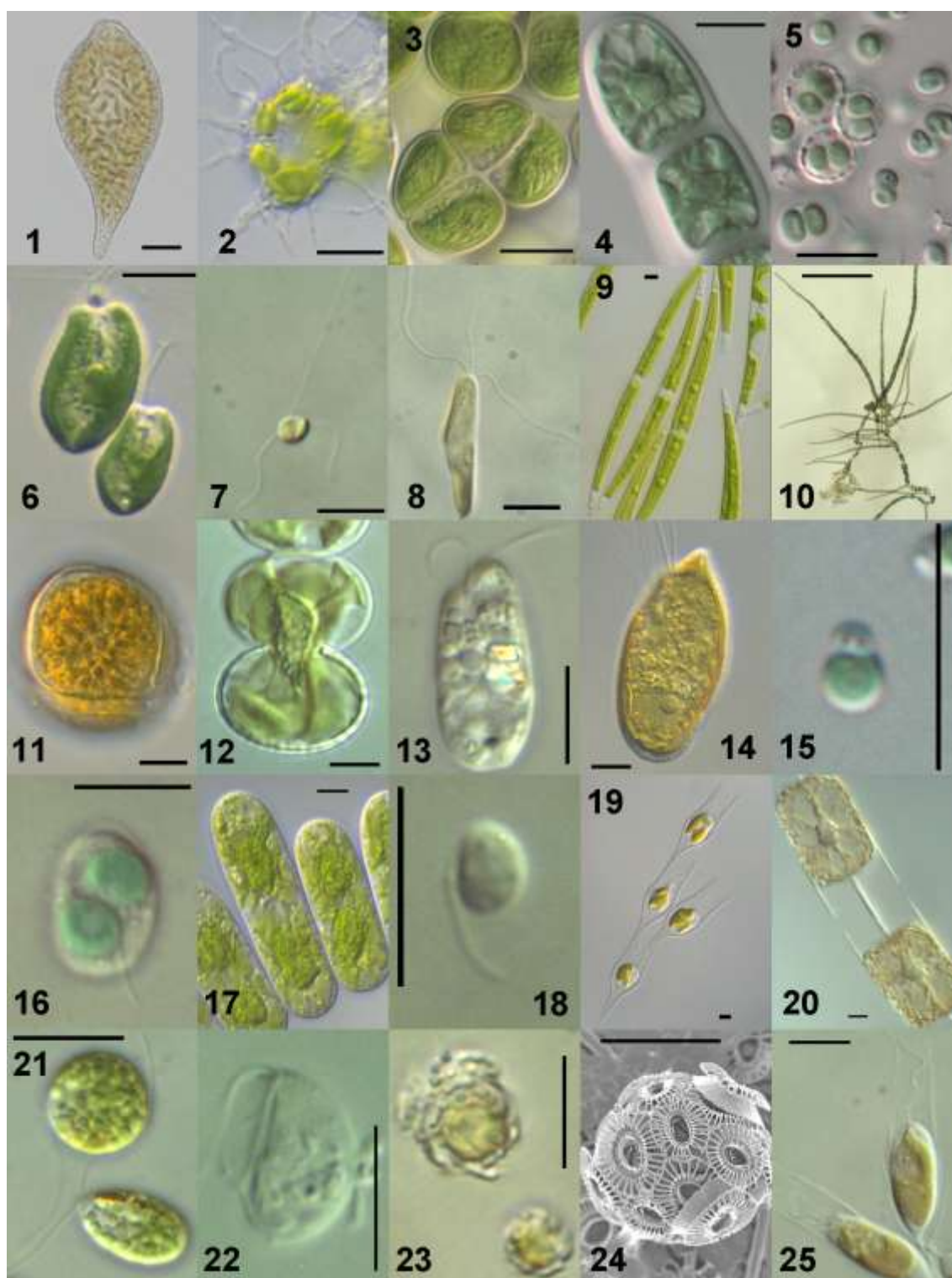


Plate 2. Micrographs of NIES strains (alphabetical order). 1. *Chattonella* (NIES-1), 2. *Chlorarachnion* (NIES-624), 3. *Chlorokybus* (NIES-160), 4. *Chroodactylon* (NIES-1969), 5. *Chroogloeocystis* (NIES-1031), 6. *Chroomonas* (NIES-708), 7. *Chrysochromulina* (NIES-1333), 8. *Chrysoculter* (NIES-1874), 9. *Closterium* (NIES-57), 10. *Compsopogon* (NIES-1461), 11. *Coolia* (NIES-615), 12. *Cosmarium* (NIES-452), 13. *Cryptomonas* (NIES-715), 14. *Cryptomonas* (NIES-345), 15. *Cyanidioschyzon* (NIES-1332), 16. *Cyanophora* (NIES-547), 17. *Cylindrocystis* (NIES-349), 18. *Developayella* (NIES-1388), 19. *Dinobryon* (NIES-284), 20. *Ditylum* (NIES-350), 21. *Dunaliella* (NIES-2258), 22. *Dysnectes* (NIES-1843), 23. *Emiliana* (NIES-837), 24. SEM image of *Emiliana*, 25. *Epipyxis* (NIES-1826). Scale bars = 10 μ m, scale bar in Fig. 10 = 1 mm.

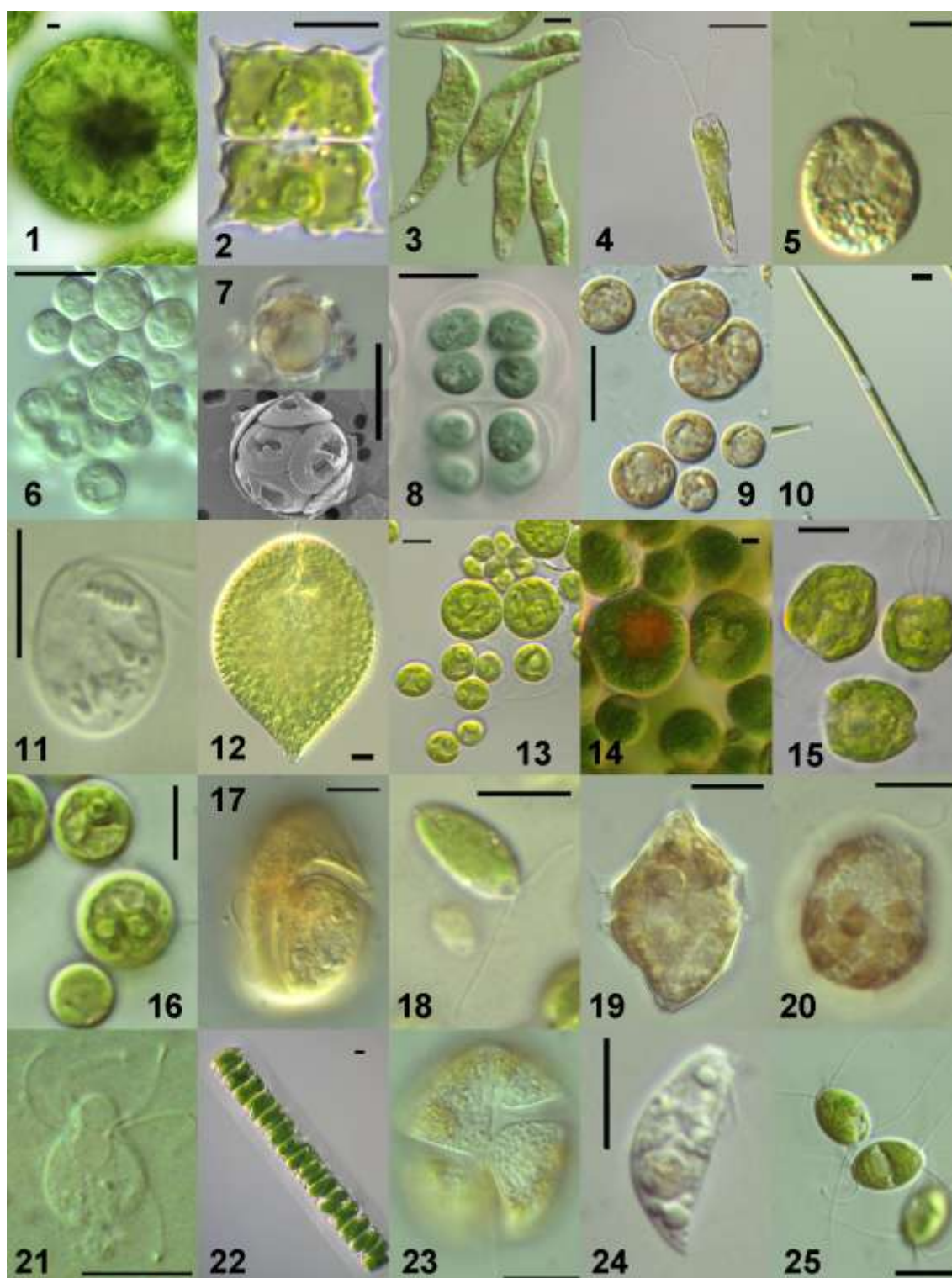


Plate 3. Micrographs of NIES strains (alphabetical order). 1. *Eremosphaera* (NIES-380), 2. *Euastrum* (NIES-840), 3. *Euglena* (NIES-286), 4. *Eutreptiella* (NIES-381), 5. *Fibrocapsa* (NIES-1378), 6. *Galdieria* (NIES-550), 7. *Gephyrocapsa* (NIES-1329), Lower is SEM image of *Gephyrocapsa*, 8. *Gloeocapsa* (NIES-931), 9. *Glossomastix* (NIES-1002), 10. *Gonatozygon* (NIES-138), 11. *Goniomonas* (NIES-1373), 12. *Gonyostomum* (NIES-1380), 13. *Graesiella* (NIES-226), 14. *Haematococcus* (NIES-144), 15. *Hafniomonas* (NIES-257), 16. *Halochlorococcum* (NIES-1838), 17. *Hemidinium* (NIES-471), 18. *Hemiflagellochloris* (NIES-1722), 19. *Heterocapsa* (NIES-1403), 20. *Heterosigma* (NIES-6), 21. *Hexamita* (NIES-1440), 22. *Hyalotheca* (NIES-294), 23. *Karenia* (NIES-680), 24. *Kathablepharis* (NIES-1334), 25. *Lagerheimia* (NIES-382). Scale bars = 10 μ m

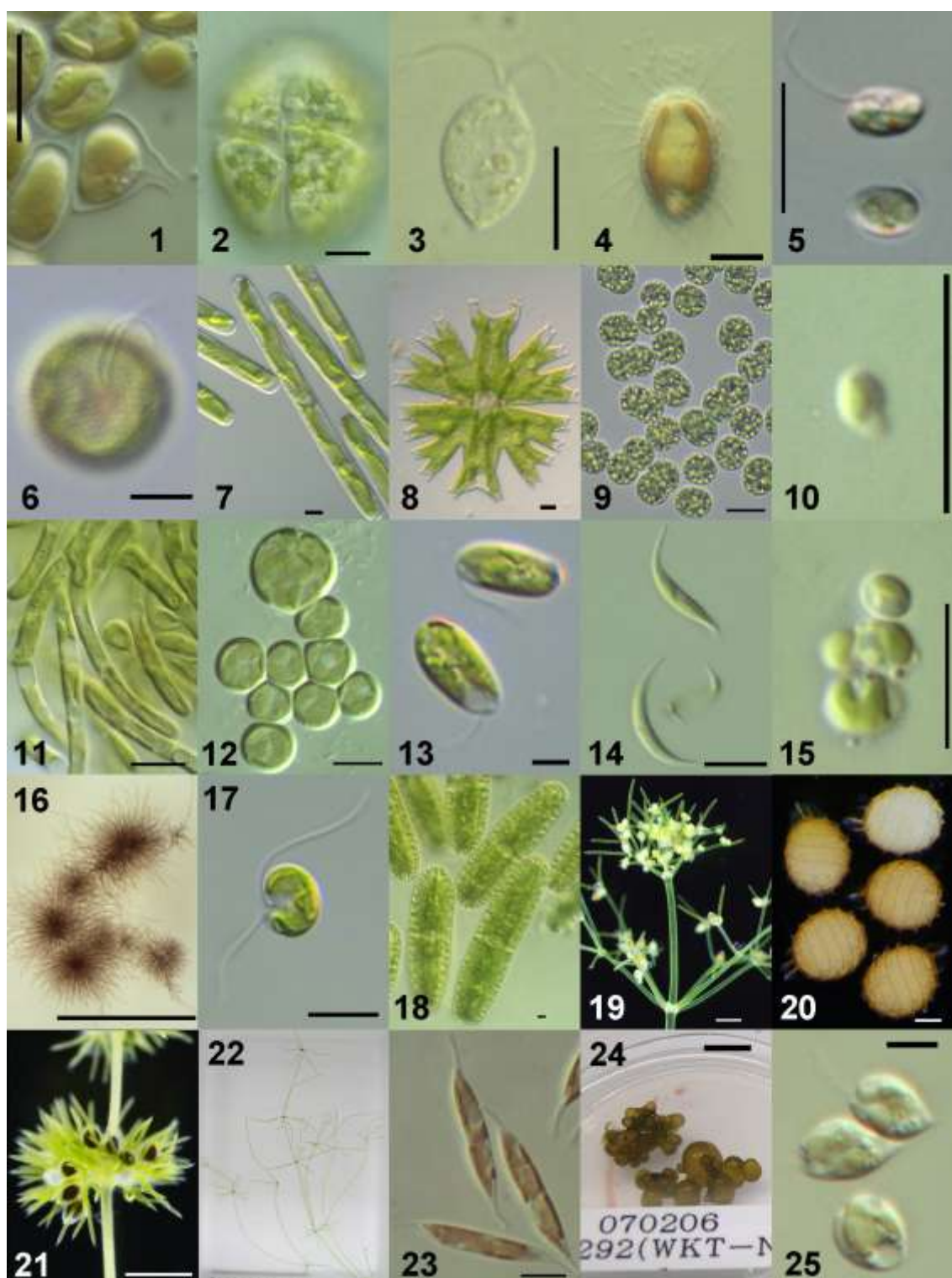


Plate 4. Micrographs of NIES strains (alphabetical order). 1. *Lagynion* (NIES-1827), 2. *Lepidodinium* (NIES-1868), 3. *Leucocryptos* (NIES-1335), 4. *Mallomonas* (NIES-1376), 5. *Marsupiomonas* (NIES-1824), 6. *Mesostigma* (NIES-296), 7. *Mesotaenium* (NIES-2287), 8. *Micrasterias* (NIES-152), 9. *Microcystis* (NIES-44), 10. *Micromonas* (NIES-1411), 11. *Microthamnion* (NIES-479), 12. *Mischococcus* (NIES-1963), 13. *Monomastix* (NIES-225), 14. *Monoraphidium* (NIES-384), 15. *Nannochloropsis* (NIES-2145), 16. *Nemalionopsis* (NIES-2031), 17. *Nephroselmis* (NIES-483), 18. *Netrium* (NIES-2288), 19. *Nitella* (NIES-1616), 20. Oospores of *Nitella* (NIES-1616), 21. *Nitella* (NIES-1628), 22. *Nitellopsis* (NIES-1638), 23. *Nitzschia* (NIES-2351), 24. *Nostoc* (NIES-2113), 25. *Ochromonas* (NIES-2142). Scale bars = 10 μ m, scale bars in Figs 16, 19 and 21 = 1 mm, scale bar in Fig. 20 = 100 μ m, scale bar in Fig. 24 = 1 cm.

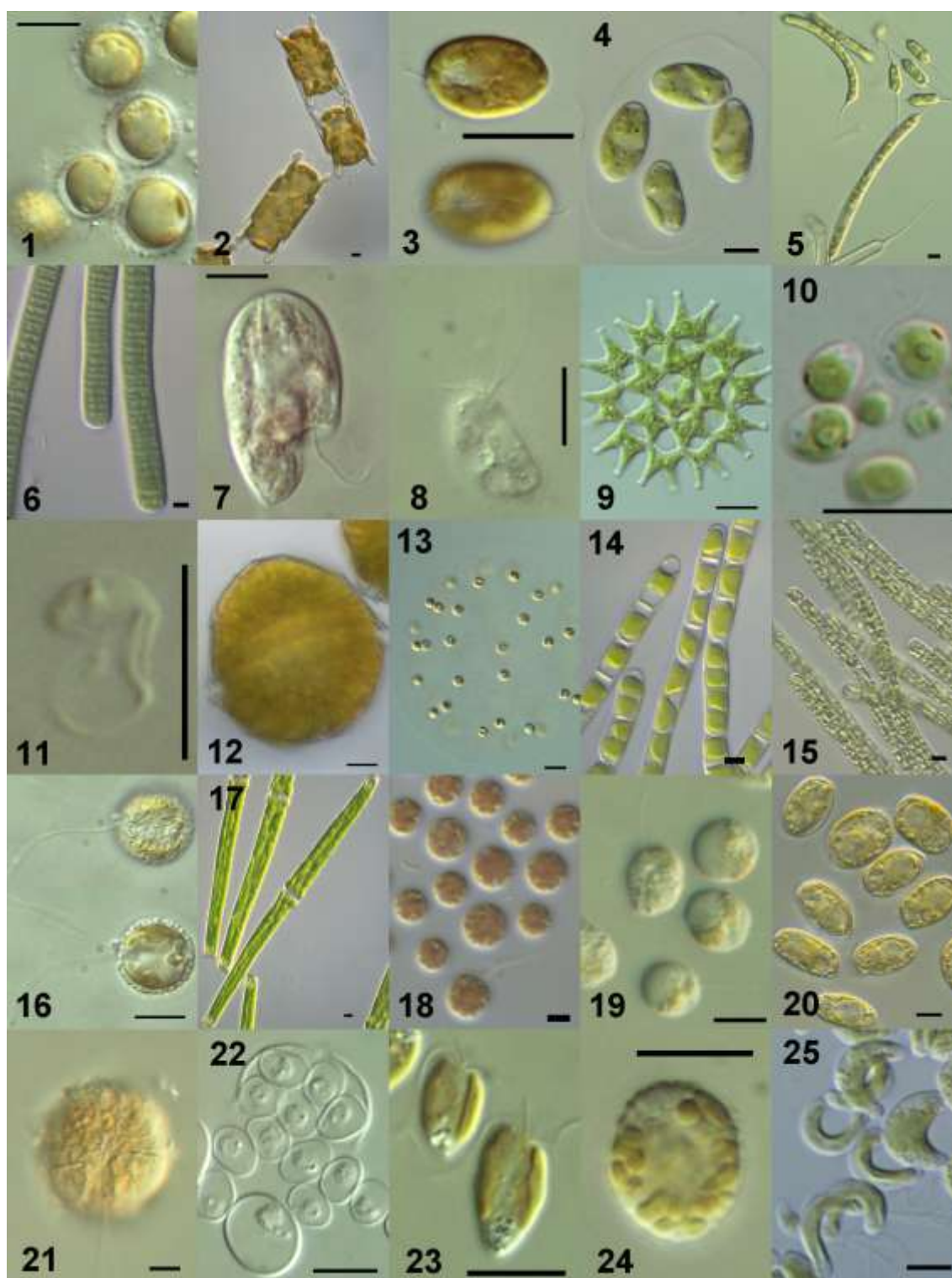


Plate 5. Micrographs of NIES strains (alphabetical order). 1. *Ochrosphaera* (NIES-1395), 2. *Odontella* (NIES-589), 3. *Olisthodiscus* (NIES-15), 4. *Oocystis* (NIES-661), 5. *Ophiocytium* (NIES-1011), 6. *Oscillatoria* (NIES-33), 7. *Oxyrrhis* (NIES-494), 8. *Paraphysomonas* (NIES-1377), 9. *Pediastrum* (NIES-211), 10. *Pedinomonas* (NIES-363), 11. *Percolomonas* (NIES-1441), 12. *Peridinium* (NIES-497), 13. *Phaeocystis* (NIES-1396), 14. *Planctonema* (NIES-514), 15. *Planktothrix* (NIES-205), 16. *Pleurochrysis* (NIES-1813), 17. *Pleurotaenium* (NIES-309), 18. *Porphyridium* (NIES-1035), 19. *Poterioochromonas* (NIES-2144), 20. *Prorocentrum* (NIES-682), 21. *Protoceratium* (NIES-319), 22. *Prototheca* (NIES-2182), 23. *Prymnesium* (NIES-1397), 24. *Pseudochattonella* (NIES-670), 25. *Pseudokirchneriella* (NIES-35). Scale bars = 10 μ m.

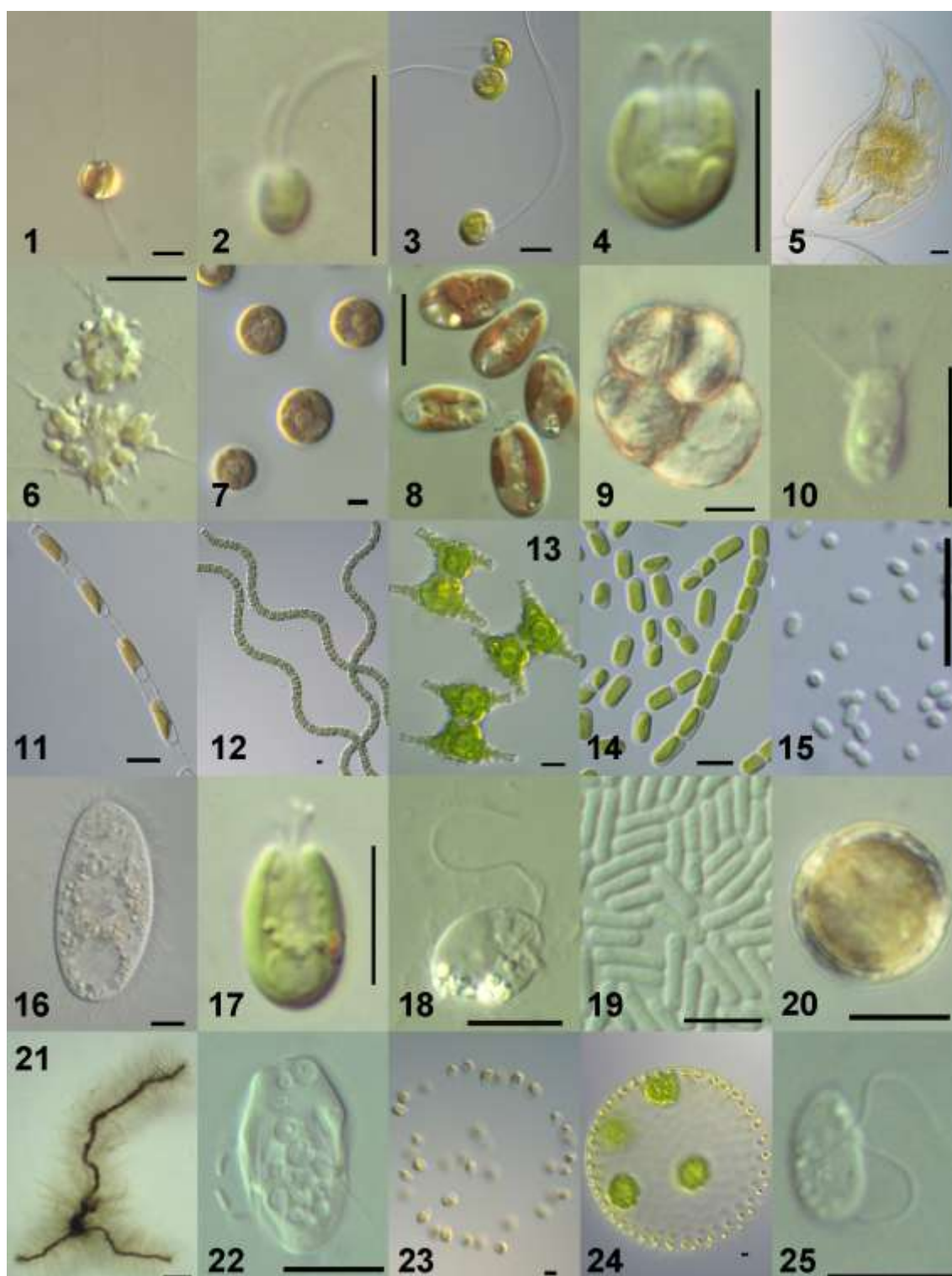


Plate 6. Micrographs of NIES strains (alphabetical order). 1. *Pseudopedinella* (NIES-1810), 2. *Pseudoscourfieldia* (NIES-1420), 3. *Pterosperma* (NIES-626), 4. *Pyramimonas* (NIES-1422), 5. *Pyrocystis* (NIES-609), 6. *Rhizochromulina* (NIES-1382), 7. *Rhodella* (NIES-1037), 8. *Rhodomonas* (NIES-1006), 9. *Rubratella* (NIES-1455), 10. *Salpingoeca* (NIES-1442), 11. *Skeletonema* (NIES-324), 12. *Spirulina* (NIES-45), 13. *Staurastrum* (NIES-528), 14. *Stichococcus* (NIES-530), 15. *Synechococcus* (NIES-945), 16. *Tetrahymena* (NIES-403), 17. *Tetraselmis* (NIES-1429), 18. *Thaumatomastix* (NIES-1443), 19. *Thermosynechococcus* (NIES-2134), 20. *Thoresphaera* (NIES-1326), 21. *Thorea* (NIES-1754), 22. *Trepomonas* (NIES-1444), 23. *Uroglena* (NIES-395), 24. *Volvox* (NIES-541), 25. *Wobblia* (NIES-1015). Scale bars = 10µm, scale bars in Fig. 21 = 1 mm.

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I. INTRODUCTION

The Microbial Culture Collection at the National Institute for Environmental Studies (MCC-NIES) currently holds more than 2,500 strains, which include cyanobacteria, eukaryotic microalgae, protozoa, and endangered macroalgae. Most of the NIES strains have been directly deposited by their isolators, whereas some strains have been deposited from other culture collections by exchange between collections and via researchers. Herein are listed 2,333 of these strains (Table 1), they are available for education, research, and development in accordance with the “Agreement for distribution”. The MCC-NIES accepts the deposition of strains that are environmentally important, as well as those for basic and applied studies. The collection also accepts the deposition of type strain of cyanobacteria and type specimens of eukaryotic microalgae as frozen samples.



Microbial culture collection building

MAINTENANCE OF STRAINS

About 3/4 of the NIES strains (about 2000 strains) are maintained by subculturing under optimal and/or sub-optimal conditions mostly ranging from 5°C to 25°C (37°C or 45°C for thermophilic strains) and 4 to 50 $\mu\text{mol}\cdot\text{m}^{-2}\cdot\text{s}^{-1}$ photon flux density in a 12-h-light:12-h-dark photo-regime. The strains are serially transferred at 10-day to 6-month intervals. These maintenance conditions differ with the algal strain and are indicated in each individual strain data. To prevent loss of the strains during maintenance by subculturing, we conduct weekly growth checks. Once a year, we also check axenic strains for the absence of bacteria by using several bacterial check media.

The remaining strains—about 600 strains including most of the cyanobacterial strains and

some of the green and red algal strains—are cryopreserved only, in the vapor phase of liquid nitrogen.



Upper: Subculture of strains in liquid or agar media
Down: Cryopreserved strains in liquid nitrogen tanks

SCIENTIFIC NAMES AND PHYLOGENY

The scientific names of the NIES strains are primarily given by the depositors. However, we have used DNA sequencing (mostly of the 18S rRNA gene) to re-evaluate those NIES strains for which DNA sequence data have not yet been reported. As a result, we have changed the scientific names of the misidentified strains, although we have left their former names as “Formerly identified as.” We have also added “Re-identified at NIES by DNA sequencing” in “Identified by” and if the original scientific names of these strains were appropriate, we have simply indicated “Confirmed at NIES by DNA sequencing”, with gene names and accession numbers in “Gene data.” We are still re-evaluating the remainder.

For the cyanobacterial genus *Microcystis*, five morphospecies [*M. aeruginosa* (Kützing)Kützing, *M. ichthyoblabe* Kützing, *M. novacekii* (Komárek) Compère, *M. viridis* (A. Braun) Lemmermann emend. Kondrateva, and *M. wesenbergii* (Komárek) Komárek in Kondrateva] have been reported as water blooms in Japan. Recently, Otsuka *et al.* (2001) published a proposal that these five species should be unified into one bacterial species, *M. aeruginosa*, because of their morphological plasticity and similarity in terms of DNA/DNA hybridization. Although this emendation has not been validated yet (Oren 2004), we have accepted this proposal and have changed the species names of

the strains formerly identified as the above-mentioned five morpho-species to *M. aeruginosa*. However, we are leaving the former names as “Formerly identified as:” in the individual strain data, and in this list we use “*Microcystis aeruginosa* (Kützing) Lemmermann” temporarily.

HISTORY AND CHARACTERISTICS OF STRAINS

The MCC-NIES was founded as an “environmental study-oriented” culture collection in 1983, when environmental problems such as eutrophication of lakes and rivers, air and water pollution, and human health problems caused by environmental pollution were much more severe than nowadays in Japan. The MCC-NIES started with ca. 250 strains (Watanabe & Kasai 1985), and the number of strains has since increased to more than 2000, as listed herein.

These strains are critically important in environmental studies, both as organisms that cause outbreaks such as red tides and water blooms—and sometimes produce toxins—and as autotrophic, heterotrophic, and mixotrophic components of the food web. In addition, some of the strains could contribute to human health and protection from global warming both directly and indirectly, by producing beneficial substances such as antioxidants and biofuels.

Recently, the MCC-NIES has added many picoplanktonic and heterotrophic strains, the importance of which in the aquatic ecosystem has recently been recognized, although red-tide-forming algae, such as *Chattonella antiqua* and *Heterosigma akashiwo* and water-bloom-forming cyanobacteria such as *Microcystis aeruginosa* still characterize the MCC-NIES.

In the mid-1990s, the MCC-NIES started *ex situ* conservation of endangered algae in Japan. In the list of endangered Japanese wildlife (the red list) compiled by the Ministry of Environment (2007), 116 taxa (species and varieties) of algae are listed as extinct, extinct in the wild and endangered species in Japan. Most of them are Charales and red algae (mostly freshwater taxa). Local populations of these algae have decreased in Japan owing to anthropogenic stresses such as eutrophication, habitat loss, and the introduction of grass carp (Watanabe *et al.* 2005). At present, the MCC-NIES holds ca. 300 strains of these endangered algae, including Charales and freshwater red algae. The collection of endangered species is partly supported by the Time Capsule Project conducted by the Ministry of Environment of Japan from 2002.

In 2002 the MCC-NIES was selected as the core collection for algae in the National BioResource

Project (NBRP) conducted by the Ministry of Education, Culture, Sports, Science and Technology of Japan. In the first phase of the NBRP (FY 2002–2006), more than 200 strains of *Microcystis* and *Anabaena*, collected from representative eutrophic lakes all over Japan were deposited by the National Science Museum, together with phylogenetically diverse strains of microalgae and protozoa deposited by the University of Tsukuba. In addition, more than 300 strains of cyanobacteria and eukaryotic microalgae maintained at the IAM Collection (University of Tokyo) had been transferred to the MCC-NIES up until the end of FY 2006, when the IAM Collection was closed. Finally, both environmentally and evolutionarily important species, as well as experimental materials that have been well-studied in genomic, genetic, molecular, and physiological terms—such as *Cyanidioschyzon merolae* (10D), *Chlamydomonas reinhardtii* (C-9), *Chlorella vulgaris* (Tamiya strain), and *Thermosynechococcus elongatus* (BP-1)—have been gathered into the core MCC-NIES. The second phase of the NBRP will continue until the end of FY 2011; during this phase we aim to accumulate strain data and institute quality control of the strains.

In 2007, the MCC-NIES started to accept the deposition of type specimens of eukaryotic microalgae as frozen materials. We are considering a supporting system to make frozen samples, since the preparation of frozen samples is usually impractical for individual researchers. However, we may not accept requests from researchers, because most of eukaryotic algae are difficult to make frozen samples by using ordinary cryopreservation techniques with high viability after thawing. In addition, we have limited time to spend on such services. Therefore, we request researchers who are thinking about the deposition of type materials to contact us at least one year before submission of manuscripts.

In July 2008, the MCC-NIES renewed its website and started an online ordering service. We hope that the new system will enhance the availability of the NIES strains.

From the start of the collection, the Committee for Evaluating Microbial Culture Strains has evaluated the NIES strains upon deposition on the basis of conditions described below. At present, the committee includes nine researchers at NIES and six supervisors outside NIES. In addition, since 2002 the MCC-NIES has been supervised by the Steering Committee of the NBRP Algae (see section IX).

ACKNOWLEDGMENTS

We deeply appreciate Dr. Fumie Kasai and Dr. Mayumi Erata for their detailed work to prepare

the 8th edition (Kasai et al. 2009). And the present 9th edition list was largely prepared based on this previous list. We thank Dr. Takeshi Nakayama for critical comments and helpful advices on the taxonomy and systematics of microalgae and protozoa; Prof. Makoto M. Watanabe, Dr. Masayuki Watanabe, Dr. Yuuhiko Tanabe and Dr. Shigeto Otsuka, for comments and advices on the cyanobacteria; Dr. Hidetoshi Sakayama for the taxonomy of the Charales; Dr. Shigeru Kumano for the taxonomy of freshwater red algae; Prof. Shin Watanabe for comments on the taxonomy of green coccid algae; Prof. Takeo Horiguchi for advices on the taxonomy of dinoflagellates; Dr. Akiko Yokoyama for the taxonomy of unicellular red algae; Dr. Shigeki Mayama for advices on the taxonomy and culture of diatoms; Dr. Hisayoshi Nozaki and Dr. Sadaaki Yoshimatsu and Prof. Masahiko Ikeuchi for their kind advices on the culture of volvocean algae, dinoflagellates and thermophilic cyanobacteria, respectively; Dr. Yoshihito Ohmura for the taxonomy and culture of lichen symbiotic algae; Dr. John G. Day, Prof. Jun Minagawa and Dr. Ichiro Nishii for advices on cryopreservation; Prof. Kunimitsu Kaya, Dr. Tomoharu Sano for valuable information on biochemistry of cyanobacterial strains; Dr. Takamitsu Honma for identification of *Pseudanabaena* strains; Dr. Takeshi Nakada for kind advice on the taxonomy of volvocean algae; and the member of the steering committee of National BioResources Project (Algae) and the Committee for Evaluating Microbial Culture

Strains at the National Institute for Environmental Studies for their critical advices on the collection of algal resources.

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Table 1. Numbers of genera, species, and strains available from the MCC-NIES.

Upper Rank (Superkingdom /Kingdom)	Phylum	Class	Numbers of			
			Genera	Species	Strains	
Bacteria	Cyanophyta (Cyanobacteria)	Cyanophyceae	38	95	706	
Plantae	Rhodophyta	Glaucoephyceae	2	3	7	
		Compsopogonophyceae	2	2	3	
		Cyanidiophyceae	2	2	5	
		Florideophyceae	4	9	255	
		Porphyridiophyceae	1	2	12	
		Rhodellophyceae	2	2	4	
		Stylonematophyceae	1	1	3	
		Chlorophyta	Chlorophyceae	67	190	459
		Pedinophyceae	2	2	3	
		Prasinophyceae	15	27	61	
		Trebouxiophyceae	25	36	117	
		Ulvophyceae	7	10	13	
		Streptophyta	Charophyceae	26	77	214
			Mesostigmatophyceae	1	1	5
	Excavata	Euglenozoa	Euglenophyceae	4	8	13
Kinetoplastea			1	1	1	
Metamonada		Trepomonadea	2	2	2	
		Metamonada incertae sedis	2	2	2	
Rhizaria	Percolozoa	Heterolobosea	1	1	1	
	Cercozoa	Chlorarachniophyceae	5	5	6	
		Imbricatea	4	4	5	
Alveolata	Foraminifera	Foraminifera	1	1	1	
	Ciliophora	Oligohymenophorea	1	1	1	
	Dinophyta	Dinophyceae	24	43	94	
Stramenopila	Heterokontophyta	Oxyrrhea	1	1	1	
		Aurearenophyceae	1	1	3	
		Bacillariophyceae	22	30	57	
		Bolidophyceae	1	2	3	
		Chrysomeridophyceae	1	1	1	
		Chrysophyceae	12	15	19	
		Dictyochophyceae	7	7	10	
		Eustigmatophyceae	2	5	6	
		Pelagophyceae	3	4	8	
		Phaeophyceae	1	1	1	
		Pinguiphyceae	2	2	5	
		Raphidophyceae	7	10	51	
		Schizocladiophyceae	1	1	1	
		Xanthophyceae	6	7	10	
		Heterokontophyta incertae sedis	1	1	1	
		Stramenopila incertae sedis				
				Bicoecea	3	3
		Bigyromonadea	1	1	1	
		Nucleohelea	1	1	1	
		Placididea	2	2	3	
Cryptista	Cryptophyta	Cryptophyceae	3	20	45	
		Goniomonadea	1	3	4	
	Kathablepharida	Kathablepharidea	2	2	2	
Haptophyta	Haptophyta	Pavlovophyceae	1	2	8	
		Prymnesiophyceae	15	22	58	
Heliozoa	Heliozoa	Centrohelea	1	1	1	
Opisthokonta	Choanozoa	Choanoflagellata	1	1	1	
TOTAL			350	709	2,333	

II. LIST OF STRAINS

1. How to use the list of strains

The strains are listed in alphabetical order of their scientific name. Same species of strains are arranged according to their strain numbers. The strain number assigned to a given strain remains the same, regardless of any change in nomenclature or re-identification. We request that users hyphenated the strain number with the acronym “NIES”, e.g. “NIES-44”. A detailed example of a strain description is as follows:

MICROCYSTIS¹⁾: Cyanophyceae²⁾

Microcystis aeruginosa (Kützing) Lemmermann³⁾

Syn.⁴⁾ *Microcystis aeruginosa* (Kützing) Kützing, *M. ichthyoblabe* Kützing, *M. novacekii* (Komárek) Compère, *M. viridis* (A. Braun) Lemmermann, *M. wesenbergii* (Komárek) Komárek in Kondratieva

44⁵⁾ **History**⁶⁾: <IAM **Other collection strain no**⁷⁾: IAM M-176 **Locality**⁸⁾: Lake Kasumigaura/Ibaraki/Japan(1974-08-**) **Isolator**⁹⁾: Watanabe, Makoto M. **Identified by**¹⁰⁾: Watanabe, Makoto M. **Formerly identified as**¹¹⁾: *Microcystis aeruginosa* (Kützing) Lemmermann f. *aeruginosa* **States**¹²⁾: Unialgal; Clonal; Axenic **Culture conditions**¹³⁾: CB; 25°C; 20-30 µmol/m²/s; 20 D **Habitat**¹⁴⁾: Freshwater (lake water) **Characteristics**¹⁵⁾: Cyanobacterial water bloom (aoko) **Gene data**¹⁶⁾: 16S rRNA (AB015361); 16S-23S ITS region (AB015361) **Other strain no.**¹⁷⁾: TAC 44 **References**¹⁸⁾: 1,2 **Remarks**¹⁹⁾: Cryopreserved

1) Genus name.

2) Class name: If the class name is uncertain, we use “*incertae sedis*” with the phylum name, e.g. *Metamonada incertae sedis*.

3) Scientific name with authority: We put the genus or species name in single quotation marks (such as ‘*Chlorella saccharophila*’ or ‘*Chlorella ellipsoidea*’), if the polyphyly of genera or species is clear from DNA sequencing. In the cyanobacterial genus *Anabaena*, scientific names followed by * indicate those identified without observation on akinete position and morphology.

4) Synonym(s).

5) Strain number: Please add a hyphen and the acronym NIES before the number, e.g. “NIES-44”.

6) History: How and by whom the strain was deposited in the MCC-NIES through other culture collections, researchers or an isolator. Deposit year is shown in parentheses if available.

7) Other collection strain no.: Strain designation in other culture collections or institutions. Acronyms placed before strain numbers refer to the following culture collections and institutions:

ATCC	: American Type Culture Collection, U.S.A.
CAUP	: Culture Collection of Algae of Charles University of Prague, Czech
CCAP	: Culture Collection of Algae and Protozoa, U.K.
CCMP	: The Provasoli-Guillard National Center for Culture of Marine Phytoplankton, U.S.A.
CRC	: <i>Chlamydomonas</i> Resource Centre, U.S.A.
IAM	: Institute of Molecular and Cellular Biosciences, University of Tokyo, Japan (Almost all algal strains were moved to the MCC-NIES until the end of March 2007, when the IAM Collection was closed.)
IFO	: Institute for Fermentation, Osaka, Japan
IPPAS	: Culture Collection of Microalgae, Institute of Plant Physiology, Russian Academy of Sciences, Russia
JCM	: Japan Collection of Microorganisms, RIKEN, Japan
KAGAWA	: Akashiwo Research Institute of Kagawa Prefecture, Japan
NIVA	: Norwegian Institute for Water Research, Norway
PCC	: Pasteur Culture Collection of Cyanobacteria, Institut Pasteur, France
RCC	: Roscoff Culture Collection, France
SAG	: Culture Collection of Algae at the University of Göttingen, Germany
TAC	: Tsukuba Botanical Garden, National Science Museum, Japan (Almost all algal strains were deposited to the MCC-NIES.)
TISTR	: Thailand Institute of Scientific and Technological Research, Thailand
TKB	: Graduate School of Life and Environmental Science, University of Tsukuba, Japan
UTEX	: The Culture Collection of Algae at the University of Texas at Austin, U.S.A. (Formerly BIU,

The Culture Collection of Algae at the Indiana University, Bloomington)

- 8) Locality: The place where the strain was collected, in order of place/prefecture/country, if full data are available, with collection date in parentheses if available.
- 9) Isolator's name in order of family name, then first name.
- 10) Identified by: The person who gave the scientific name shown herein in order of family name, then first name. If the strain was re-identified, the re-identifying person(s) is also shown. If re-identification was conducted at the MCC-NIES by DNA sequencing, this is shown as "Re-identified at NIES by DNA sequencing". If scientific names were found to be proper by DNA sequencing, this is shown as "Confirmed at NIES by DNA sequencing".
- 11) Formerly identified as: The scientific name that was formerly used and mostly found to be misidentified after re-identification by DNA sequencing and/or detailed morphological studies. In the case of the cyanobacterium *Microcystis aeruginosa*, formerly used morpho-species names are indicated, if available.
- 12) States: The state of culture strains, indicating whether or not they are unialgal, clonal, and axenic. Axenic state is indicated with the last check as follow: [2013 Jan]. For coccolithophorids, check of cell covering is indicated as follow: Coccolith bearing cells (+); now as naked cells Coccolith (-); and under recovery for coccoliths bearing stage (+/-).
- 13) Culture conditions: In order of medium [with (agar) or (semi-solid) if medium is a agar slant or a soft agar medium; unless otherwise noted the phase of medium is liquid], culture temperature, illumination as photon flux density, interval for subculture maintenance (Days or Months), with pre-culture conditions for active growth (culture temperature and photon flux density) in parentheses, if necessary. The light-dark photo-regime is 12 h light and 12 h dark.
- 14) Habitat: The habitats specified by the depositors, with the source of isolation in parentheses. We often use "Freshwater" "Brackish" "Marine" "Salt water" "Hot spring" or "Terrestrial" to indicate the habitat of the strain.
- 15) Characteristics: Environmental, physiological, taxonomic, and miscellaneous characteristics of the strains. We use "Authentic strain" for strains used as a basis for the description of new species of eukaryotic algae and protozoa, and "Type strain" for cyanobacterial type strains. For the cyanobacterium *Microcystis aeruginosa*, we also show the sequence type (ST) to clarify the genetic diversity within a same single species. For endangered species, we show the categories revised by the Ministry of Environment in 2007 (<http://www.env.go.jp/press/press.php?serial=8648>); i.e. CR+EN (critically endangered and endangered), VU (vulnerable), and NT (near threatened).
- 16) Gene data: Gene names, with accession numbers in parentheses. Note that serial numbers are summarized as follow: series from AU294770 to AU295959 is noted as AU294770-5959.
- 17) Other strain no.: Strain designation given by isolators.
- 18) References: Publications in which the strain was used. The number corresponds to publications listed below in section VIII.
- 19) Remarks: Notes relevant to ordering, such as "Cryopreserved", "Toxic", "Unstable", "Very slow growth", "Fragile species to transportation stresses", or "Fragile species to temperature changes".
Cryopreserved: we deliver "Cryopreserved" strains after thawing and recovery of cells to normal culture growth, so that a longer time is required when ordering "Cryopreserved" strains, though their viability is ensured.
Toxic: for "Toxic" strains, caution in handling is required.
Unstable: "Unstable" strains are sometimes not available if their growth is poor at that time, and are usually difficult to maintain permanently at the MCC-NIES.
Very slow growth: if you order such strain you need to wait till the cell population will be sufficient.
Fragile species to transportation stresses: we may need several trials to deliver successfully fragile strains, or we may not be able to deliver them, note that you are welcome to visit the culture collection and pick up the strain on your own.
Fragile species to temperature changes: some strains are more sensitive to temperature changes than others, restriction during severe seasons might occur.

2. List of strains

ACARYOCHLORIS : Cyanophyceae

Acaryochloris marina Miyashita et Chihara

- 2412** **History:** < Miyashita, Hideaki **Locality:** Hokkaido University Marine Station/Hokkaido/Japan (2004-06-20) **Isolator:** Miyashita, Hideaki **Identified by:** Miyashita, Hideaki (2004-08-**) **States:** Unialgal **Culture conditions:** IMK; 20°C; 70-90µmol/m²/s; 1 M **Habitat:** Marine (Seaweed) **Characteristics:** Halophilic; Contains chlorophyll d **Other strain no.:** Muroran strain

ACHNANTHES : Bacillariophyceae

Achnanthes kuwaitensis Hendey

- 1349** **History:** < Mayama, Shigeki **Locality:** Morito Beach/Kanagawa/Japan (2003-04-19) **Isolator:** Shono, Naoko **Identified by:** Mayama, Shigeki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 20°C; 15-27µmol/m²/s; 2 M **Habitat:** Marine (A polyethylene bag on a beach)

Achnanthes subconstricta (Meister) Toyoda

- 330** **History:** < Sawaguchi, Tomohiro **Locality:** Imaihama/Shizuoka/Japan (1985-05-22) **Isolator:** Sawaguchi, Tomohiro **Identified by:** Nagumo, Tamotsu **Formerly identified as:** Achnanthes longipes Agardh **States:** Unialgal; Clonal; Axenic[2012 Nov] **Culture conditions:** f/2; 10°C; 15-20µmol/m²/s; 2 M **Habitat:** Marine (Seawater) **Other strain no.:** IMHB-5 **References:** 137, 328

ACHNANTHIDIUM : Bacillariophyceae

Achnantheidium minutissimum (Kützing) Czarnecki

Syn. *Achnanthes minutissima* Kützing

- 71** **History:** < Yuri, Akira **Locality:** Kosaka River/Akita/Japan (1983-04-19) **Isolator:** Yuri, Akira **Identified by:** Mizuno, Makoto **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CSi; 20°C; 40-50µmol/m²/s; 1 M **Habitat:** Freshwater (River water) **Other strain no.:** A15-6 **References:** 137, 565, 625, 838, 1017, 1018
- 407** **History:** < Kasai, Fumie **Locality:** Miyata River/Ibaraki/Japan (1987-05-22) **Isolator:** Kasai, Fumie **Identified by:** Takamura, Noriko **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** CSi; 15°C; 15-22µmol/m²/s; 2 M **Habitat:** Freshwater (River water) **Other strain no.:** 4st-0-8 **Reference:** 1018
- 408** **History:** < Kasai, Fumie **Locality:** Watarase River System/Gunma/Japan (1987-08-15) **Isolator:** Kasai, Fumie **Identified by:** Idei, Masahiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CSi; 15°C; 15-22µmol/m²/s; 2 M **Habitat:** Freshwater (River water) **Other strain no.:** AT5-23 **Reference:** 1018
- 409** **History:** < Kasai, Fumie **Locality:** Watarase River System/Gunma/Japan (1987-08-15) **Isolator:** Kasai, Fumie **Identified by:** Idei, Masahiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CSi; 15°C; 15-22µmol/m²/s; 2 M **Habitat:** Freshwater (River water) **Other strain no.:** Ast-3-3 **Reference:** 1018
- 410** **History:** < Kasai, Fumie **Locality:** Watarase River System/Gunma/Japan (1987-08-15) **Isolator:** Kasai, Fumie **Identified by:** Takamura, Noriko **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** CSi; 15°C; 15-22µmol/m²/s; 2 M **Habitat:** Freshwater (River water) **Other strain no.:** AT4-18 **Reference:** 1018
- 411** **History:** < Kasai, Fumie **Locality:** Miyata River/Ibaraki/Japan (1987-02-25) **Isolator:** Kasai, Fumie **Identified by:** Takamura, Noriko **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** CSi; 15°C; 15-22µmol/m²/s; 2 M **Habitat:** Freshwater (River water) **Other strain no.:** 1st-3-17 **References:** 1017, 1018
- 412** **History:** < Kasai, Fumie **Locality:** Miyata River/Ibaraki/Japan (1987-02-25) **Isolator:** Kasai,

- Fumie **Identified by:** Takamura, Noriko **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** CSi; 15°C; 15-22µmol/m²/s; 2 M **Habitat:** Freshwater (River water) **Other strain no.:** 1st-1-1 **References:** 1017, 1018
- 413** **History:** < Kasai, Fumie **Locality:** Miyata River/Ibaraki/Japan (1987-02-25) **Isolator:** Kasai, Fumie **Identified by:** Takamura, Noriko **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** CSi; 15°C; 15-22µmol/m²/s; 2 M **Habitat:** Freshwater (River water) **Other strain no.:** 1st-2-8 **References:** 1017, 1018
- 414** **History:** < Kasai, Fumie **Locality:** Ooe River (Ozegahara)/Fukushima/Japan (1987-10-16) **Isolator:** Kasai, Fumie **Identified by:** Takamura, Noriko **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** CSi; 15°C; 15-22µmol/m²/s; 2 M **Habitat:** Freshwater (River water) **Other strain no.:** 0-25 **Reference:** 1018
- 1350** **History:** < Mayama, Shigeki **Locality:** Tama River/Tokyo/Japan (2002-11-26) **Isolator:** Shono, Naoko **Identified by:** Mayama, Shigeki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CSi/5; 20°C; 15-27µmol/m²/s; 2 M **Habitat:** Freshwater (River stone) **Characteristics:** Benthic; Epilithic
- Achnanthydium minutissimum* (Kützing) Czarnecki var. *saprophilum* Kobayasi et Mayama
Syn. *Achnanthes minutissima* Kützing var. *saprophila* Kobayasi et Mayama
- 372** **History:** < Sawaguchi, Tomohiro **Locality:** Lake Kasumigaura/Ibaraki/Japan (1985-12-19) **Isolator:** Sawaguchi, Tomohiro **Identified by:** Sawaguchi, Tomohiro **States:** Unialgal; Clonal; Axenic[2012 Mar] **Culture conditions:** CSi; 20°C; 40-50µmol/m²/s; 1 M **Habitat:** Freshwater (Plant) **Other strain no.:** KAAC-6

ACINETOSPORA : Phaeophyceae

Acinetospora crinita (Carmichael) Sauvageau

- 548** **History:** < Kuroiwa, Tsuneyoshi **Locality:** Tuscan/Italy (1991-**-**) **Isolator:** Hagiwara, Tomiji **Identified by:** Sartoni, G. **Formerly identified as:** *Tribonema marinum* J.Feldmann **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 20°C; 4-10µmol/m²/s; 3 M (20°C; 22-32µmol/m²/s) **Habitat:** Marine **Gene data:** 18S rRNA (AF038005); CO1 (AF037996); tufA (AF038004) **References:** 75, 137, 245, 886

ACTINASTRUM : Trebouxiophyceae

Actinastrum hantzschii Lagerheim

- 415** **History:** < Kasai, Fumie **Locality:** Lake Kasumigaura/Ibaraki/Japan (1983-07-22) **Isolator:** Kasai, Fumie **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C (agar); 20°C; 4-10µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Lake water) **Other strain no.:** F7-4 **References:** 188, 567, 1159 **Remarks:** Cryopreserved

ACTINOPHRYS : Nucleohelea

Actinophrys sol Ehrenberg

- 2497** **History:** < Suzaki, Toshinobu **Locality:** Shukkeien Park/Hiroshima/Japan (2001-**-**) **Isolator:** Suzaki, Toshinobu **Identified by:** Suzaki, Toshinobu (2001-**-**) **Culture conditions:** Helio; 20°C; 13-18µmol/m²/s; 7-14 D **Habitat:** Brackish water **Other strain no.:** HSA

ADENOIDES : Dinophyceae

Adenoides eludens (Herdman) Balech

- 1367** **History:** < Murray, Shauna **Locality:** Suzu/Ishikawa/Japan (2004-05-25) **Isolator:** Murray, Shauna **Identified by:** Murray, Shauna **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 40-50µmol/m²/s; 1 M **Habitat:** Marine (Sediment) **Characteristics:** Benthic **Reference:** 982 **Remarks:** Fragile species to transportation stresses

1402 **History:** < TKB **Locality:** Wakayama/Japan (2003-04-19) **Isolator:** Kai, Atsushi **Identified by:** Kai, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 20°C; 40-50µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** TKB-063 (AK-05) **Remarks:** Fragile species to transportation stresses

AKASHIWO : Dinophyceae

Akashiwo sanguinea (Hirasaka) Hansen et Moestrup
Syn. *Gymnodinium sanguineum* Hirasaka

1832 **History:** < TKB **Locality:** Mie/Japan (2005-04-**) **Isolator:** Nakayama, Takeshi **Identified by:** Nakayama, Takeshi (2005-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 40-50µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Other strain no.:** TKB-263 **Remarks:** Fragile species to transportation stresses

1987 **History:** < Noël, Mary-Hélène **Locality:** Seto Inland Sea/Japan (2005-08-01) **Isolator:** Noël, Mary-Hélène **Identified by:** Noël, Mary-Hélène (2005-12-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MNK; 20°C; 10-15µmol/m²/s; 20 D **Habitat:** Marine (Seawater) **Other strain no.:** MHW10 **Remarks:** Fragile species to transportation stresses

ALEXANDRIUM : Dinophyceae

Alexandrium catenella (Whedon et Kofoid) Balech
Syn. *Protogonyaulax catenella* (Whedon et Kofoid) Taylor

675 **History:** < KAGAWA < Yoshimatsu, Sadaaki **Locality:** Harima-nada/Japan (1980-06-17) **Isolator:** Yoshimatsu, Sadaaki **Identified by:** Yoshimatsu, Sadaaki **States:** Unialgal; Clonal; Axenic[2012 Mar] **Culture conditions:** ESM; 20°C; 40-50µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Characteristics:** Red tide; Mating type(-) **Other strain no.:** Ac 5 **Remarks:** Fragile species to transportation stresses

677 **History:** < KAGAWA < Yoshimatsu, Sadaaki **Locality:** Yamakawa Bay/Kagoshima/Japan (1988-03-28) **Isolator:** Yoshimatsu, Sadaaki **Identified by:** Yoshimatsu, Sadaaki **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** ESM; 20°C; 40-50µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Other strain no.:** Acy-6 **Remarks:** Fragile species to transportation stresses

Alexandrium hiranoi Kita et Fukuyo

612 **History:** < Kita, Takumi **Locality:** Kawasaki/Kanagawa/Japan (1984-08-**) **Isolator:** Kita, Takumi **Identified by:** Kita, Takumi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 40-50µmol/m²/s; 2 M **Habitat:** Marine (Seawater) **Characteristics:** Toxic **References:** 394, 404, 405, 580 **Remarks:** Toxic; Fragile species to transportation stresses

Alexandrium insuetum Balech

678 **History:** < KAGAWA < Yoshimatsu, Sadaaki **Locality:** Shodo Isl., Uchiumi Bay/Kagawa/Japan (1985-06-06) **Isolator:** Yoshimatsu, Sadaaki **Identified by:** Yoshimatsu, Sadaaki **States:** Unialgal; Clonal; Axenic[2012 Mar] **Culture conditions:** ESM; 20°C; 40-50µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Remarks:** Fragile species to transportation stresses

Alexandrium sp.

1988 **History:** < Noël, Mary-Hélène **Locality:** Seto Inland Sea/Japan (2005-08-01) **Isolator:** Noël, Mary-Hélène **Identified by:** Noël, Mary-Hélène (2005-12-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MNK; 20°C; 10-15µmol/m²/s; 20 D **Habitat:** Marine (Seawater) **Other strain no.:** MHW6 **Remarks:** Fragile species to transportation stresses

1989 **History:** < Noël, Mary-Hélène **Locality:** Seto Inland Sea/Japan (2005-08-01) **Isolator:** Noël, Mary-Hélène **Identified by:** Noël, Mary-Hélène (2005-12-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MNK; 20°C; 10-15µmol/m²/s; 20 D **Habitat:** Marine (Seawater) **Other strain no.:** MHW7 **Remarks:** Fragile species to transportation stresses

1991 **History:** < Noël, Mary-Hélène **Locality:** Seto Inland Sea/Japan (2005-05-12) **Isolator:** Noël,

- Mary-Hélène **Identified by:** Noël, Mary-Hélène (2005-12-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MNK; 15°C; 35-50µmol/m²/s; 20 D **Habitat:** Marine (Sediment) **Other strain no.:** MHW2 **Remarks:** Fragile species to transportation stresses
- 1993** **History:** < Noël, Mary-Hélène **Locality:** Seto Inland Sea/Japan (2005-05-12) **Isolator:** Noël, Mary-Hélène **Identified by:** Noël, Mary-Hélène (2005-12-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MNK; 15°C; 35-50µmol/m²/s; 20 D **Habitat:** Marine (Sediment) **Other strain no.:** MHW4 **Remarks:** Fragile species to transportation stresses
- 2328** **History:** < Sawaguchi, Tomohiro **Locality:** Noumea/New Caledonia (1987-03-06) **Isolator:** Sawaguchi, Tomohiro **Identified by:** Sawaguchi, Tomohiro **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 40-50µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** NCD-4 **Remarks:** Fragile species to transportation stresses

ALLAPSA : Sarcomonadea

Allapsa ocior Howe, Bass, Vickerman, Chao et Cavalier-Smith

- 2414** **History:** < Howe, Alexis T. **Locality:** U.K. (2007-**-**) **Isolator:** Howe, Alexis T. **Identified by:** Howe, Alexis T. (2007-**-**) **Culture conditions:** AF-6 + Wheat; 20°C; 0µmol/m²/s; 2-3 M **Habitat:** Terrestrial (Plant (Moss)) **Characteristics:** Heterotrophic; Authentic strain; Resting spore forming **Other strain no.:** 5A moss **Reference:** 225

Allapsa scotia Howe, Bass, Vickerman, Chao et Cavalier-Smith

- 2415** **History:** < Howe, Alexis T. **Locality:** U.K. (1999-**-**) **Isolator:** Vickerman, Keith **Identified by:** Vickerman, Keith (1999-**-**) **Culture conditions:** AF-6 + Wheat; 20°C; 0µmol/m²/s; 2-3 M **Habitat:** Terrestrial (Soil) **Characteristics:** Heterotrophic; Authentic strain; Resting spore forming **Other strain no.:** KV Hf **Reference:** 225

AMPHIDINIUM : Dinophyceae

Amphidinium carterae Hulburt

- 331** **History:** < Sawaguchi, Tomohiro **Locality:** Iriomote Isl./Okinawa/Japan (1986-01-23) **Isolator:** Sawaguchi, Tomohiro **Identified by:** Sawaguchi, Tomohiro **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** ESM; 20°C; 32-40µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Gene data:** psbA (AB025586) **Other strain no.:** IIDA **References:** 143, 1035 **Remarks:** Unstable; Fragile species to transportation stresses

Amphidinium klebsii Coll

- 613** **History:** < Murata, Michio **Locality:** Aburatsubo Bay/Kanagawa/Japan (1993-04-21) **Isolator:** Murata, Michio **Identified by:** Fukuyo, Yasuo **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; ESM; 20°C; 40-50µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Gene data:** GapDH (AB106698); GapDH (AB106699) **Other strain no.:** AK-1 **References:** 222, 223, 224, 575, 576, 1032 **Remarks:** Fragile species to transportation stresses

Amphidinium operculatum Claparede et Lachmann

- 1368** **History:** < Murray, Shauna **Locality:** Suzu/Ishikawa/Japan (2004-05-25) **Isolator:** Murray, Shauna **Identified by:** Murray, Shauna **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 40-50µmol/m²/s; 1 M **Habitat:** Marine (Sediment) **Characteristics:** Benthic **Remarks:** Fragile species to transportation stresses

Amphidinium sp.

- 2663** **History:** < Tsuda, Masashi **Locality:** Taketomi Isl./Okinawa/Japan (2009-06-04) **Isolator:** Kumagai, Keiko **Identified by:** Kumagai, Keiko (2010-05-26) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; ESM; 20°C; 10-15µmol/m²/s; 1 M **Habitat:** Marine (Sediment) **Characteristics:** Resting spore forming **Other strain no.:** KCA09051 **Remarks:** Fragile species to transportation stresses
- 2664** **History:** < Tsuda, Masashi **Locality:** Taketomi Isl./Okinawa/Japan (2009-06-04) **Isolator:** Kumagai, Keiko **Identified by:** Kumagai, Keiko (2010-05-26) **States:** Unialgal; Clonal;

Non-axenic **Culture conditions:** f/2; ESM; 20°C; 10-15µmol/m²/s; 1 M **Habitat:** Marine (Sand) **Characteristics:** Resting spore forming **Other strain no.:** KCA09053 **Remarks:** Fragile species to transportation stresses

Amphidinium testudo Kofoid et Swezy

1268 **History:** < Moriya, Mayumi **Locality:** Saipan/U.S.A. (2002-04-**) **Isolator:** Higa, Atsushi **Identified by:** Higa, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 40-50µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** M-44 **Remarks:** Fragile species to transportation stresses

ANABAENA : Cyanophyceae

Anabaena affinis Lemmermann

40 **History:** < IAM (1983) **Other collection strain no.:** IAM M-168 **Locality:** Lake Kasumigaura/Ibaraki/Japan (1974-08-**) **Isolator:** Watanabe, Makoto M.; Ichimura, Terunobu **Identified by:** Watanabe, Makoto M. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CT; 25°C; 70-90µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko) **References:** 235, 477, 567, 671, 1159, 1231 **Remarks:** Unstable

1639 **History:** < TAC **Locality:** Lake Shirarutoro/Hokkaido/Japan (1990-08-**) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 439 **References:** 675, 1103

1640 **History:** < TAC **Locality:** Lake Shirarutoro/Hokkaido/Japan (1990-08-**) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 440 **Reference:** 675

1641 **History:** < TAC **Locality:** Lake Kasumigaura/Ibaraki/Japan (1991-06-**) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 442 **Reference:** 675

1642 **History:** < TAC **Locality:** Lake Tsukui/Kanagawa/Japan **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 454 **Reference:** 1103

Anabaena akankoensis M.Watanabe

1875 **History:** < TAC **Locality:** Lake Akan/Hokkaido/Japan (2002-09-10) **Isolator:** Niiyama, Yuko **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; MG; 20°C; 13-18µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 505 **Reference:** 1103

1876 **History:** < TAC **Locality:** Lake Akan/Hokkaido/Japan (2002-09-10) **Isolator:** Niiyama, Yuko **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; MG; 20°C; 13-18µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 506

1906 **History:** < TAC **Locality:** Lake Akan/Hokkaido/Japan (2002-09-10) **Isolator:** Niiyama, Yuko **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 13-18µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 571

1907 **History:** < TAC **Locality:** Lake Akan/Hokkaido/Japan (2002-09-10) **Isolator:** Niiyama, Yuko **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; MG; 20°C; 13-18µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 572

Anabaena aphanizomenoides Forti

1643 **History:** < TAC **Locality:** Tsukuba-shi, Chuo-koen/Ibaraki/Japan (1999-10-05) **Isolator:** Niiyama, Yuko **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Other strain no.:** TAC 456 **Reference:** 1103

1644 **History:** < TAC **Locality:** Tsukuba-shi, Chuo-koen/Ibaraki/Japan (1999-10-12) **Isolator:** Niiyama, Yuko **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Other strain no.:** TAC 457

Anabaena circinalis Rabenhorst ex Bornet et Flahault

41 **History:** < IAM (1983) **Other collection strain no.:** IAM M-169 **Locality:** Lake Kasumigaura/Ibaraki/Japan (1974-08-**) **Isolator:** Watanabe, Makoto M.; Ichimura, Terunobu **Identified by:** Watanabe, Makoto M. **States:** Unialgal; Clonal; Axenic[2012 Nov] **Culture conditions:** CB; 25°C; 70-90µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko) **Gene data:** 16S rRNA (AB042859) **References:** 192, 221, 235, 567, 670, 671, 796, 952, 997, 998, 1159 **Remarks:** Unstable

1645 **History:** < TAC **Locality:** Lake Inbanuma/Chiba/Japan (2001-09-25) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 482 **Reference:** 1182

1646 **History:** < TAC **Locality:** Lake Shiroyama/Kanagawa/Japan (2001-10-31) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 496 **Reference:** 1103

1647 **History:** < TAC **Locality:** Lake Shiroyama/Kanagawa/Japan (2001-10-31) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 497 **Reference:** 1182

1648 **History:** < TAC **Locality:** Lake Shiroyama/Kanagawa/Japan (2001-10-31) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 498

1649 **History:** < TAC **Locality:** Lake Shiroyama/Kanagawa/Japan (2001-10-31) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 499

1650 **History:** < TAC **Locality:** Lake Shiroyama/Kanagawa/Japan (2001-10-31) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 501 **Reference:** 1182

1877 **History:** < TAC **Locality:** Lake Shiroyama/Kanagawa/Japan (2001-10-31) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 502

1878 **History:** < TAC **Locality:** Lake Shiroyama/Kanagawa/Japan (2001-10-31) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 503 **Reference:** 1103

1879 **History:** < TAC **Locality:** Lake Inbanuma/Chiba/Japan (2002-09-23) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 508

1908 **History:** < TAC **Locality:** Hachirogata/Akita/Japan (2002-09-19) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Other strain no.:** TAC 552

- 1909** **History:** < TAC **Locality:** Hachirogata/Akita/Japan (2002-09-19) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Other strain no.:** TAC 553 **Reference:** 1103
- 1929** **History:** < TAC **Locality:** Rebun Isl., Lake Kushu/Hokkaido/Japan (2006-07-21) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko (2007-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 585 **Reference:** 1103
- 1930** **History:** < TAC **Locality:** Rebun Isl., Lake Kushu/Hokkaido/Japan (2006-07-21) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko (2007-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 586

*Anabaena circinalis** Rabenhorst ex Bornet et Flahault

- 1880** **History:** < TAC **Locality:** Lake Inbanuma/Chiba/Japan (2002-09-23) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** *Akinete not observed **Other strain no.:** TAC 507 **Reference:** 1103

Anabaena compacta (Nygaard) Hickel

- 806** **History:** < Li, Renhui < CCAP **Other collection strain no.:** CCAP 1403/24 **Locality:** Rostherne Mere/Cheshire/U.K. **Isolator:** Jaworski, G. H. M. **Identified by:** Li, Renhui **Formerly identified as:** *Anabaena spiroides* Klebahn **States:** Unialgal; Clonal; Axenic[2012 Nov] **Culture conditions:** MG; 20°C; 12-22µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko)
- 835** **History:** < Li, Renhui < CCAP **Other collection strain no.:** CCAP 1403/29 **Locality:** Esthwaite Water/England, Cambria/U.K. **Isolator:** Butterwick **Identified by:** Li, Renhui **Formerly identified as:** *Anabaena spiroides* Klebahn **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 20°C; 12-22µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko) **Reference:** 203

Anabaena crassa (Lemmermann) Komárková-Legnerová et Cronberg

- 77** **History:** < TAC **Locality:** Lake Kasumigaura/Ibaraki/Japan (1978-08-**) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Anabaena spiroides* Klebahn f. *spiroides* **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CT; 25°C; 70-90µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 31 (K-TAN-31) **References:** 360, 567, 1159 **Remarks:** Unstable
- 78** **History:** < TAC **Locality:** Lake Kasumigaura/Ibaraki/Japan (1978-07-**) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Axenic **Culture conditions:** CT; 25°C; 70-90µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 30 (K-TAN-30) **References:** 221, 477, 567, 670, 671 **Remarks:** Unstable
- 1652** **History:** < TAC **Locality:** Lake Akan/Hokkaido/Japan (1990-08-**) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 436 **References:** 476, 675, 1103, 1141
- 1653** **History:** < TAC **Locality:** Lake Kasumigaura/Ibaraki/Japan (1991-07-**) **Isolator:** Niiyama, Yuko **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 443 **References:** 476, 675, 1103
- 1654** **History:** < TAC **Locality:** Lake Kasumigaura/Ibaraki/Japan (1991-07-**) **Isolator:** Niiyama, Yuko **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:**

- TAC 444
- 1655** **History:** < TAC **Locality:** Lake Inbanuma/Chiba/Japan (1996-08-10) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 468 **Reference:** 675
- 1656** **History:** < TAC **Locality:** Nigo-ike Pond/Hyogo/Japan (2001-07-25) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Other strain no.:** TAC 473 **Reference:** 1182
- 1657** **History:** < TAC **Locality:** Nigo-ike Pond/Hyogo/Japan (2001-07-25) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Other strain no.:** TAC 474 **Reference:** 1103
- 1658** **History:** < TAC **Locality:** Lake Biwa, Akanoi/Shiga/Japan (2001-10-22) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 485 **Reference:** 1103
- 1659** **History:** < TAC **Locality:** Lake Biwa, Akanoi/Shiga/Japan (2001-10-22) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 486 **Reference:** 1182
- 1660** **History:** < TAC **Locality:** Lake Biwa, Hamaotsu/Shiga/Japan (2001-10-22) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 487
- 1661** **History:** < TAC **Locality:** Lake Biwa, Hikone/Shiga/Japan (2001-10-22) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 488
- 1662** **History:** < TAC **Locality:** Lake Yogo/Shiga/Japan (2001-10-22) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 490 **Reference:** 1182
- 1663** **History:** < TAC **Locality:** Niigata/Japan (2001-10-22) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Other strain no.:** TAC 492 **Reference:** 1182
- 1664** **History:** < TAC **Locality:** Niigata/Japan (2001-10-22) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Other strain no.:** TAC 493
- 1665** **History:** < TAC **Locality:** Niigata/Japan (2001-10-22) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Other strain no.:** TAC 494 **Reference:** 1103
- 1666** **History:** < TAC **Locality:** Niigata/Japan (2001-10-22) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Other strain no.:** TAC 495
- 1881** **History:** < TAC **Locality:** Lake Yogo/Shiga/Japan (2002-10-14) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 512
- 1882** **History:** < TAC **Locality:** Fujiidera/Osaka/Japan (2002-10-04) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB;

- 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Other strain no.:** TAC 518
- 1883** **History:** < TAC **Locality:** Fujiidera/Osaka/Japan (2002-10-04) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Other strain no.:** TAC 519
- 1884** **History:** < TAC **Locality:** Lake Suwa/Nagano/Japan (2002-10-13) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 520 **Reference:** 1103
- 1885** **History:** < TAC **Locality:** Mannou/Kagawa/Japan (2002-10-02) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Other strain no.:** TAC 522
- 1886** **History:** < TAC **Locality:** Lake Suwa/Nagano/Japan (2002-10-13) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 524
- 1887** **History:** < TAC **Locality:** Lake Suwa/Nagano/Japan (2002-10-13) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 525 **Reference:** 1103
- 1888** **History:** < TAC **Locality:** Lake Suwa/Nagano/Japan (2002-10-13) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 526
- 1889** **History:** < TAC **Locality:** Lake Suwa/Nagano/Japan (2002-10-13) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 527
- 1890** **History:** < TAC **Locality:** Lake Suwa/Nagano/Japan (2002-10-13) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 528
- 1891** **History:** < TAC **Locality:** Lake Biwa, Hamaotsu/Shiga/Japan (2002-10-04) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 529 **Reference:** 1103
- 1892** **History:** < TAC **Locality:** Lake Biwa, Hamaotsu/Shiga/Japan (2002-10-04) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 532
- 1910** **History:** < TAC **Locality:** Minakami-ike Pond/Nara/Japan (2003-05-22) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Other strain no.:** TAC 562
- 1911** **History:** < TAC **Locality:** Minakami-ike Pond/Nara/Japan (2003-05-22) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Other strain no.:** TAC 563
- 1912** **History:** < TAC **Locality:** Plöner See/Schleswich-Holstein/Germany **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 567
- 1913** **History:** < TAC **Locality:** Plöner See/Schleswich-Holstein/Germany **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 573
- 1914** **History:** < TAC **Locality:** Plöner See/Schleswich-Holstein/Germany **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 574

- 1915** **History:** < TAC **Locality:** Plöner See/Schleswich-Holstein/Germany **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 575
- 1916** **History:** < TAC **Locality:** Plöner See/Schleswich-Holstein/Germany **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 576
- 1917** **History:** < TAC **Locality:** Plöner See/Schleswich-Holstein/Germany **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 577
- 1918** **History:** < TAC **Locality:** Lake Toro/Hokkaido/Japan (2002-06-25) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 587
- 1919** **History:** < TAC **Locality:** Lake Toro/Hokkaido/Japan (2002-06-25) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 588

*Anabaena crassa** (Lemmermann) Komárková-Legnerová et Cronberg

- 1893** **History:** < TAC **Locality:** Lake Yogo/Shiga/Japan (2002-10-14) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** *Akinete not observed **Other strain no.:** TAC 513
- 1894** **History:** < TAC **Locality:** Lake Inbanuma/Chiba/Japan (2002-09-23) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** *Akinete not observed **Other strain no.:** TAC 514 **Reference:** 1103
- 1895** **History:** < TAC **Locality:** Fujiidera/Osaka/Japan (2002-10-04) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** *Akinete not observed **Other strain no.:** TAC 515 **Reference:** 1103
- 1896** **History:** < TAC **Locality:** Fujiidera/Osaka/Japan (2002-10-04) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** *Akinete not observed **Other strain no.:** TAC 516
- 1897** **History:** < TAC **Locality:** Fujiidera/Osaka/Japan (2002-10-04) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** *Akinete not observed **Other strain no.:** TAC 517
- 1898** **History:** < TAC **Locality:** Lake Suwa/Nagano/Japan (2002-10-13) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** *Akinete not observed **Other strain no.:** TAC 521
- 1899** **History:** < TAC **Locality:** Lake Suwa/Nagano/Japan (2002-10-13) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** *Akinete not observed **Other strain no.:** TAC 523
- 1900** **History:** < TAC **Locality:** Lake Biwa, Hamaotsu/Shiga/Japan (2002-10-04) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; MG; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** *Akinete not observed **Other strain no.:** TAC 530
- 1901** **History:** < TAC **Locality:** Lake Biwa, Hamaotsu/Shiga/Japan (2002-10-04) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:**

CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** *Akinete not observed **Other strain no.:** TAC 531

- 1902** **History:** < TAC **Locality:** Lake Biwa, Hamaotsu/Shiga/Japan (2002-10-04) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** *Akinete not observed **Other strain no.:** TAC 533

Anabaena cylindrica Lemmermann

- 19** **History:** < IAM (1983) **Other collection strain no.:** IAM M-1 (=M-253) **States:** Unialgal; Non-clonal; Axenic[2013 Jan] **Culture conditions:** MDM (agar); 20°C; 4-10µmol/m²/s; 4 M (25°C; 70-80µmol/m²/s) **Characteristics:** Nitrogen fixation **Gene data:** 16S rRNA (AF247592); gyrB (AB074770); rpoC1 (AB074793); rpoD1 (AB074820) **References:** 19, 20, 43, 101, 102, 105, 106, 107, 108, 109, 110, 111, 112, 113, 130, 141, 185, 204, 205, 235, 291, 422, 423, 467, 535, 567, 589, 669, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 782, 783, 784, 785, 786, 787, 788, 844, 845, 846, 869, 937, 1002, 1004, 1089, 1125, 1132, 1159, 1189, 1225, 1226, 1227, 1228, 1229, 1231

Anabaena danica (Nygaard) Komárková et Eloranta

- 1667** **History:** < TAC **Locality:** Lake Okutama/Tokyo/Japan (1989-09-17) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 453 **References:** 476, 1103

Anabaena flos-aquae Brébisson ex Bornet et Flahault

Syn. *Anabaena flos-aquae* Brébisson ex Bornet et Flahault f. *flos-aquae*

- 73** **History:** < TAC **Locality:** Lake Kasumigaura/Ibaraki/Japan (1978-08-**) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** MA; 25°C; 70-90µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko) **Gene data:** 16S rRNA (AB042858) **Other strain no.:** TAC 32 (K-TAN-32) **References:** 151, 221, 360, 567, 671, 796, 840, 841, 842, 973, 1159, 1272 **Remarks:** Unstable
- 75** **History:** < TAC **Locality:** Lake Kasumigaura/Ibaraki/Japan (1978-12-**) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 25°C; 70-90µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 43 (K-TAN-43) **References:** 567, 621, 1159 **Remarks:** Unstable
- 1668** **History:** < TAC **Locality:** Lake Suwa/Nagano/Japan (1984-09-13) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 99 **References:** 749, 1103
- 1669** **History:** < TAC **Locality:** Lake Suwa/Nagano/Japan (1984-09-13) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic **Other strain no.:** TAC 100 **Remarks:** Toxic
- 1670** **History:** < TAC **Locality:** Hirosaki Castle/Aomori/Japan (1990-06-**) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Moat water) **Other strain no.:** TAC 430 **Reference:** 675
- 1671** **History:** < TAC **Locality:** Lake Kasumigaura/Ibaraki/Japan (1991-06-**) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 445 **Reference:** 675
- 1672** **History:** < TAC **Locality:** Lake Kasumigaura/Ibaraki/Japan (1991-06-**) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:**

CB; 20°C; 22-32 μ mol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 446
References: 476, 675, 1103

1903 **History:** < TAC **Locality:** Hirosaki Castle/Aomori/Japan (1990-06-**) **Isolator:** Niiyama, Yuko
Identified by: Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB;
 20°C; 20-25 μ mol/m²/s; 1 M **Habitat:** Freshwater (Moat water) **Other strain no.:** TAC 429

*Anabaena heterospora** Nygaard

1697 **History:** < TAC **Locality:** Watarase-yuusuichi/Tochigi/Japan (1991-06-16) **Isolator:** Iikura **States:**
 Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 22-32 μ mol/m²/s; 1 M **Habitat:**
 Freshwater (Water) **Characteristics:** *Akinete not observed **Other strain no.:** TAC 447
Reference: 1103

Anabaena kisseleviana Elenkin

74 **History:** < TAC **Locality:** Lake Kasumigaura/Ibaraki/Japan (1978-08-**) **Isolator:** Watanabe,
 Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Anabaena flos-aquae*
 Brébisson ex Bornet et Flahault f. *flos-aquae* **States:** Unialgal; Clonal; Non-axenic **Culture**
conditions: CT; 25°C; 70-90 μ mol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:**
 Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 33 (K-TAN-33) **References:** 50, 323,
 567, 585, 586, 587, 840, 841, 842, 1159 **Remarks:** Unstable

807 **History:** < Li, Renhui < TAC **Locality:** Lake Kasumigaura/Ibaraki/Japan (1978-08-**) **Isolator:**
 Watanabe, Masayuki **Identified by:** Li, Renhui **States:** Unialgal; Clonal; Non-axenic **Culture**
conditions: MG; 20°C; 12-22 μ mol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Characteristics:**
 Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 34 **Reference:** 1103

Anabaena lemmermannii Richter

808 **History:** < Li, Renhui < TAC **Locality:** Lake Akan/Hokkaido/Japan (1990-08-**) **Isolator:**
 Niiyama, Yuko **Identified by:** Li, Renhui; Niiyama, Yuko (Reidentify) **Formerly identified as:**
Anabaena mendotae Trelease **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG;
 20°C; 12-22 μ mol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial
 water bloom (aoko) **Other strain no.:** TAC 437 (A28) **References:** 151, 675, 1103

833 **History:** < Li, Renhui < NIVA **Other collection strain no.:** NIVA CYA 82 **Locality:** Buskerud,
 Lake Steinsfjorden/Norway **Identified by:** Li, Renhui **Formerly identified as:** *Anabaena*
circinalis Rabenhorst ex Bornet et Flahault **States:** Unialgal; Clonal; Non-axenic **Culture**
conditions: CT; MG; 20°C; 12-22 μ mol/m²/s; 2 M **Habitat:** Freshwater (Lake water)
Characteristics: Cyanobacterial water bloom (aoko) **Remarks:** Unstable

1673 **History:** < TAC **Locality:** Lake Akan/Hokkaido/Japan (1990-08-**) **Isolator:** Niiyama, Yuko
Identified by: Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB;
 20°C; 22-32 μ mol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 438
References: 476, 675, 1103

1674 **History:** < TAC **Locality:** Nigo-ike Pond/Hyogo/Japan (2001-07-25) **Isolator:** Niiyama, Yuko
Identified by: Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB;
 20°C; 22-32 μ mol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Other strain no.:** TAC 475
Reference: 1103

1675 **History:** < TAC **Locality:** Nigo-ike Pond/Hyogo/Japan (2001-07-25) **Isolator:** Niiyama, Yuko
Identified by: Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB;
 20°C; 22-32 μ mol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Other strain no.:** TAC 476

1676 **History:** < TAC **Locality:** Lake Teganuma/Chiba/Japan (2001-09-26) **Isolator:** Niiyama, Yuko
Identified by: Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB;
 20°C; 22-32 μ mol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 483

1920 **History:** < TAC **Locality:** Rebun Isl., Lake Kushu/Hokkaido/Japan (2006-07-21) **Isolator:**
 Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture**
conditions: CB; 20°C; 20-25 μ mol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:**
 TAC 583 **Reference:** 1103

1921 **History:** < TAC **Locality:** Rebun Isl., Lake Kushu/Hokkaido/Japan (2006-07-21) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 584 **Reference:** 1103

Anabaena minispora M.Watanabe

1922 **History:** < TAC **Locality:** Lake Mikata/Fukui/Japan (2003-05-15) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 554 **Reference:** 1103

1923 **History:** < TAC **Locality:** Lake Mikata/Fukui/Japan (2003-05-15) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 555

1924 **History:** < TAC **Locality:** Lake Mikata/Fukui/Japan (2003-05-15) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 556

Anabaena mucosa Komárkova-Legnerová et Eloranta

809 **History:** < Li, Renhui < TAC **Locality:** Lake Toro/Hokkaido/Japan (1990-08-**) **Isolator:** Niiyama, Yuko **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 20°C; 12-22µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 426 (A10) **Reference:** 675 **Remarks:** Unstable

1677 **History:** < TAC **Locality:** Lake Toro/Hokkaido/Japan (1990-08-**) **Isolator:** Niiyama, Yuko **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 425 **References:** 476, 675, 1103, 1182

*Anabaena mucosa** Komárkova-Legnerová et Eloranta

1925 **History:** < TAC **Locality:** Lake Toro/Hokkaido/Japan (2002-10-01) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** *Akinete not observed **Other strain no.:** TAC 534

1926 **History:** < TAC **Locality:** Lake Toro/Hokkaido/Japan (2002-10-01) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** *Akinete not observed **Other strain no.:** TAC 535

1927 **History:** < TAC **Locality:** Lake Toro/Hokkaido/Japan (2002-10-01) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** *Akinete not observed **Other strain no.:** TAC 536

1928 **History:** < TAC **Locality:** Lake Toro/Hokkaido/Japan (2002-10-01) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** *Akinete not observed **Other strain no.:** TAC 537

Anabaena oumiana M.Watanabe

1678 **History:** < TAC **Locality:** Lake Inbanuma/Chiba/Japan (1996-08-10) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 464 **Reference:** 1103

1679 **History:** < TAC **Locality:** Lake Inbanuma/Chiba/Japan (1996-08-10) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:**

TAC 466 **Reference:** 1182

- 1904** **History:** < TAC **Locality:** Funada-ike Pond/Chiba/Japan (2002-08-28) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Other strain no.:** TAC 509 **Reference:** 1103
- 1931** **History:** < TAC **Locality:** near Koyama-ike Pond/Tottori/Japan **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Other strain no.:** TAC 568 **Reference:** 1103
- 1932** **History:** < TAC **Locality:** near Koyama-ike Pond/Tottori/Japan **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Other strain no.:** TAC 569
- 1933** **History:** < TAC **Locality:** near Koyama-ike Pond/Tottori/Japan **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Other strain no.:** TAC 570

Anabaena planctonica Brunnthaler

- 80** **History:** < TAC **Locality:** Lake Kasumigaura/Ibaraki/Japan (1978-12-**) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Anabaena solitaria* Klebahn f. *solitaria* **States:** Unialgal; Clonal; Axenic[2011 Sept] **Culture conditions:** CB; 25°C; 70-90µmol/m²/s; 20 D **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 42 (K-TAN-42) **References:** 221, 477, 567, 671, 1159 **Remarks:** Unstable
- 810** **History:** < Li, Renhui < TAC **Locality:** Lake Ohnuma/Hokkaido/Japan (1990-08-**) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Axenic **Culture conditions:** MG; 20°C; 12-22µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 421 (A3) **References:** 203, 477, 675
- 811** **History:** < Li, Renhui < TAC **Locality:** Lake Ohnuma/Hokkaido/Japan (1990-08-**) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Axenic **Culture conditions:** MG; 20°C; 12-22µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 422 (A4) **Reference:** 675
- 812** **History:** < Li, Renhui < TAC **Locality:** Lake Toro/Hokkaido/Japan (1990-08-**) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 20°C; 12-22µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 424 (A7) **Reference:** 675
- 813** **History:** < Li, Renhui < TAC **Locality:** Lake Tofutsu/Hokkaido/Japan (1990-08-**) **Isolator:** Niiyama, Yuko **Identified by:** Li, Renhui **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CT; 20°C; 12-22µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 434 (A25) **Reference:** 675
- 814** **History:** < Li, Renhui < TAC **Locality:** Lake Tofutsu/Hokkaido/Japan (1990-08-**) **Isolator:** Niiyama, Yuko **Identified by:** Li, Renhui **States:** Unialgal; Clonal; Axenic **Culture conditions:** CT; 20°C; 12-22µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 435 (A26) **Reference:** 675
- 815** **History:** < Li, Renhui < CCAP **Other collection strain no.:** CCAP 1403/19 **Locality:** Esthwaite Water/England, Cambria/U.K. **Isolator:** Jaworski, G. H. M. **Identified by:** Li, Renhui **Formerly identified as:** *Anabaena solitaria* Klebahn **States:** Unialgal; Clonal; Axenic **Culture conditions:** CT; 20°C; 12-22µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko)
- 816** **History:** < Li, Renhui < CCAP **Other collection strain no.:** CCAP 1403/27 **Locality:** Bletham Tarn/England, Cambria/U.K. **Isolator:** Jaworski, G. H. M. **Identified by:** Li, Renhui **Formerly identified as:** *Anabaena solitaria* Klebahn **States:** Unialgal; Clonal; Axenic **Culture conditions:** CT; 20°C; 12-22µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Characteristics:**

- Cyanobacterial water bloom (aoko)
- 817** **History:** < Li, Renhui **Locality:** Lake Inbanuma/Chiba/Japan (1995-05-**) **Isolator:** Li, Renhui **Identified by:** Li, Renhui **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CT; 20°C; 12-22µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Offensive taste and odor **Other strain no.:** Inba 2
- 834** **History:** < Li, Renhui < NIVA **Other collection strain no.:** NIVA CYA 66 **Locality:** Aust-Agder, Lake Langsævatn/Norway (1979-**-**) **Identified by:** Li, Renhui **Formerly identified as:** *Anabaena solitaria* Klebahn f. *planktonica* (Brunnthaler) Komárek **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CT; 20°C; 12-22µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko)
- 1680** **History:** < TAC **Locality:** Lake Toro/Hokkaido/Japan (1990-08-**) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 423 **Reference:** 675
- 1681** **History:** < TAC **Locality:** Lake Inbanuma/Chiba/Japan (1996-08-10) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 465
- 1682** **History:** < TAC **Locality:** Nigo-ike Pond/Hyogo/Japan (2001-07-25) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Other strain no.:** TAC 471
- 1683** **History:** < TAC **Locality:** Nigo-ike Pond/Hyogo/Japan (2001-07-25) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Other strain no.:** TAC 472 **Reference:** 1103
- 1723** **History:** < Li, Renhui **Locality:** Lake Yamanaka/Yamanashi/Japan (1998-07-**) **Isolator:** Li, Renhui **Identified by:** Li, Renhui (1998-07-**) **States:** Unialgal **Culture conditions:** CB; CT; 20°C; 12-22µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Characteristics:** Offensive odor; Resting spore forming **Other strain no.:** yama-2
- 1934** **History:** < TAC **Locality:** Lake Shinotsu/Hokkaido/Japan (2003-07-29) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 561 **Reference:** 1103
- Anabaena pseudocompacta* M.Watanabe
- 79** **History:** < TAC **Locality:** Lake Kasumigaura/Ibaraki/Japan (1978-07-**) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Anabaena spiroides* Klebahn f. *spiroides* **States:** Unialgal; Clonal; Axenic **Culture conditions:** CB; 25 °C ; 70-90µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 28 (K-TAN-28) **References:** 221, 477, 567 **Remarks:** Unstable
- 1684** **History:** < TAC **Locality:** Nigo-ike Pond/Hyogo/Japan (2001-07-25) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Other strain no.:** TAC 477 **Reference:** 1182
- 1935** **History:** < TAC **Locality:** Hachirogata/Akita/Japan (2002-07-30) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Ditch water) **Other strain no.:** TAC 539
- 1936** **History:** < TAC **Locality:** Hachirogata/Akita/Japan (2002-07-30) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Ditch water) **Other strain no.:** TAC 541

1937 **History:** < TAC **Locality:** Lake Shirarutoro/Hokkaido/Japan (2004-08-01) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 589

1938 **History:** < TAC **Locality:** Lake Shirarutoro/Hokkaido/Japan (2004-08-01) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 590

*Anabaena pseudocompacta** M.Watanabe

1939 **History:** < TAC **Locality:** Hachirogata/Akita/Japan (2002-07-30) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Ditch water) **Characteristics:** *Akinete not observed **Other strain no.:** TAC 538 **Reference:** 1103

1940 **History:** < TAC **Locality:** Hachirogata/Akita/Japan (2002-07-30) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Ditch water) **Characteristics:** *Akinete not observed **Other strain no.:** TAC 540

Anabaena reniformis Lemmermann emend. Aptekarji

1685 **History:** < TAC **Locality:** Tsukuba-shi, Chuo-koen/Ibaraki/Japan (1999-10-05) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Other strain no.:** TAC 458

1686 **History:** < TAC **Locality:** Tsukuba-shi, Chuo-koen/Ibaraki/Japan (1999-09-30) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Other strain no.:** TAC 459

1687 **History:** < TAC **Locality:** Shikata-futago-ike Pond/Hyogo/Japan (1990-09-17) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Other strain no.:** TAC 460

1688 **History:** < TAC **Locality:** Koya-ike Pond/Hyogo/Japan (1996-07-26) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Other strain no.:** TAC 461

1689 **History:** < TAC **Locality:** Koya-ike Pond/Hyogo/Japan (1996-07-26) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Other strain no.:** TAC 462

1690 **History:** < TAC **Locality:** Shin-ike Pond/Hyogo/Japan (2001-07-25) **Isolator:** Niiyama, Yuko **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Other strain no.:** TAC 478 **References:** 1103, 1182

1691 **History:** < TAC **Locality:** Shin-ike Pond/Hyogo/Japan (2001-07-25) **Isolator:** Niiyama, Yuko **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Other strain no.:** TAC 479

1692 **History:** < TAC **Locality:** Shin-ike Pond/Hyogo/Japan (2001-07-25) **Isolator:** Niiyama, Yuko **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Other strain no.:** TAC 480

1693 **History:** < TAC **Locality:** Tatsugaya-ike Pond/Hyogo/Japan (2001-07-25) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Other strain no.:** TAC 481 **References:** 1103, 1182

1694 **History:** < TAC **Locality:** Lake Teganuma/Chiba/Japan (2001-09-26) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 484

- Reference:** 1103
- 1941** **History:** < TAC **Locality:** Fujiidera/Osaka/Japan (2002-10-04) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Other strain no.:** TAC 542
- 1942** **History:** < TAC **Locality:** Fujiidera/Osaka/Japan (2002-10-04) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Other strain no.:** TAC 543 **Reference:** 1103
- 1943** **History:** < TAC **Locality:** Fujiidera/Osaka/Japan (2002-10-04) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Other strain no.:** TAC 544
- 1944** **History:** < TAC **Locality:** Fujiidera/Osaka/Japan (2002-10-04) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Other strain no.:** TAC 545
- 1945** **History:** < TAC **Locality:** Fujiidera/Osaka/Japan (2002-10-04) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Other strain no.:** TAC 546
- 1946** **History:** < TAC **Locality:** Fujiidera/Osaka/Japan (2002-10-04) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Other strain no.:** TAC 547
- 1947** **History:** < TAC **Locality:** Fujiidera/Osaka/Japan (2002-10-04) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 4-6µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Other strain no.:** TAC 548
- 1948** **History:** < TAC **Locality:** Fujiidera/Osaka/Japan (2002-10-04) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 4-6µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Other strain no.:** TAC 549
- 1949** **History:** < TAC **Locality:** Fujiidera/Osaka/Japan (2002-10-04) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 4-6µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Other strain no.:** TAC 550
- Anabaena smithii* (Komárek) M.Watanabe
- 818** **History:** < Li, Renhui < TAC **Locality:** Lake Barato/Hokkaido/Japan (1989-08-**) **Isolator:** Watanabe, Masayuki **Identified by:** Li, Renhui **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CT; 20°C; 12-22µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 116
- 819** **History:** < Li, Renhui < TAC **Locality:** Lake Barato/Hokkaido/Japan (1990-08-**) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CT; 20°C; 12-22µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 428 (A14) **References:** 203, 675
- 820** **History:** < Li, Renhui < TAC **Locality:** Hirosaki/Aomori/Japan (1990-06-**) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CT; 20°C; 12-22µmol/m²/s; 2 M **Habitat:** (Freshwater) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 431 (A18) **References:** 675, 1103
- 821** **History:** < Li, Renhui < TAC **Locality:** Hirosaki/Aomori/Japan (1990-06-**) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CT; 20°C; 12-22µmol/m²/s; 2 M **Habitat:** (Freshwater) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 432 (A19) **References:** 477, 675
- 822** **History:** < Li, Renhui < TAC **Locality:** Lake Akan/Hokkaido/Japan (1991-07-**) **Isolator:** Niiyama, Yuko **Identified by:** Li, Renhui **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CT; 20°C; 12-22µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 450 (A51) **References:** 675, 1103

- 823** **History:** < Li, Renhui < TAC **Locality:** Lake Okutama/Tokyo/Japan (1991-07-**) **Isolator:** Watanabe, Masayuki **Identified by:** Li, Renhui **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CT; 20°C; 12-22µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Offensive taste and odor **Other strain no.:** TAC 452 (210) **Remarks:** Unstable
- 824** **History:** < Li, Renhui **Locality:** Hasse River/Tokyo/Japan (1998-03-**) **Isolator:** Li, Renhui **Identified by:** Li, Renhui **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CT; 20°C; 12-22µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Offensive taste and odor **Other strain no.:** Ana Ha 1
- 1695** **History:** < TAC **Locality:** Lake Akan/Hokkaido/Japan (1990-08-**) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 451 **References:** 476, 675, 1182
- 1724** **History:** < Li, Renhui **Locality:** Lake Yamanaka/Yamanashi/Japan (1998-07-**) **Isolator:** Li, Renhui **Identified by:** Li, Renhui (1998-07-**) **States:** Unialgal **Culture conditions:** MG; 20°C; 12-22µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Characteristics:** Nitrogen fixation; Resting spore forming **Other strain no.:** yama-1

Anabaena sp.

- 1651** **History:** < TAC **Locality:** Lake Shiroyama/Kanagawa/Japan (2001-10-31) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 500 **Reference:** 1103
- 1953** **History:** < TAC **Locality:** Lake Mikata/Fukui/Japan (2003-05-15) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 4-6µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 564
- 1954** **History:** < TAC **Locality:** Lake Mikata/Fukui/Japan (2003-05-15) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 4-6µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 565
- 1955** **History:** < TAC **Locality:** Lake Mikata/Fukui/Japan (2003-05-15) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 4-6µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 566

Anabaena spiroides Klebahn

- 76** **History:** < Suda, Shoichiro **Locality:** Lake Kasumigaura/Ibaraki/Japan (1983-06-16) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 25°C; 70-90µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko) **Gene data:** 16S rRNA (AB047104) **Other strain no.:** K-A-12 **References:** 477, 567, 671, 796, 797, 1159 **Remarks:** Unstable
- 1905** **History:** < TAC **Locality:** Soe-ike Pond/Hyogo/Japan (2001-11-03) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 20-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Other strain no.:** TAC 504
- 1950** **History:** < TAC **Locality:** Mishima-ike Pond/Shiga/Japan (2001-10-22) **Isolator:** Tsujimura, Shigeo **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 4-6µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Other strain no.:** TAC 551 **Reference:** 1103

Anabaena ucrainica (Schkorbatow) M.Watanabe

- 263** **History:** < TAC **Locality:** Lake Kasumigaura/Ibaraki/Japan (1978-07-**) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Anabaena spiroides* Klebahn f. *spiroides* **States:** Unialgal; Clonal; Axenic **Culture conditions:** CT; 25 °C ; 70-90µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 27 (K-TAN-27) **References:** 567, 1159 **Remarks:** Unstable

- 825** **History:** < Li, Renhui < TAC **Locality:** Lake Sagami/Kanagawa/Japan (1991-08-**) **Isolator:** Niiyama, Yuko **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CT; 20°C; 12-22µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 448 (A48) **References:** 477, 675
- 826** **History:** < Li, Renhui < TAC **Locality:** Lake Sagami/Kanagawa/Japan (1991-08-**) **Isolator:** Niiyama, Yuko **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CT; 20°C; 12-22µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 449 (A50) **References:** 203, 477, 675, 1103
- 1696** **History:** < TAC **Locality:** Lake Tsukui/Kanagawa/Japan **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 455 **References:** 1103, 1182

Anabaena variabilis Kützing ex Bornet et Flahault

- 23** **History:** < IAM (1983) **Other collection strain no.:** IAM M-2 **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** MDM (agar); 20°C; 4-10µmol/m²/s; 4 M (25°C; 70-80µmol/m²/s) **References:** 20, 73, 94, 95, 96, 110, 111, 112, 204, 235, 567, 600, 601, 602, 865, 1002, 1090, 1125
- 2093** **History:** < IAM (2007) < Meyers, Jack **Other collection strain no.:** IAM M-3 **States:** Unialgal; Clonal; Axenic[2012 Feb] **Culture conditions:** MDM (agar); 20°C; 13-18µmol/m²/s; 3 M **Habitat:** Freshwater **Characteristics:** Mostly fragmented **Gene data:** 16S rRNA (AB016520); gyrB (AB074772); rpoC1 (AB074795); rpoD1 (AB074822) **References:** 2, 3, 4, 5, 205, 286, 287, 361, 372, 455, 456, 523, 535, 553, 559, 561, 590, 591, 813, 895, 896, 897, 898, 899, 900, 901, 937, 1004, 1097, 1100, 1117, 1197
- 2094** **History:** < IAM (2007) < Ishikawa, Masako **Other collection strain no.:** IAM M-58 **Isolator:** Ishikawa, Masako **Identified by:** Maruyama, Ko **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** MDM (agar); 20°C; 13-18µmol/m²/s; 3 M **Habitat:** Freshwater **Other strain no.:** Ishikawa 99.J403w. **Reference:** 1004
- 2095** **History:** < IAM (2007) < Fujiwara, Shoko (1990) **Other collection strain no.:** IAM M-204; ATCC 29413 **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** MDM (agar); 20°C; 13-18µmol/m²/s; 3 M **Habitat:** Freshwater **Gene data:** 16S rRNA (AB074502); gyrB (AB074766); rpoC1 (AB074789); rpoD1 (AB074816) **References:** 486, 937, 965, 1016

Anabaena viguieri Denis et Fremy

- 827** **History:** < Li, Renhui < TAC **Locality:** Shikata-futago-ike Pond/Hyogo/Japan (1990-09-**) **Isolator:** Niiyama, Yuko **Identified by:** Li, Renhui **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 20°C; 12-22µmol/m²/s; 2 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 433 (A23) **Reference:** 675

*Anabaena viguieri** Denis et Fremy

- 1951** **History:** < TAC **Locality:** Lake Mikata/Fukui/Japan (2003-05-15) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 4-6µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** *Akinete not observed **Other strain no.:** TAC 559
- 1952** **History:** < TAC **Locality:** Lake Mikata/Fukui/Japan (2003-05-15) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 4-6µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** *Akinete not observed **Other strain no.:** TAC 560

ANABAENOPSIS : Cyanophyceae

Anabaenopsis circularis (G.S. West) Woloszynska et Miller

- 21** **History:** < IAM (1983) **Other collection strain no.:** IAM M-4 **Isolator:** Watanabe, Atsushi

Identified by: Hirano **States:** Unialgal; Clonal; Axenic **Culture conditions:** MDM (agar); 20°C; 4-10µmol/m²/s; 4 M (25°C; 70-80µmol/m²/s) **Gene data:** 16S rRNA (AB043537); 16S rRNA (AF247595); *cpcB*, *cpcA* (JF740674); *gyrB* (AB074773); *rpoC1* (AB074796); *rpoD1* (AB074823) **References:** 20, 235, 567, 589, 796, 937, 1125, 1131, 1159 **Remarks:** Cryopreserved

Anabaenopsis sp.

- 1698** **History:** < TAC **Locality:** Lake Barato/Hokkaido/Japan (1990-08-**) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 427
- 1725** **History:** < Li, Renhui **Locality:** Shinobazu-no-ike Pond, Ueno Park/Tokyo/Japan (1998-10-**) **Isolator:** Li, Renhui **Identified by:** Li, Renhui (1998-10-**) **States:** Unialgal **Culture conditions:** CT; 20 °C ; 12-22µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Resting spore forming **Other strain no.:** Anabaenopsis (Ueno)

ANACYSTIS : Cyanophyceae

Anacystis marina (Hansgirg) Drouet et Dailey

- 2096** **History:** < IAM (2007) < Safferman, R. S. **Other collection strain no.:** IAM M-122 **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C (agar); 20°C; 13-18µmol/m²/s; 3 M **Habitat:** Freshwater **Other strain no.:** SEC 142

ANKISTRODESMUS : Chlorophyceae

Ankistrodesmus angustus Bernard

- 2190** **History:** < IAM (2007) < BIU (UTEX; 1967) **Other collection strain no.:** IAM C-302; SAG 202-3; UTEX 188 **Isolator:** Rodhe, W. **Formerly identified as:** Ankistrodesmus falcatus (Corda) Ralfs **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Pro (agar); 20°C; 8-15µmol/m²/s; 3 M **Habitat:** Freshwater **References:** 38, 513
- 2191** **History:** < IAM (2007) < BIU (UTEX; 1967) **Other collection strain no.:** IAM C-303; UTEX 241; (BIU 241); CCAP 202/4A; SAG 202-4 **Locality:** Czechoslovakia **Isolator:** Czurda, V. **Formerly identified as:** Ankistrodesmus falcatus (Corda) Ralfs var. mirabilis W. et G.S. West **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Habitat:** Freshwater
- 2192** **History:** < IAM (2007) < UTEX (1996) **Other collection strain no.:** IAM C-548 (=C-91); CCAP 202/2; UTEX 189; SAG 202-2; ATCC 30448 **Locality:** Switzerland **Isolator:** Vischer, W. **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Other strain no.:** Vischer 9

Ankistrodesmus braunii (Nägeli) Brunnthaler

- 2193** **History:** < IAM (2007) < BIU (UTEX) **Other collection strain no.:** IAM C-90; UTEX 187; CCAP 202/9; SAG 202-9; ATCC 30447; (BIU 187) **Isolator:** George, E. A. **Formerly identified as:** Ankistrodesmus falcatus (Corda) Ralfs var. duplex (Kützing) G.S. West **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Habitat:** Freshwater
- 2194** **History:** < IAM (2007) < BIU (UTEX; 1961) **Other collection strain no.:** IAM C-96; CCAP 202/7B; UTEX 245; SAG-7b **Locality:** South Africa **Isolator:** George, E. A. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Habitat:** Freshwater **References:** 38, 513

Ankistrodesmus falcatus (Corda) Ralfs var. *acicularis* (A. Braun) G.S. West

- 2195** **History:** < IAM (2007) < BIU (UTEX; 1961) **Other collection strain no.:** IAM C-88; UTEX 101; CCAP 202/11D(?) **Locality:** Indiana/U.S.A. **Isolator:** Starr, R. C. **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Habitat:** Freshwater **Reference:** 513

Ankistrodesmus falcatus (Corda) Ralfs var. *stipitatus* (Chodat) Lemmermann

- 2196** **History:** < IAM (2007) < BIU (UTEX) **Other collection strain no.:** IAM C-304; CCAP 202/5A; UTEX 242; SAG 202-5; Prague 262 **Locality:** Czechoslovakia **Isolator:** Czurda, V. **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Habitat:** Freshwater

Ankistrodesmus nannoselene Skuja

- 2197** **History:** < IAM (2007) < BIU (UTEX; 1967) **Other collection strain no.:** IAM C-305; CCAP 202/6A; SAG 202-6; UTEX 243 **Locality:** Siggeforsajon/Sweden **Isolator:** Rodhe, W. **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Other strain no.:** Rodhe 1632

APHANIZOMENON : Cyanophyceae

Aphanizomenon flos-aquae (L.) Ralfs ex Bornet et Flahault

- 1258** **History:** < Sano, Tomoharu **Locality:** Lake Suigetsu/Fukui/Japan (2000-12-05) **Isolator:** Sano, Tomoharu **Identified by:** Otsuka, Shigeto **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CT; 20 °C ; 70-90µmol/m²/s; 1 M **Habitat:** Brackish water (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** SUI-CT-1
- 1726** **History:** < Li, Renhui **Locality:** U.K. (1997-08-**) **Identified by:** Li, Renhui (1997-08-**) **States:** Unialgal **Culture conditions:** MG; 20°C; 12-22µmol/m²/s; 2 M **Habitat:** Freshwater **Characteristics:** Cyanobacterial water bloom (aoko); Nitrogen fixation; Motile; Resting spore forming **Other strain no.:** Aph E
- 1727** **History:** < Li, Renhui **Locality:** Germany (1997-07-**) **Isolator:** Li, Renhui **Identified by:** Li, Renhui (1997-07-**) **States:** Unialgal **Culture conditions:** MG; 20°C; 12-22µmol/m²/s; 2 M **Habitat:** Freshwater **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** Aph Gmü
- 1728** **History:** < Li, Renhui **Locality:** Lake Inbanuma/Chiba/Japan (1997-05-**) **Isolator:** Li, Renhui **Identified by:** Li, Renhui (1997-05-**) **States:** Unialgal **Culture conditions:** MG; 20°C ; 12-22µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Nitrogen fixation; Resting spore forming **Gene data:** 16S rRNA (AY196083) **Other strain no.:** Aph Inba **Reference:** 475

Aphanizomenon flos-aquae (L.) Ralfs ex Bornet et Flahault f. *gracile* (Lemmermann) Elenkin

- 81** **History:** < TAC **Locality:** Lake Kasumigaura/Ibaraki/Japan (1978-01-24) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** CB; 25°C; 70-90µmol/m²/s; 20 D **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 1 (K-TAN-1) **References:** 192, 221, 477, 567, 584, 669, 671, 973, 1159, 1219, 1272 **Remarks:** Unstable

APHANOCAPSA : Cyanophyceae

Aphanocapsa montana Cramer

- 416** **History:** < Watanabe, Makoto M. **Locality:** Toyamasawa/Tochigi/Japan (1987-04-30) **Isolator:** Kasai, Fumie **Identified by:** Watanabe, Makoto M. **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** CSi; CSi + Cu; 20°C; 4-10µmol/m²/s; 4 M (20°C; 15-27µmol/m²/s) **Habitat:** Freshwater (River water) **Other strain no.:** NK-24 **References:** 139, 567, 1018 **Remarks:** Cryopreserved

APIOCYSTIS : Chlorophyceae

Apiocystis brauniana Nägeli

- 1020** **History:** < Moriya, Mayumi **Locality:** Shishizuka-ohike Pond/Ibaraki/Japan (2002-02-**) **Isolator:** Moriya, Mayumi **Identified by:** Moriya, Mayumi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 15°C ; 15-22µmol/m²/s; 2 M **Habitat:** Freshwater (Pond water)

Characteristics: Epiphytic Other strain no.: #115

ARTHROSPIRA : Cyanophyceae

Arthrospira platensis (Nordstedt) Gomont

Syn. *Arthrospira platensis* Gomont

- 39** **History:** < IAM (1983) **Other collection strain no.:** IAM M-135 (=M-222) **Locality:** Lake Chad/Chad **Formerly identified as:** *Spirulina platensis* (Gomont) Geitler **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** SOT; 20°C; 4-10µmol/m²/s; 4 M (25°C; 60-70µmol/m²/s) **Habitat:** Salt water **Characteristics:** Hydrogen evolution; Contains good quality of proteins **Gene data:** 16S rRNA (AB074508); 16S rRNA (DQ393279); CpcB & CpcA (DQ393287); crtB (AB001284); cyaA (D49530); cyaG (D49531); DNA for adenylate cyclase (D49692); groEL (AB039632); gyrB (AB074765); MS (AB548759); mth (AB282753); petH (AB113346); recA (U33924); rpoC1 (AB074788); rpoD1 (AB074815); Total genome sequence (AP011615) **References:** 20, 92, 141, 196, 235, 467, 480, 481, 482, 483, 527, 567, 769, 770, 937, 1003, 1062, 1079, 1133, 1147, 1151, 1159
- 45** **History:** < IAM (1983) **Other collection strain no.:** IAM M-184 **Locality:** Lake Kasumigaura/Ibaraki/Japan (1975-11-**) **Isolator:** Watanabe, Makoto M.; Ichimura, Terunobu **Identified by:** Watanabe, Makoto M. **Formerly identified as:** *Spirulina platensis* (Gomont) Geitler **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 25°C; 20-30µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** KAS-6-50 **References:** 192, 235, 383, 567, 1003, 1147, 1151, 1159, 1187, 1219
- 46** **History:** < IAM (1983) **Other collection strain no.:** IAM M-185 **Locality:** Lake Texcoco/Mexico **Formerly identified as:** *Spirulina platensis* (Gomont) Geitler **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** SOT; 20°C; 4-10µmol/m²/s; 4 M (25°C; 60-70µmol/m²/s) **Habitat:** Salt water **Characteristics:** Cyanobacterial water bloom (aoko); Hydrogen evolution **Gene data:** CpcB & CpcA (DQ393288) **References:** 17, 20, 26, 27, 139, 235, 383, 467, 567, 1003, 1147, 1151, 1159
- 597** **History:** < Hagiwara, Tomiji **Locality:** Lake Teganuma/Chiba/Japan (1990-07-24) **Isolator:** Hagiwara, Tomiji **Identified by:** Hagiwara, Tomiji **Formerly identified as:** *Spirulina platensis* (Gomont) Geitler **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** MA; 22°C; 60-70µmol/m²/s; 2 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** T-43 **References:** 139, 567

ASTERIONELLOPSIS : Bacillariophyceae

Asterionellopsis glacialis (Castracane) Round

Syn. *Asterionella glacialis* Castracane

- 265** **History:** < Sawaguchi, Tomohiro **Locality:** Matoya Bay/Mie/Japan (1984-09-01) **Isolator:** Sawaguchi, Tomohiro **Identified by:** Sawaguchi, Tomohiro **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 10°C; 15-20µmol/m²/s; 2 M **Habitat:** Marine (Seawater) **Other strain no.:** MB-B-1
- 417** **History:** < Riquelme, Carlos E. **Locality:** Maizuru Bay/Kyoto/Japan (1985-10-12) **Isolator:** Riquelme, Carlos E. **Identified by:** Riquelme, Carlos E. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 15 °C ; 20-30µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Characteristics:** Not growing under axenic condition

ASTEROCHLORIS : Trebouxiophyceae

Asterochloris cf. *glomerata* (Warén) Friedl

- 1298** **History:** < Ohmura, Yoshihito **Locality:** Chikurin-ji Temple/Hiroshima/Japan (2002-03-24) **Isolator:** Ohmura, Yoshihito **Identified by:** Ohmura, Yoshihito **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 6 M (25°C; 70-80µmol/m²/s) **Habitat:** Terrestrial (The lichen *Cladia aggregata* on humus) **Characteristics:** Symbiotic; Isolated from

- Cladia aggregata (lichen) on humus **Other strain no.:** AYO4871 **Remarks:** Cryopreserved
- 1299** **History:** < Ohmura, Yoshihito **Locality:** Chikurin-ji Temple/Hiroshima/Japan (2002-03-24) **Isolator:** Ohmura, Yoshihito **Identified by:** Ohmura, Yoshihito **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 6 M (25°C; 70-80µmol/m²/s) **Habitat:** Terrestrial (The lichen Cladonia macilenta on a bark roof) **Characteristics:** Symbiotic; Isolated from Cladonia macilenta (lichen) on wood **Other strain no.:** AYO4872 **Remarks:** Cryopreserved
- 1300** **History:** < Ohmura, Yoshihito **Locality:** Chikurin-ji Temple/Hiroshima/Japan (2002-03-24) **Isolator:** Ohmura, Yoshihito **Identified by:** Ohmura, Yoshihito **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 6 M (25°C; 70-80µmol/m²/s) **Habitat:** Terrestrial (The lichen Cladia aggregata on a stone wall) **Characteristics:** Symbiotic; Isolated from Cladia aggregata (lichen) on rock **Other strain no.:** AYO4874 **Remarks:** Cryopreserved
- 1301** **History:** < Ohmura, Yoshihito **Locality:** Chikurin-ji Temple/Hiroshima/Japan (2002-03-24) **Isolator:** Ohmura, Yoshihito **Identified by:** Takeshita, Shunji **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 6 M (25°C; 70-80µmol/m²/s) **Habitat:** Terrestrial (The lichen Cladia aggregata on soil) **Characteristics:** Symbiotic; Isolated from Cladia aggregata (lichen) on soil **Other strain no.:** AYO4875 **Remarks:** Cryopreserved

ASTEROCOCCUS : Chlorophyceae*Asterococcus superbus* (Cienkowski) Scherffel

- 1331** **History:** < Nakazawa, Atsushi **Locality:** Tamiyaji-ohike Pond/Mie/Japan (2000-09-**) **Isolator:** Nakazawa, Atsushi **Identified by:** Nakazawa, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 20°C; 22-27µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Gene data:** rbcL (AB175937); rbcL (AB175938); rbcL (AB175939) **Other strain no.:** Asteroco-4 **References:** 662, 665
- 2198** **History:** < IAM (2007) < BIU (UTEX) **Other collection strain no.:** IAM C-299; CCAP 3/3A; UTEX 88 **Locality:** Amiens/France **Isolator:** George, E. A. **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Habitat:** Freshwater

ASTREPHOMENE : Chlorophyceae*Astrophomene gubernaculifera* Pocock

- 418** **History:** < Nozaki, Hisayoshi **Locality:** Kanagawa/Japan (1981-04-**) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Axenic **Culture conditions:** VTAC; 20 °C ; 15-22µmol/m²/s; 20 D **Habitat:** Freshwater (Paddy soil) **Characteristics:** Heterothallic; Mating type(-); Crosses with NIES-419 **Gene data:** atpB (AB014022); atpB (AB014023); psaA (AB044233); psaA (AB044234); psaB (AB044458); psbC (AB044513); psbC (AB044514); rbcL (D63428); rbcL-462 intron (AB076095) **Other strain no.:** 1520-4 (-) **References:** 567, 662, 690, 715, 733, 738, 740, 743
- 419** **History:** < Nozaki, Hisayoshi **Locality:** Kaisei, Yoshidajima/Kanagawa/Japan (1981-04-**) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Axenic **Culture conditions:** VTAC; 20°C; 15-22µmol/m²/s; 1 M **Habitat:** Freshwater (Paddy soil) **Characteristics:** Heterothallic; Mating type(+); Crosses with NIES-418 **Other strain no.:** 1520-1 (+) **References:** 567, 690
- 628** **History:** < Nozaki, Hisayoshi **Locality:** Hayama/Kanagawa/Japan (1980-12-04) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** VTAC; 20 °C ; 22-27µmol/m²/s; 1 M **Habitat:** Freshwater (Paddy soil) **Characteristics:** Heterothallic; Isogamy; Mating type(-) **Other strain no.:** 1727-1(-) **Reference:** 567
- 853** **History:** < Nozaki, Hisayoshi < UTEX **Other collection strain no.:** UTEX 1392 **Locality:** Emmet County/Michigan/U.S.A. (1961-07-**) **Isolator:** Brooks, A. E. **Identified by:** Brooks, A. E. **States:** Unialgal; Clonal; Axenic[2012 Nov] **Culture conditions:** CB-V; 20°C; 22-27µmol/m²/s; 20 D **Habitat:** (Soil) **Characteristics:** Mixotrophic; Heterothallic **Reference:** 39

- 854** **History:** < Nozaki, Hisayoshi < UTEX **Other collection strain no.:** UTEX 1394 **Locality:** Monroe County/Indiana/U.S.A. (1962-10-**) **Isolator:** Brooks, A. E. **Identified by:** Brooks, A. E. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** VTAC; 20°C; 22-27µmol/m²/s; 20 D **Habitat:** (Soil) **Characteristics:** Mixotrophic; Heterothallic **Gene data:** atpB (AB044181); psaA (AB044235); psaB (AB044459); psbC (AB044515); psbC (AB044516); psbC (AB044517); rbcL (AB044169); rbcL (AB044170) **References:** 39, 733
- 855** **History:** < Nozaki, Hisayoshi < UTEX **Other collection strain no.:** UTEX 1398 **Locality:** Tulare County/California/U.S.A. (1953-08-**) **Isolator:** Nelson, R. W. **Identified by:** Brooks, A. E. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** VTAC; 20°C; 22-27µmol/m²/s; 20 D **Habitat:** (Soil) **Characteristics:** Mixotrophic; Heterothallic **Reference:** 39

Astrephomene perforata Nozaki

- 564** **History:** < Nozaki, Hisayoshi **Other collection strain no.:** UTEX 2474 **Locality:** Hayama/Kanagawa/Japan (1980-12-04) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** VTAC; 20 °C ; 22-27µmol/m²/s; 1 M **Habitat:** Freshwater (Paddy soil) **Characteristics:** Authentic strain; Heterothallic; Isogamy; Mating type(+); Crosses with NIES-565 **Gene data:** atpB (AB014024); psaA (AB044236); psaA (AB044237); psaA (AB044238); psaB (AB044460); psbC (AB044518); psbC (AB044519); rbcL (D63429) **Other strain no.:** 1620-3-2 **References:** 567, 662, 690, 715, 733, 738, 740
- 565** **History:** < Nozaki, Hisayoshi **Other collection strain no.:** UTEX 2475 **Locality:** Hayama/Kanagawa/Japan (1980-12-04) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** VTAC; 20 °C ; 22-27µmol/m²/s; 1 M **Habitat:** Freshwater (Paddy soil) **Characteristics:** Authentic strain; Heterothallic; Isogamy; Mating type(-); Crosses with NIES-564 **Other strain no.:** 1620-4-1 **References:** 567, 690, 714

AULACOSEIRA : Bacillariophyceae*Aulacoseira granulata* (Ehrenberg) Simonsen

- 333** **History:** < Hiwatari, Takehiko **Locality:** Lake Kasumigaura/Ibaraki/Japan (1983-05-09) **Isolator:** Hiwatari, Takehiko **Identified by:** Mizuno, Makoto; Kawachi, Masanobu (Reidentify) **Formerly identified as:** *Melosira granulata* (Ehrenberg) Ralfs var. *angustissima* O.Müller f. *spiralis* O.Müller **States:** Unialgal; Clonal; Axenic **Culture conditions:** CSi; 15°C; 10-18µmol/m²/s; 1 M (20°C; 22-32µmol/m²/s) **Habitat:** Freshwater (Lake water) **Other strain no.:** K-Melo **References:** 137, 973 **Remarks:** Unstable

AULOSIRA : Cyanophyceae*Aulosira laxa* Kirchner ex Bornet et Flauhault

- 50** **History:** < IAM (1983) **Other collection strain no.:** IAM M-128 **Locality:** Pusa/India **Isolator:** Venkataraman, G. S. **Formerly identified as:** *Aulosira fertilissima* Ghose (in IAM) **States:** Unialgal; Non-clonal; Axenic **Culture conditions:** MDM (agar); 20°C; 4-10µmol/m²/s; 4 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Paddy soil) **Characteristics:** Nitrogen fixation **References:** 221, 235, 567, 1159 **Remarks:** Cryopreserved

AUREARENA : Aurearenophyceae*Aurearena cruciata* Kai, Yoshii, Nakayama et Inouye

- 1863** **History:** < TKB **Locality:** Isonoura Beach/Wakayama/Japan (2003-05-**) **Isolator:** Kai, Atsushi **Identified by:** Kai, Atsushi (2003-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 25 °C ; 180-200µmol/m²/s; 1 M **Habitat:** Marine (Sand) **Characteristics:** Authentic strain **Other strain no.:** TKB-337 **Reference:** 331
- 1864** **History:** < TKB **Locality:** Noma Beach/Aichi/Japan (2004-06-**) **Isolator:** Kai, Atsushi **Identified by:** Kai, Atsushi (2004-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture**

conditions: f/2; 25°C; 180-200µmol/m²/s; 1 M **Habitat:** Marine (Sand) **Gene data:** psbC (HQ710747) **Other strain no.:** TKB-338 **Reference:** 331

1865 History: < TKB **Locality:** Hashikui Beach/Wakayama/Japan (2005-07-**) **Isolator:** Kai, Atsushi **Identified by:** Kai, Atsushi (2005-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 25°C; 180-200µmol/m²/s; 1 M **Habitat:** Marine (Sand) **Other strain no.:** TKB-339 **Reference:** 331

AUXENOCHLORELLA : Trebouxiophyceae

Auxenochlorella protothecoides (Krüger) Kalina et Puncochárová

Syn. *Chlorella protothecoides* Krüger

2163 History: < IAM (2007) < BIU (UTEX) **Other collection strain no.:** IAM C-150; SAG 211-11a; UTEX 29; ATCC 30581; ATCC 13482; CCAP 211/11a; (BIU 29) **Isolator:** Pringsheim, E. G. **Identified by:** Kessler, E. (1991) **Formerly identified as:** *Chlorella vulgaris* Beijerinck **States:** Unialgal; Clonal; Axenic **Culture conditions:** Pro (agar); 20°C; 8-15µmol/m²/s; 3 M **References:** 190, 226, 385, 424, 425, 498, 499, 1212 **Remarks:** Cryopreserved

2164 History: < IAM (2007) < Tsuzuki, Mikio (2005) < IAM (1994) **Other collection strain no.:** IAM C-624 (=C-202) **Identified by:** Confirmed at NIES by DNA sequencing **States:** Unialgal; Clonal; Axenic **Culture conditions:** Pro (agar); 20°C; 8-15µmol/m²/s; 3 M **Gene data:** 18S rRNA (AB488569) **Remarks:** Cryopreserved

2165 History: < IAM (10th lab. < 7th lab.) (2007) < Krauss **Other collection strain no.:** IAM C-206 **Identified by:** Confirmed at NIES by DNA sequencing **Formerly identified as:** *Chlorella protothecoides* Krüger var. *mannophila* Shihira et Krauss **States:** Unialgal; Clonal; Axenic **Culture conditions:** Pro (agar); 20°C; 8-15µmol/m²/s; 3 M **Gene data:** 18S rRNA (AB488570) **Reference:** 1211 **Remarks:** Cryopreserved

2176 History: < IAM (2007) < BIU (UTEX; 1965) **Other collection strain no.:** IAM C-201; UTEX 838; CCAP 211/22 **Isolator:** Lewin, Ralph A. **Identified by:** Re-identified at NIES by DNA sequencing **Formerly identified as:** *Chlorella* sp. **States:** Unialgal; Clonal; Axenic **Culture conditions:** Pro (agar); 20°C; 8-15µmol/m²/s; 3 M **Habitat:** (The freshwater sponge *Spongilla fluviatilis*) **Gene data:** 18S rRNA (AB488571) **Reference:** 385 **Remarks:** Cryopreserved

BASICHLAMYS : Chlorophyceae

Basichlamys sacculifera (Scherffel) Skuja

Syn. *Gonium sacculiferum* Scherffel

566 History: < Nozaki, Hisayoshi **Locality:** Fujisawa/Kanagawa/Japan (1983-08-01) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-27µmol/m²/s; 1 M **Habitat:** Freshwater (Pond sediment) **Gene data:** atpB (AB014015); psaA (AB044416); psaB (AB044467); psaB (AB044468); psbC (AB044526); rbcL (D63430) **Other strain no.:** 3907-1 **References:** 567, 695, 715, 718, 733, 738, 740

BATHYCOCCUS : Prasinophyceae

Bathycoccus prasinus Eikrem et Thronsen

2670 History: < RCC (2010) **Other collection strain no.:** RCC 419 **Locality:** English Channel/Brittany Coast/France (2001-06-14) **Isolator:** Le Gall, F.; Le Gall, F. (Re-isolation) **Identified by:** Confirmed at RCC by DNA sequencing **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** K; 15°C; 4-8µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** RD010614-71-3

BATRACHOSPERMUM : Florideophyceae

Batrachospermum atrum (Hudson) Harvey

1456 **History:** < Higa, Atsushi **Locality:** Fukui/Japan (2003-05-25) **Isolator:** Higa, Atsushi **Identified by:** Kumano, Shigeru (2003-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; CR+EN **Other strain no.:** BF1 **Reference:** 142

Batrachospermum helminthosum Bory

1457 **History:** < Higa, Atsushi **Locality:** Fukui/Japan (2003-05-25) **Isolator:** Higa, Atsushi **Identified by:** Kumano, Shigeru (2003-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; NT **Other strain no.:** BF3 **Reference:** 142

Batrachospermum sp.

1459 **History:** < Kawachi, Masanobu **Locality:** Kuma River/Kumamoto/Japan (2001-11-26) **Isolator:** Iwaki, Hiroyuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic **Other strain no.:** KUM-2

1460 **History:** < Higa, Atsushi **Locality:** Ohkubo-ga/Okinawa/Japan (2002-03-16) **Isolator:** Higa, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic **Other strain no.:** BO2

Batrachospermum turfosum Bory

Syn. *Batrachospermum vagum* (Roth) Agardh

2136 **History:** < IAM (2007) **Other collection strain no.:** IAM R-4 **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; Bold 3N; 20°C; 3-12µmol/m²/s; 3 M **Characteristics:** VU

Batrachospermum virgato-decaisneanum Sirodot

1458 **History:** < Higa, Atsushi **Locality:** Fukui/Japan (2003-05-25) **Isolator:** Higa, Atsushi **Identified by:** Kumano, Shigeru (2003-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; CR+EN **Other strain no.:** BF2

BICOSOECA : Bicoecea

Bicosoeca sp.

1438 **History:** < TKB **Locality:** Akashi/Hyogo/Japan (2004-12-10) **Isolator:** Yubuki, Naoji **Identified by:** Yubuki, Naoji **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** SUY 1/10 + Wheat; 20°C; 0µmol/m²/s; 20 D **Habitat:** Marine (Seawater) **Characteristics:** Heterotrophic; Benthic **Other strain no.:** TKB-211 (NY0158)

BIGELOWIELLA : Chlorarachniophyceae

Bigelowiella natans Moestrup

2677 **History:** < RCC (2010) **Other collection strain no.:** RCC 337 **Locality:** Mediterranean Sea (1999-09-30) **Isolator:** Partensky, F.; Le Gall, F. (Re-isolation) **Identified by:** Confirmed at RCC by DNA sequencing **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** PROSOPE_153-1

BLIDINGIA : Ulvophyceae

Blidingia minima (Nägeli) Kylin

1837 **History:** < TKB **Locality:** Yumenoshima/Tokyo/Japan (2005-01-**) **Isolator:** Nakayama, Takeshi **Identified by:** Nakayama, Takeshi (2006-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** IMK; 20°C; 20-30µmol/m²/s; 2 M **Habitat:** (Seawater) **Other strain no.:** TKB-271

BODO : Kinetoplastea

Bodo saltans Ehrenberg

1439 **History:** < TKB **Locality:** Tsukuba/Ibaraki/Japan (2002-10-13) **Isolator:** Yubuki, Naoji **Identified by:** Yubuki, Naoji **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** URO + Wheat; 15°C; 0µmol/m²/s; 1 M **Habitat:** Freshwater (Water) **Characteristics:** Heterotrophic **Other strain no.:** TKB-013 (NY0117)

BOLIDOMONAS : Bolidophyceae

Bolidomonas mediterranea Guillou et Chrétiennot-Dinet

2681 **History:** < RCC (2010) **Other collection strain no.:** RCC 238; CCMP 1867 **Locality:** Mediterranean Sea (1996-06-19) **Isolator:** Vaultot, Daniel **Identified by:** Guillou, L. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** K; 20°C; 22-32µmol/m²/s; 14 D **Habitat:** Marine (Seawater) **Characteristics:** Authentic strain **Other strain no.:** MIN 129-20m Aa

Bolidomonas pacifica Guillou et Chrétiennot-Dinet

2682 **History:** < RCC (2010) **Other collection strain no.:** RCC 205; CCMP 1866 **Locality:** Equatorial Pacific (1994-11-11) **Isolator:** Vaultot, Daniel **Identified by:** Guillou, L. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** IMK; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Characteristics:** Authentic strain **Other strain no.:** OLI 31 SE3

Bolidomonas sp.

2683 **History:** < RCC (2010) **Other collection strain no.:** RCC 852 **Locality:** South East Pacific (2004-11-02) **Isolator:** Vaultot, Daniel; Le Gall, F. (Re-isolation) **Identified by:** Confirmed at RCC by DNA sequencing **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** K; 20°C; 22-32µmol/m²/s; 20 D **Habitat:** Marine (Seawater) **Other strain no.:** Biosope_47 C2

BOTRYDIOPSIS : Xanthophyceae

Botrydiopsis arrhiza Borzi

621 **History:** < CCAP **Other collection strain no.:** CCAP 222/1B **Locality:** England/U.K. **Isolator:** George **States:** Unialgal **Culture conditions:** AF-6; 20°C; 32-40µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Reference:** 137

BOTRYDIUM : Xanthophyceae

Botrydium granulatum (L.) Greville

622 **History:** < CCAP **Other collection strain no.:** CCAP 805/3A **Isolator:** Vischer, W. **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** AF-6; 20°C; 32-40µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Reference:** 137

BOTRYOCOCCUS : Trebouxiophyceae

Botryococcus braunii Kützing

836 **History:** < Mori, Fumi **Locality:** Imuta-ike Pond/Kagoshima/Japan (1997-06-**) **Isolator:** Mori, Fumi **Identified by:** Mori, Fumi **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** AF-6; 20°C; 15-22µmol/m²/s; 4 M **Habitat:** Freshwater (Pond water) **Gene data:** 18S rRNA (AB780364); 18S rRNA (JQ941954); rbcL (JQ941955) **Remarks:** Cryopreserved; very slow growth

2199 **History:** < IAM (2007) < Hara, Yoshiaki < UTEX (1986) **Other collection strain no.:** IAM C-529; CCAP 807/1; UTEX LB572; SAG B 807-1 **Isolator:** Droop, M. R. **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Gene data:** 18S rRNA (AB780365) **Remarks:** very slow growth

BRACHIOMONAS : Chlorophyceae

Brachiomonas submarina Bohlin

375 **History:** < Sawaguchi, Tomohiro **Locality:** Hachinohe Harbor/Aomori/Japan (1986-08-13)

Isolator: Sawaguchi, Tomohiro **Identified by:** Sawaguchi, Tomohiro **States:** Unialgal; Clonal; Axenic **Culture conditions:** ESM; 15°C; 20-30µmol/m²/s; 1 M **Habitat:** Brackish water (Water) **Other strain no.:** 86-SuHH-2 **Reference:** 567

BRACTEACOCCLUS : Chlorophyceae

Bracteacoccus giganteus Bischoff et Bold

2200 History: < IAM (2007) **Other collection strain no.:** IAM C-388 **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M

Bracteacoccus sp.

2574 History: < IAM (2007) **Other collection strain no.:** IAM C-172 **Locality:** Marble Point/Antarctica **Isolator:** Holm-Hansen, O. **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C; 20°C; 8-15µmol/m²/s; 3 M **Other strain no.:** Holm-Hansen M-37

BUMILLERIOPSIS : Xanthophyceae

Bumilleriopsis petersiana Vischer et Pascher

2505 History: < Inouye, Isao **Locality:** Nabeta Bay/Shizuoka/Japan (2007-04-**) **Isolator:** Chikuni, Tomoko **Identified by:** Chikuni, Tomoko (2007-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C; 20°C; 10-15µmol/m²/s; 1 M **Habitat:** Freshwater (Water) **Other strain no.:** TKB-353

CAFETERIA : Bicoecea

Cafeteria roenbergensis Fenchel et Patterson

1012 History: < Moriya, Mayumi **Locality:** Nirigahama/Wakayama/Japan (2002-01-04) **Isolator:** Moriya, Mayumi **Identified by:** Moriya, Mayumi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** SUY 1/10; 15°C; 0µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Characteristics:** Phagotrophic; Heterotrophic **Other strain no.:** #106

CALCIDISCUS : Prymnesiophyceae

Calcidiscus leptoporus (Murray et Blackman) Loeblich Jr. et Tappan

1304 History: < Kawachi, Masanobu **Locality:** Hachijo Isl., Yaene Harbor/Tokyo/Japan (2002-01-23) **Isolator:** Noël, Mary-Hélène **Identified by:** Noël, Mary-Hélène **States:** Unialgal; Clonal; Non-axenic; Coccolith(+)[2013 Jan] **Culture conditions:** MNK; 20°C; 25-40µmol/m²/s; 14-20 D **Habitat:** Marine (Seawater) **Other strain no.:** MH 34

1305 History: < Kawachi, Masanobu **Locality:** East China Sea (2003-08-06) **Isolator:** Noël, Mary-Hélène **Identified by:** Noël, Mary-Hélène **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MNK; 20°C; 25-40µmol/m²/s; 14-20 D **Habitat:** Marine (Seawater) **Other strain no.:** MH 68

CALOTHRIX : Cyanophyceae

Calothrix brevissima G.S. West

22 History: < IAM (1983) **Other collection strain no.:** IAM M-7 (=M-249) **Locality:** Palau Isl./Palau (1941-09-**) **Isolator:** Watanabe, Atsushi **Identified by:** Negoro, Ken-ichiro **States:** Unialgal; Non-clonal; Axenic **Culture conditions:** MDM (agar); 20°C; 4-10µmol/m²/s; 4 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Soil) **Characteristics:** Nitrogen fixation; Chromatic adaptation **Gene data:** 16S rRNA (AB074504); gyrB (AB074768); rpoC1 (AB074791); rpoD1 (AB074818) **References:** 235, 567, 843, 937, 1123, 1125 **Remarks:** Cryopreserved

2097 History: < IAM (2007) < Tsuzuki, Mikio (2005) < IAM (1994) **Other collection strain no.:** IAM M-277 (=M-37) **Isolator:** Ishikawa, Masako **Identified by:** Fukushima, Hiroshi; Maruyama, Ko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MDM (agar); 20°C; 13-18µmol/m²/s; 3

M Habitat: Terrestrial **Characteristics:** Chromatic adaptation **Other strain no.:** D59 · W

Calothrix crustacea Thuret ex Bornet et Flauhault

- 266 History:** < IAM (1983) **Other collection strain no.:** IAM M-171 **Locality:** Oshoro Bay/Hokkaido/Japan (1972-09-**) **Isolator:** Watanabe, Makoto M.; Ichimura, Terunobu **Identified by:** Watanabe, Makoto M. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 20°C; 4-10µmol/m²/s; 6 M (20°C; 15-27µmol/m²/s) **Habitat:** Marine (Seawater) **References:** 235, 567, 1147, 1163 **Remarks:** Cryopreserved

Calothrix elenkinii Kossinskaja

- 2098 History:** < IAM (2007) < Ishikawa, Masako **Other collection strain no.:** IAM M-61 **Isolator:** Ishikawa, Masako **Identified by:** Maruyama, Ko **States:** Unialgal; Clonal; Axenic[2012 Feb] **Culture conditions:** MDM (agar); 20°C; 13-18µmol/m²/s; 3 M **Other strain no.:** Ishikawa 103X (1) W-N-F

Calothrix gracilis Fritsch

- 2099 History:** < IAM (2007) < Ishikawa, Masako **Other collection strain no.:** IAM M-55 **Isolator:** Ishikawa, Masako **Identified by:** Maruyama, Ko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MDM (agar); 20°C; 13-18µmol/m²/s; 3 M **Other strain no.:** Ishikawa 73. O161W
- 2100 History:** < IAM (2007) < Ishikawa, Masako **Other collection strain no.:** IAM M-56 **Isolator:** Ishikawa, Masako **Identified by:** Maruyama, Ko **States:** Unialgal; Clonal; Axenic[2012 Feb] **Culture conditions:** MDM (agar); 20°C; 13-18µmol/m²/s; 3 M **Other strain no.:** Ishikawa 78. F243D

Calothrix parasitica Thuret ex Bornet et Flauhault

- 267 History:** < IAM (1983) **Other collection strain no.:** IAM M-172 (=M-226) **Locality:** Oshoro Bay/Hokkaido/Japan (1972-07-**) **Isolator:** Watanabe, Makoto M.; Ichimura, Terunobu **Identified by:** Watanabe, Makoto M. **States:** Unialgal; Clonal; Axenic **Culture conditions:** f/2; 20°C; 4-10µmol/m²/s; 6 M (20°C; 15-27µmol/m²/s) **Habitat:** Marine (Seaweed) **Characteristics:** Endophyte in Nematium (Rhodophyceae) **References:** 139, 235, 567 **Remarks:** Cryopreserved
- 334 History:** < IAM (1983) **Other collection strain no.:** IAM M-173 (=M-227) **Locality:** Oshoro Bay/Hokkaido/Japan (1973-02-**) **Isolator:** Watanabe, Makoto M. **Identified by:** Watanabe, Makoto M. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 20°C; 4-10µmol/m²/s; 6 M (20°C; 15-27µmol/m²/s) **Habitat:** Marine (Seaweed) **Characteristics:** Endophyte in Codium (Ulvothyceae) **References:** 235, 567 **Remarks:** Cryopreserved

Calothrix scopulorum Agardh ex Bornet et Flauhault

- 268 History:** < IAM (1983) **Other collection strain no.:** IAM M-174 **Locality:** Oshoro Bay/Hokkaido/Japan (1972-09-**) **Isolator:** Watanabe, Makoto M. **Identified by:** Watanabe, Makoto M. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; MKM (agar); 20°C; 4-10µmol/m²/s; 6 M (20°C; 15-27µmol/m²/s) **Habitat:** Marine **References:** 139, 235, 567, 1147, 1163 **Remarks:** Cryopreserved

Calothrix sp.

- 2101 History:** < IAM (2007) < Katoh, Hiroshi **Other collection strain no.:** IAM M-290 **Locality:** Himeji/Hyogo/Japan (2002-**-**) **Isolator:** Katoh, Hiroshi **Identified by:** Katoh, Hiroshi **States:** Unialgal; Clonal; Axenic[2012 Feb] **Culture conditions:** BG-11 (agar); 20°C; 13-18µmol/m²/s; 3 M **Habitat:** Terrestrial **Characteristics:** Drought tolerance **Other strain no.:** HK-05

CALYPTROSPHAERA : Prymnesiophyceae

Calyptrosphaera sphaeroidea Schiller

- 997 History:** < Kawachi, Masanobu **Locality:** Hikimoto Bay/Mie/Japan (2001-08-06) **Isolator:** Hata, Naotsugu **Identified by:** Kawachi, Masanobu **States:** Unialgal; Clonal; Non-axenic; Coccolith(+)[2013 Jan] **Culture conditions:** MNK; 20°C; 20-30µmol/m²/s; 20 D **Habitat:** Marine (Seawater) **Characteristics:** Holococcolith stage **Other strain no.:** 13K **Reference:** 684

- Remarks:** Fragile species to transportation stresses
- 1308** **History:** < Kawachi, Masanobu **Locality:** Miyake Isl., Chotaro-ike Pond/Tokyo/Japan (1999-11-23) **Isolator:** Kawachi, Masanobu **Identified by:** Kawachi, Masanobu **States:** Unialgal; Clonal; Non-axenic; Coccolith(+)[2013 Jan] **Culture conditions:** MNK; 20°C; 22-32µmol/m²/s; 20 D **Habitat:** Marine (Seawater) **Characteristics:** Red tide; Heterococcolith stage **Other strain no.:** MK18
- 1309** **History:** < Kawachi, Masanobu **Locality:** Miyake Isl., Chotaro-ike Pond/Tokyo/Japan (1999-11-23) **Isolator:** Kawachi, Masanobu **Identified by:** Kawachi, Masanobu **States:** Unialgal; Clonal; Non-axenic; Coccolith(+)[2013 Jan] **Culture conditions:** MNK; 20°C; 22-32µmol/m²/s; 20 D **Habitat:** Marine (Seawater) **Characteristics:** Red tide; Holococcolith stage **Other strain no.:** MK21 **Remarks:** Fragile species to transportation stresses
- 1811** **History:** < TKB **Locality:** Nabeta Bay/Shizuoka/Japan (2005-05-11) **Isolator:** Chikuni, Tomoko **Identified by:** Yoshida, Masaki (2005-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 20-30µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** TKB-252
- 2774** **History:** < Kawachi, Masanobu < Noël, Mary-Hélène **Locality:** Sagami Bay/Japan (2009-05-05) **Isolator:** Noël, Mary-Hélène (2010-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MNK; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Characteristics:** Holococcolith stage **Other strain no.:** MH 310 **Remarks:** Fragile species to transportation stresses
- 2775** **History:** < Kawachi, Masanobu < Noël, Mary-Hélène **Locality:** Sagami Bay/Japan (2009-05-05) **Isolator:** Noël, Mary-Hélène (2010-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MNK; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** MH 311

CARTERIA : Chlorophyceae*Carteria cerasiformis* Nozaki, Aizawa et M.M. Watanabe

- 424** **History:** < Suda, Shoichiro **Locality:** Lake Kasumigaura/Ibaraki/Japan (1983-08-22) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **Formerly identified as:** *Carteria inversa* (Korshikov) Bourrelly **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** AF-6; 20°C; 22-27µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Gene data:** rbcL (D89767) **Other strain no.:** Kas-10 **References:** 567, 710, 719
- 425** **History:** < Suda, Shoichiro **Locality:** Tsukuba/Ibaraki/Japan (1985-11-05) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **Formerly identified as:** *Carteria inversa* (Korshikov) Bourrelly **States:** Unialgal; Clonal; Axenic **Culture conditions:** AF-6; 20°C; 22-27µmol/m²/s; 2 M **Habitat:** Freshwater (Pond water) **Characteristics:** Authentic strain **Gene data:** atpB (AB084321); psaB (AB084359); rbcL (D89768) **Other strain no.:** w-8-15 **References:** 378, 567, 710, 719, 740

Carteria crucifera Korshikov ex Pascher

- 421** **History:** < Suda, Shoichiro **Locality:** Tsuchiura/Ibaraki/Japan (1986-02-**) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** CYT; 20°C; 22-27µmol/m²/s; 2 M **Habitat:** Freshwater (Sediment) **Gene data:** atpB (AB084320); psaB (AB084358); rbcL (D63431) **Other strain no.:** SIST3-1 **References:** 567, 710, 715, 719, 740
- 630** **History:** < Nozaki, Hisayoshi < UTEX **Other collection strain no.:** UTEX 432 **Locality:** New Haven/U.S.A. **Isolator:** Lewin, Ralph A. **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-27µmol/m²/s; 1 M **Habitat:** Freshwater **Gene data:** rbcL (D89758) **References:** 567, 710, 719

Carteria eugametos Mitra

- 631** **History:** < Nozaki, Hisayoshi **Locality:** Kawasaki, Saiwai-ku/Kanagawa/Japan (1990-10-29) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal;

- Non-axenic **Culture conditions:** AF-6; 20°C; 22-27µmol/m²/s; 1 M **Habitat:** Freshwater (Paddy soil) **Characteristics:** Homothallic; Isogamy **Gene data:** rbcL (D89762) **Other strain no.:** 91-409-1 **References:** 567, 705, 719
- 632** **History:** < Nozaki, Hisayoshi **Locality:** Kawasaki, Saiwai-ku/Kanagawa/Japan (1990-10-29) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-27µmol/m²/s; 1 M **Habitat:** Freshwater (Soil) **Characteristics:** Homothallic; Isogamy **Gene data:** rbcL (D89763) **Other strain no.:** 91-421-4 **References:** 567, 705, 710, 719
- 633** **History:** < Nozaki, Hisayoshi **Locality:** Shirako/Chiba/Japan (1991-03-**) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-27µmol/m²/s; 1 M **Habitat:** Freshwater (Paddy soil) **Characteristics:** Homothallic; Isogamy **Gene data:** rbcL (D89764) **Other strain no.:** 91-504-1 **References:** 567, 705, 710, 719
- 634** **History:** < Nozaki, Hisayoshi < UTEX **Other collection strain no.:** UTEX 2161 **Isolator:** Vandover, B. **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-27µmol/m²/s; 1 M **Habitat:** Freshwater **Gene data:** rbcL (D89761) **References:** 567, 710, 719
- 635** **History:** < Nozaki, Hisayoshi < UTEX **Other collection strain no.:** UTEX 233 **Locality:** Allahabad/India **Isolator:** Pringsheim, O. **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-27µmol/m²/s; 1 M **Habitat:** Freshwater (Paddy soil) **Characteristics:** Authentic strain **Gene data:** rbcL (D89759) **References:** 567, 710, 719
- 636** **History:** < Nozaki, Hisayoshi < UTEX **Other collection strain no.:** UTEX 1032 **Locality:** California/U.S.A. **Isolator:** Waters, A. **Identified by:** Nozaki, Hisayoshi **Formerly identified as:** *Carteria olivieri* G.S. West **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-27µmol/m²/s; 1 M **Habitat:** Freshwater (Soil) **Gene data:** rbcL (D89760) **References:** 567, 710, 719
- Carteria inversa* (Korshikov) Bourrelly
- 422** **History:** < Suda, Shoichiro **Locality:** Tsukuba/Ibaraki/Japan (1982-11-02) **Isolator:** Kasai, Fumie **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 20°C; 22-27µmol/m²/s; 3 M **Habitat:** Freshwater (Pond water) **Gene data:** rbcL (D89765) **Other strain no.:** 134-4 **References:** 204, 567, 710, 719, 1088
- 423** **History:** < Suda, Shoichiro **Locality:** Higashihiroshima/Hiroshima/Japan (1983-08-**) **Isolator:** Erata, Mayumi **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 20°C; 22-27µmol/m²/s; 3 M **Habitat:** Freshwater (Pond water) **Gene data:** rbcL (D89766) **Other strain no.:** 106 **References:** 567, 710, 719
- Carteria klebsii* (Dangeard) Francé
- 426** **History:** < Suda, Shoichiro **Locality:** Tsuchiura/Ibaraki/Japan (1986-02-**) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Axenic **Culture conditions:** AF-6; 20°C; 22-27µmol/m²/s; 2 M **Habitat:** Freshwater (Pond sediment) **Other strain no.:** SIST7-4 **Reference:** 567
- Carteria multifilis* (Fresenius) Dill
- 427** **History:** < Suda, Shoichiro **Locality:** Kashiwa/Chiba/Japan (1986-**-**) **Isolator:** Watanabe, Makoto M. **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Axenic **Culture conditions:** VT; 20°C; 22-27µmol/m²/s; 2 M **Habitat:** Freshwater (Exudation from reclaimed land) **Other strain no.:** Ca1-2 **Reference:** 567
- Carteria obtusa* Dill
- 428** **History:** < Suda, Shoichiro **Locality:** Kashiwa/Chiba/Japan (1986-09-**) **Isolator:** Watanabe, Makoto M. **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 20°C; 22-27µmol/m²/s; 2 M **Habitat:** Freshwater (Exudation from reclaimed land) **Gene data:**

atpB (AB084323); psaB (AB084361); psaB (AB084362); psaB (AB084363); rbcL (D89769)
Other strain no.: Ca-2-1 **References:** 567, 719, 740

- 429** **History:** < Suda, Shoichiro **Locality:** Tsuchiura/Ibaraki/Japan (1986-02-**) **Isolator:** Kasama, Mayumi **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 20°C; 22-27µmol/m²/s; 2 M **Habitat:** Freshwater (Pond sediment) **Other strain no.:** SIS5-20 **Reference:** 567
- 430** **History:** < Suda, Shoichiro **Locality:** Kashiwa/Chiba/Japan (1986-09-**) **Isolator:** Watanabe, Makoto M. **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 20°C; 22-27µmol/m²/s; 2 M **Habitat:** Freshwater (Exudation from reclaimed land) **Other strain no.:** Ca2-3 **Reference:** 567
- 431** **History:** < Suda, Shoichiro **Locality:** Tsuchiura/Ibaraki/Japan (1986-02-**) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Axenic **Culture conditions:** AF-6; 20°C; 22-27µmol/m²/s; 2 M **Habitat:** Freshwater (Pond sediment) **Other strain no.:** SIST6-3 **Reference:** 567

Carteria palmata Suda, Nozaki et M.M. Watanabe

- 1336** **History:** < Suda, Shoichiro **Locality:** Mitsukaido/Ibaraki/Japan (1985-07-03) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Authentic strain; mating type(-) **Gene data:** atpB (AB204870); psaB (AB204871); rbcL (AB204869) **Other strain no.:** KY-1 **Reference:** 985
- 1337** **History:** < Suda, Shoichiro **Locality:** Mitsukaido/Ibaraki/Japan (1985-07-03) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Mating type(-) **Other strain no.:** KY-8 **Reference:** 985
- 1338** **History:** < Suda, Shoichiro **Locality:** Mitsukaido/Ibaraki/Japan (1985-07-03) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Mating type(+) **Other strain no.:** KY-24 **Reference:** 985

Carteria radiosa Korshikov ex Pascher

- 432** **History:** < Suda, Shoichiro **Locality:** Tsukuba/Ibaraki/Japan (1985-11-05) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Axenic **Culture conditions:** AF-6; 20°C; 22-32µmol/m²/s; 2 M **Habitat:** Freshwater (Pond water) **Gene data:** atpB (AB084322); psaB (AB084360); rbcL (D89770) **Other strain no.:** w-5-2 **References:** 567, 719, 740

Carteria sp.

- 2311** **History:** < Suda, Shoichiro **Locality:** Shimokubo Dam/Gunma/Japan (1980-04-**) **Isolator:** Watanabe, Makoto M. **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-32µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Other strain no.:** SM-6-3
- 2312** **History:** < Suda, Shoichiro **Locality:** Mitsukaido/Ibaraki/Japan (1986-04-12) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-32µmol/m²/s; 2 M **Habitat:** Freshwater (Pond water) **Other strain no.:** 412KY-9
- 2313** **History:** < Suda, Shoichiro **Locality:** Tsukuba/Ibaraki/Japan (1985-11-05) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-32µmol/m²/s; 2 M **Habitat:** Freshwater (Pond water) **Other strain no.:** w-39-4

CAVERNOMONAS : Sarcomonadea

Cavernomonas stercoris Vickerman

2434 **History:** < Bass, David **Locality:** Great Salt Lake/U.S.A. (1999-**-**) **Isolator:** Vickerman, Keith **Identified by:** Vickerman, Keith (2008-**-**) **Culture conditions:** AF-6 + Wheat; 20°C; 0µmol/m²/s; 2-3 M **Habitat:** Terrestrial (American bison dung) **Characteristics:** Heterotrophic; Authentic strain; Resting spore forming **Other strain no.:** Cav-E **Reference:** 32

CERCOMONAS : Sarcomonadea

Cercomonas ambigua Howe et Cavalier-Smith

2435 **History:** < Bass, David **Locality:** Wytham Wood/U.K. (2006-**-**) **Isolator:** Howe, Alexis T. **Identified by:** Bass, David; Howe, Alexis T. (2008-**-**) **Culture conditions:** AF-6 + Wheat; 20°C; 0µmol/m²/s; 2-3 M **Habitat:** Terrestrial (Soil) **Characteristics:** Heterotrophic; Authentic strain; Resting spore forming **Other strain no.:** WA82 **Reference:** 32

Cercomonas dactyloptera Mylnikov et Karpov

2436 **History:** < Bass, David **Locality:** Russia (1979-**-**) **Isolator:** Mylnikov, Alexandre P. **Identified by:** Mylnikov, Alexandre P. (2004-**-**) **Culture conditions:** AF-6 + Wheat; 20°C; 0µmol/m²/s; 2-3 M **Habitat:** Freshwater (Sewerage water) **Characteristics:** Heterotrophic; Authentic strain; Resting spore forming **Other strain no.:** C-43 **Reference:** 32

Cercomonas effusa Vickerman

2437 **History:** < Bass, David **Locality:** Montezuma's Castle/Arizona/U.S.A. (2001-**-**) **Isolator:** Vickerman, Keith **Identified by:** Vickerman, Keith (2008-**-**) **Culture conditions:** AF-6 + Wheat; 20°C; 0µmol/m²/s; 2-3 M **Habitat:** Freshwater (Sediment) **Characteristics:** Heterotrophic; Authentic strain; Resting spore forming **Other strain no.:** Beaver-Creek **Reference:** 32

Cercomonas fastiga Bass et Cavalier-Smith

2438 **History:** < Bass, David **Locality:** U.K. (2003-**-**) **Isolator:** Bass, David **Identified by:** Bass, David; Howe, Alexis T. (2008-**-**) **Culture conditions:** AF-6 + Wheat; 20°C; 0µmol/m²/s; 2-3 M **Habitat:** Terrestrial (Soil) **Characteristics:** Heterotrophic; Authentic strain; Resting spore forming **Other strain no.:** 18-3D **Reference:** 32

Cercomonas hederæ Howe et Cavalier-Smith

2439 **History:** < Bass, David **Locality:** U.K. (2006-**-**) **Isolator:** Howe, Alexis T. **Identified by:** Bass, David; Howe, Alexis T. (2008-**-**) **Culture conditions:** AF-6 + Wheat; 20°C; 0µmol/m²/s; 2-3 M **Habitat:** Terrestrial (Plant (Ivy leaf)) **Characteristics:** Heterotrophic; Authentic strain; Resting spore forming **Other strain no.:** IVY20 **Reference:** 32

Cercomonas hiberna Howe et Cavalier-Smith

2440 **History:** < Bass, David **Locality:** Wytham Wood/U.K. (2006-**-**) **Isolator:** Howe, Alexis T. **Identified by:** Bass, David; Howe, Alexis T. (2008-**-**) **Culture conditions:** AF-6 + Wheat; 20°C; 0µmol/m²/s; 2-3 M **Habitat:** Terrestrial (Soil) **Characteristics:** Heterotrophic; Authentic strain; Resting spore forming **Other strain no.:** W70 **Reference:** 32

Cercomonas laeva Bass, Mylnikov et Cavalier-Smith

2441 **History:** < Bass, David **Locality:** Russia (2000-**-**) **Isolator:** Mylnikov, Alexandre P. **Identified by:** Bass, David; Howe, Alexis T. (2008-**-**) **Culture conditions:** AF-6 + Wheat; 20°C; 0µmol/m²/s; 2-3 M **Habitat:** Terrestrial (Plant (Moss)) **Characteristics:** Heterotrophic; Authentic strain; Resting spore forming **Other strain no.:** C-72 **Reference:** 32

Cercomonas lata Bass, Mylnikov et Cavalier-Smith

2442 **History:** < Bass, David **Locality:** Russia (2001-**-**) **Isolator:** Mylnikov, Alexandre P. **Identified by:** Bass, David; Howe, Alexis T. (2008-**-**) **Culture conditions:** AF-6 + Wheat; 20°C; 0µmol/m²/s; 2-3 M **Habitat:** Freshwater (Pond water) **Characteristics:** Heterotrophic; Authentic strain; Resting spore forming **Other strain no.:** C-85 **Reference:** 32

Cercomonas magna Howe et Cavalier-Smith

2443 **History:** < Bass, David **Locality:** U.K. (2006-**-**) **Isolator:** Howe, Alexis T. **Identified by:** Bass, David; Howe, Alexis T. (2008-**-**) **Culture conditions:** AF-6 + Wheat; 20°C;

0 μ mol/m²/s; 2-3 M **Habitat:** Terrestrial (Plant (Ivy leaf)) **Characteristics:** Heterotrophic; Authentic strain; Resting spore forming **Other strain no.:** IVY8C **Reference:** 32

Cercomonas mutans Howe et Cavalier-Smith

2444 **History:** < Bass, David **Locality:** Wytham Wood/U.K. (2006-**-**) **Isolator:** Howe, Alexis T. **Identified by:** Bass, David; Howe, Alexis T. (2008-**-**) **Culture conditions:** AF-6 + Wheat; 20°C; 0 μ mol/m²/s; 2-3 M **Habitat:** Terrestrial (Soil) **Characteristics:** Heterotrophic; Authentic strain; Resting spore forming **Other strain no.:** W40a **Reference:** 32

Cercomonas parambigua Howe et Cavalier-Smith

2445 **History:** < Bass, David **Locality:** Wytham Wood/U.K. (2006-**-**) **Isolator:** Howe, Alexis T. **Identified by:** Bass, David; Howe, Alexis T. (2008-**-**) **Culture conditions:** AF-6 + Wheat; 20°C; 0 μ mol/m²/s; 2-3 M **Habitat:** Terrestrial (Soil) **Characteristics:** Heterotrophic; Authentic strain; Resting spore forming **Other strain no.:** WA22 **Reference:** 32

CHAETOCEROS : Bacillariophyceae

Chaetoceros didymus Ehrenberg

586 **History:** < Ono, Sachiko **Locality:** Hitachi/Ibaraki/Japan (1990-09-26) **Isolator:** Ono, Sachiko **Identified by:** Ono, Sachiko **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** f/2; 15°C; 10-18 μ mol/m²/s; 1 M **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Other strain no.:** St-4

Chaetoceros sociale Lauder

377 **History:** < Sawaguchi, Tomohiro **Locality:** Shitaru Harbor/Shizuoka/Japan (1985-05-22) **Isolator:** Sawaguchi, Tomohiro **Identified by:** Sawaguchi, Tomohiro **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 10°C; 6-12 μ mol/m²/s; 2 M **Habitat:** Marine (Seawater) **Other strain no.:** STHB-4

553 **History:** < Ono, Sachiko **Locality:** Tokyo Bay/Tokyo/Japan (1991-10-**) **Isolator:** Ono, Sachiko **Identified by:** Ono, Sachiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 5°C; 15-20 μ mol/m²/s; 1 M **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Other strain no.:** T-1

CHAMAESIPHON : Cyanophyceae

Chamaesiphon polymorphus Geitler

433 **History:** < Kasai, Fumie **Locality:** Lake Mashu/Hokkaido/Japan (1987-09-02) **Isolator:** Kasai, Fumie **Identified by:** Watanabe, Makoto M. **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** CSi; 10°C; 6-12 μ mol/m²/s; 2 M (10°C; 10-15 μ mol/m²/s) **Habitat:** Freshwater (Lake water) **Other strain no.:** M-29 **References:** 139, 567, 1018, 1019

Chamaesiphon subglobosus Lemmermann

434 **History:** < Kasai, Fumie **Locality:** Miyata River/Ibaraki/Japan (1987-03-25) **Isolator:** Kasai, Fumie **Identified by:** Takamura, Noriko **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** CSi; CSi + Cu; 20°C; 4-10 μ mol/m²/s; 3 M (20°C; 15-27 μ mol/m²/s) **Habitat:** Freshwater (River water) **Other strain no.:** 2st-2-1 **References:** 139, 567, 1017, 1018, 1019 **Remarks:** Cryopreserved

CHANTRANSIA : Florideophyceae

Chantransia macrospora Wood

2636 **History:** < Suda, Shoichiro **Locality:** Ryukyu University/Okinawa/Japan (2006-02-06) **Isolator:** Suda, Shoichiro **Identified by:** Kato, Aki (2009-06-02) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C; 20 °C ; 15-20 μ mol/m²/s; 1-2 M **Habitat:** Freshwater (Plant) **Characteristics:** Epiphytic; Probably intruding species **Gene data:** 18S rRNA (AB503215); rbcL (AB503216) **Other strain no.:** 3-AB **Reference:** 362

CHARA : Charophyceae*Chara australis* R. Brown

- 2084** **History:** < Shimmen, Teruo **Isolator:** Ishimoto, Miwa (Re-isolation) **Identified by:** Sakayama, Hidetoshi (2005-04-19) **States:** Clonal; Non-axenic **Culture conditions:** mSWC-2; SWCN-2; 22°C; 16-20µmol/m²/s; 3 M **Habitat:** Freshwater **Characteristics:** Dioecious; Male **Other strain no.:** CH-25♂
- 2085** **History:** < Shimmen, Teruo **Isolator:** Ishimoto, Miwa (Re-isolation) **Identified by:** Sakayama, Hidetoshi (2005-04-19) **States:** Clonal; Non-axenic **Culture conditions:** mSWC-2; SWCN-2; 22°C; 16-20µmol/m²/s; 3 M **Habitat:** Freshwater **Characteristics:** Dioecious; Female **Other strain no.:** CH-25♀

Chara australis R. Brown

- 1585** **History:** < Shimmen, Teruo **Identified by:** Sakayama, Hidetoshi (2005-04-19) **States:** Clonal; Non-axenic **Culture conditions:** mSWC-2; SWCN-2; 22°C; 16-20µmol/m²/s; 3 M **Habitat:** Freshwater **Characteristics:** Dioecious; Female; Male **Other strain no.:** CH-25

Chara braunii Gmelin

- 1586** **History:** < Nozaki, Hisayoshi **Locality:** Lake Chuzenji/Tochigi/Japan (1994-09-07) **Identified by:** Nozaki, Hisayoshi **States:** Clonal; Non-axenic **Culture conditions:** mSWC-2; SWCN-2; 20°C; 16-20µmol/m²/s; 1 M **Habitat:** Freshwater **Characteristics:** Monoecious; VU **Gene data:** atpB, atpB-rbcL IGS, rbcL (AB363923) **Other strain no.:** CH-6 **Reference:** 369
- 1587** **History:** < Sakayama, Hidetoshi **Locality:** Kasai/Hyogo/Japan (2004-06-18) **Isolator:** Ishimoto, Miwa **Identified by:** Sakayama, Hidetoshi (2004-06-19) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** mSWC-2; SWCN-2; 20°C; 16-20µmol/m²/s; 6 M **Habitat:** Freshwater **Characteristics:** Monoecious; VU **Gene data:** atpB, atpB-rbcL IGS, rbcL (AB363924) **Other strain no.:** CH-70 **Reference:** 369
- 1588** **History:** < Sakayama, Hidetoshi **Locality:** Hazama-ohike Pond/Kagawa/Japan (2004-06-17) **Isolator:** Ishimoto, Miwa **Identified by:** Sakayama, Hidetoshi (2004-06-18) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** mSWC-2; SWCN-2; 20°C; 16-20µmol/m²/s; 6 M **Habitat:** Freshwater **Characteristics:** Monoecious; VU **Gene data:** atpB, atpB-rbcL IGS, rbcL (AB363925) **Other strain no.:** CH-72 **Reference:** 369
- 1589** **History:** < Sakayama, Hidetoshi **Locality:** Narasu-ike Pond/Kagawa/Japan (2004-06-16) **Identified by:** Sakayama, Hidetoshi (2004-06-17) **States:** Clonal; Non-axenic **Culture conditions:** mSWC-2; SWCN-2; 20 °C ; 16-20µmol/m²/s; 1 M **Habitat:** Freshwater **Characteristics:** Monoecious; VU **Gene data:** atpB, atpB-rbcL IGS, rbcL (AB363926) **Other strain no.:** CH-75 **Reference:** 369
- 1590** **History:** < Sakayama, Hidetoshi **Locality:** Tsuchiura, Ohiwata/Ibaraki/Japan (2004-07-11) **Isolator:** Ishimoto, Miwa **Identified by:** Sakayama, Hidetoshi (2004-07-12) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** mSWC-2; SWCN-2; 20°C; 16-20µmol/m²/s; 6 M **Habitat:** Freshwater **Characteristics:** Monoecious; VU **Gene data:** atpB, atpB-rbcL IGS, rbcL (AB363927) **Other strain no.:** CH-82 **Reference:** 369
- 1591** **History:** < Amano, Kunihiro **Locality:** Lake Kasumigaura/Ibaraki/Japan **Isolator:** Ishimoto, Miwa **Identified by:** Sakayama, Hidetoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** mSWC-2; SWCN-2; 20 °C ; 16-20µmol/m²/s; 6 M **Habitat:** Freshwater **Characteristics:** Monoecious; VU; Germinated from a buried oospore **Gene data:** atpB, atpB-rbcL IGS, rbcL (AB363928) **Other strain no.:** CH-88 **Reference:** 369
- 1592** **History:** < Amano, Kunihiro **Locality:** Lake Kasumigaura/Ibaraki/Japan **Identified by:** Sakayama, Hidetoshi **States:** Clonal; Non-axenic **Culture conditions:** mSWC-2; SWCN-2; 20°C; 16-20µmol/m²/s; 1 M **Habitat:** Freshwater **Characteristics:** Monoecious; VU; Germinated from a buried oospore **Gene data:** atpB, atpB-rbcL IGS, rbcL (AB363929) **Other strain no.:** CH-89 **Reference:** 369
- 1593** **History:** < Amano, Kunihiro **Locality:** Lake Kasumigaura/Ibaraki/Japan **Identified by:**

- Sakayama, Hidetoshi **States:** Clonal; Non-axenic **Culture conditions:** mSWC-2; SWCN-2; 20°C; 16-20µmol/m²/s; 1 M **Habitat:** Freshwater **Characteristics:** Monoecious; VU; Germinated from a buried oospore **Gene data:** atpB, atpB-rbcL IGS, rbcL (AB363930) **Other strain no.:** CH-91 **Reference:** 369
- 1594** **History:** < Sakayama, Hidetoshi **Locality:** Tsuchiura, Ohiwata/Ibaraki/Japan (2004-07-11) **Isolator:** Ishimoto, Miwa **Identified by:** Sakayama, Hidetoshi (2005-04-18) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** mSWC-2; SWCN-2; 20°C; 16-20µmol/m²/s; 6 M **Habitat:** Freshwater **Characteristics:** Monoecious; VU **Other strain no.:** CH-98
- 1604** **History:** < Watanabe, Makoto M. **Locality:** Hawaii/U.S.A. (1998-04-**) **Isolator:** Ishimoto, Miwa **Identified by:** Sakayama, Hidetoshi; Kato, Sho (2005-08-26) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** mSWC-2; SWCN-2; 20°C; 16-20µmol/m²/s; 6 M **Habitat:** Freshwater **Characteristics:** Monoecious **Gene data:** atpB, atpB-rbcL IGS, rbcL (AB363931) **Other strain no.:** CH-33 **Reference:** 369
- 2500** **History:** < Ishimoto, Miwa **Locality:** Tokushima/Japan (2004-06-15) **Identified by:** Ishimoto, Miwa (2004-07-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** mSWC-2; SWCN-2; 22°C; 16-20µmol/m²/s; 6 M **Habitat:** Freshwater **Characteristics:** Monoecious; CR+EN **Other strain no.:** CH-66
- 2661** **History:** < Ishimoto, Miwa **Locality:** Lake Kasumigaura/Ibaraki/Japan **Isolator:** Ishimoto, Miwa **Identified by:** Sakayama, Hidetoshi (2004-07-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** mSWC-2; 22°C; 16-20µmol/m²/s; 6 M **Habitat:** Freshwater (Germling from Oospore) **Characteristics:** Monoecious; VU **Other strain no.:** CH-90
- Chara globularis* Thuillier
- 1595** **History:** < Sakayama, Hidetoshi **Locality:** Lake Tanne-to/Hokkaido/Japan (1999-09-02) **Identified by:** Sakayama, Hidetoshi (2006-**-**) **States:** Clonal; Non-axenic **Culture conditions:** mSWC-2; SWCN-1; SWCN-2; 17°C; 16-20µmol/m²/s; 2 M **Habitat:** Freshwater **Characteristics:** Monoecious; CR+EN **Other strain no.:** CH-106; S001
- 1597** **History:** < Nozaki, Hisayoshi **Locality:** Lake Tsuta-numa/Aomori/Japan (1998-08-05) **Identified by:** Nozaki, Hisayoshi **States:** Clonal; Non-axenic **Culture conditions:** mSWC-2; SWCN-1; SWCN-2; 17°C; 16-20µmol/m²/s; 2 M **Habitat:** Freshwater **Characteristics:** Monoecious; CR+EN **Other strain no.:** CH-35
- Chara leptospora* Sakayama
- 1599** **History:** < Sakayama, Hidetoshi **Locality:** Lake Ogawara/Aomori/Japan (1999-09-06) **Identified by:** Sakayama, Hidetoshi **States:** Clonal; Non-axenic **Culture conditions:** mSWC-2; SWCN-1; SWCN-2; 17°C; 16-20µmol/m²/s; 2 M **Habitat:** Freshwater **Characteristics:** Monoecious; CR+EN **Other strain no.:** CH-109; S024
- Chara* sp.
- 1602** **History:** < Arai, Shogo **Locality:** Ogimi/Okinawa/Japan (1997-01-13) **States:** Clonal; Non-axenic **Culture conditions:** mSWC-2; SWCN-2; 22°C; 16-20µmol/m²/s; 2 M **Habitat:** Freshwater **Other strain no.:** CH-19
- 1603** **History:** < Arai, Shogo **Locality:** Ogimi/Okinawa/Japan (1997-01-13) **States:** Clonal; Non-axenic **Culture conditions:** mSWC-2; SWCN-2; 22°C; 16-20µmol/m²/s; 2 M **Habitat:** Freshwater **Other strain no.:** CH-20
- 1605** **History:** < Inouye, Isao **Locality:** Imperial Palace/Tokyo/Japan (1998-12-08) **States:** Clonal; Non-axenic **Culture conditions:** mSWC-2; SWCN-2; 22°C; 16-20µmol/m²/s; 1 M **Habitat:** Freshwater **Other strain no.:** CH-39
- Chara zeylanica* Klein ex Willdenow
- 1601** **History:** < Ueno, Ryuhei **Locality:** Minamidaitoh Isl./Okinawa/Japan (2000-02-11) **Identified by:** Sakayama, Hidetoshi (2005-**-**) **States:** Clonal; Non-axenic **Culture conditions:** mSWC-2; SWCN-2; 25°C; 16-20µmol/m²/s; 2 M **Habitat:** Freshwater **Characteristics:** Monoecious; CR+EN **Other strain no.:** CH-55

CHARACIOCHLORIS : Chlorophyceae*Characiochloris acuminata* Lee et Bold

637 **History:** < Nozaki, Hisayoshi < UTEX **Other collection strain no.:** UTEX 2095 **Locality:** E1 Tahin. Prov. Omo-Saber/Egypt **Isolator:** Hindak, F. **Identified by:** Lee, K. W.; Bold, H. C. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-27µmol/m²/s; 2 M **Habitat:** Freshwater (Soil) **Characteristics:** Authentic strain **Gene data:** psaB (AB451196) **References:** 567, 609, 704

Characiochloris sasae Nozaki

567 **History:** < Nozaki, Hisayoshi **Locality:** Kawasaki/Kanagawa/Japan (1990-10-29) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-27µmol/m²/s; 2 M **Habitat:** Freshwater (Paddy soil) **Characteristics:** Authentic strain; Aplanospore forming **Gene data:** atpB (AB084331); psaB (AB084376); rbcL (AB084338) **Other strain no.:** 91-0106-1 **References:** 567, 704, 740

638 **History:** < Nozaki, Hisayoshi **Locality:** Kawasaki, Saiwai-ku/Kanagawa/Japan (1990-10-29) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-27µmol/m²/s; 2 M **Habitat:** Freshwater (Paddy soil) **Characteristics:** Aplanospore forming; Resting spore not forming; Endemic in Japan **Other strain no.:** 91-0106-6 **References:** 567, 704

CHARACIUM : Chlorophyceae*Characium angustum* A.Braun

639 **History:** < Kasai, Fumie **Locality:** Kinu River/Tochigi/Japan (1987-08-16) **Isolator:** Kasai, Fumie **Identified by:** Kasai, Fumie **States:** Unialgal **Culture conditions:** C; 15°C; 8-15µmol/m²/s; 4 M (15°C; 15-22µmol/m²/s) **Habitat:** Freshwater (River water) **Characteristics:** DNA sequencing indicates close relationship to Lobocharacium. **Other strain no.:** AK-5-2 **References:** 567, 1018

Characium polymorphum Printz

436 **History:** < IAM **Other collection strain no.:** IAM C-340 **Locality:** Between Ghorepani and Billethadi/Nepal (1965-12-02) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C (agar); 20°C; 4-10µmol/m²/s; 3 M (25 °C; 70-80µmol/m²/s) **Habitat:** Freshwater (Pond sediment) **Other strain no.:** N-76-0 **References:** 235, 567 **Remarks:** Cryopreserved

CHATTONELLA : Raphidophyceae*Chattonella marina* (Subrahmanyam) Y.Hara et Chihara var. *antiqua* (Hada) Demura et Kawachi

1 **History:** < Watanabe, Makoto M. **Locality:** Harima-Nada/Japan (1978-09-**) **Isolator:** Watanabe, Makoto M. **Identified by:** Watanabe, Makoto M. **Formerly identified as:** *Chattonella antiqua* (Hada) Ono **States:** Unialgal; Clonal; Axenic **Culture conditions:** f/2; ESM; 20 °C ; 32-40µmol/m²/s; 1M **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Other strain no.:** Ho-1 **References:** 65, 76, 115, 198, 245, 247, 251, 252, 253, 254, 255, 256, 283, 395, 429, 431, 485, 494, 592, 605, 634, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 672, 679, 1021, 1065, 1166, 1234, 1243 **Remarks:** Fragile species to transportation stresses

2 **History:** < Watanabe, Makoto M. **Locality:** Osaka Bay/Osaka/Japan (1982-09-**) **Isolator:** Yamochi, Susumu **Identified by:** Yamochi, Susumu **Formerly identified as:** *Chattonella antiqua* (Hada) Ono **States:** Unialgal; Clonal; Axenic[2012 Feb] **Culture conditions:** f/2; ESM; 20°C; 32-40µmol/m²/s; 1M **Habitat:** Marine **Characteristics:** Red tide **Gene data:** CO1 (AB334445); ITS1-5.8S-ITS2 (AB334308); rbcL (AB334372) **Other strain no.:** OCH-a **References:** 64, 65, 198 **Remarks:** Fragile species to transportation stresses

83 **History:** < KAGAWA **Locality:** off Hiketa/Kagawa/Japan (1977-08-**) **Isolator:** Ono, Chitaru **Identified by:** Ono, Chitaru **Formerly identified as:** *Chattonella antiqua* (Hada) Ono **States:**

- Unialgal; Clonal; Axenic[2012 Feb] **Culture conditions:** f/2; 20°C; 32-40µmol/m²/s; 1M **Habitat:** Marine **Characteristics:** Red tide **Gene data:** CO1 (AB334446); ITS1-5.8S-ITS2 (AB334309); rbcL (AB334373) **Other strain no.:** KGW-2 **References:** 65, 198, 1109 **Remarks:** Fragile species to transportation stresses
- 84** **History:** < KAGAWA **Locality:** off Hiketa/Kagawa/Japan (1972-**-**) **Isolator:** Okaichi, Tomotoshi **Identified by:** Okaichi, Tomotoshi **Formerly identified as:** *Chattonella antiqua* (Hada) Ono **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** f/2; 20°C; 32-40µmol/m²/s; 1 M **Habitat:** Marine **Characteristics:** Red tide **Gene data:** CO1 (AB334447); ITS1-5.8S-ITS2 (AB334310); rbcL (AB334374) **Other strain no.:** KGW-6 **References:** 65, 198 **Remarks:** Fragile species to transportation stresses
- 85** **History:** < KAGAWA **Locality:** Shodo Isl./Kagawa/Japan (1978-07-21) **Isolator:** Yoshimatsu, Sadaaki **Identified by:** Yoshimatsu, Sadaaki **Formerly identified as:** *Chattonella antiqua* (Hada) Ono **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** f/2; ESM; 20 °C ; 32-40µmol/m²/s; 1 M **Habitat:** Marine **Characteristics:** Red tide **Gene data:** CO1 (AB334448); ITS1-5.8S-ITS2 (AB334311); rbcL (AB334375) **Other strain no.:** KGW-8-5 **References:** 65, 198, 199 **Remarks:** Fragile species to transportation stresses
- 86** **History:** < KAGAWA **Locality:** Uranouchi Bay/Kochi/Japan (1980-11-01) **Isolator:** Yoshimatsu, Sadaaki **Identified by:** Yoshimatsu, Sadaaki **Formerly identified as:** *Chattonella antiqua* (Hada) Ono **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; ESM; 20°C; 32-40µmol/m²/s; 1 M **Habitat:** Marine **Characteristics:** Red tide **Other strain no.:** KGW-42-4 **References:** 65, 137, 198, 199, 1109 **Remarks:** Fragile species to transportation stresses
- 113** **History:** < KAGAWA **Locality:** Naoshima/Kagawa/Japan (1982-07-30) **Isolator:** Yoshimatsu, Sadaaki **Identified by:** Yoshimatsu, Sadaaki **Formerly identified as:** *Chattonella antiqua* (Hada) Ono **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** f/2; 20°C; 32-40µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Gene data:** CO1 (AB334449); ITS1-5.8S-ITS2 (AB334312); rbcL (AB334376) **Other strain no.:** KGW-59-2 **References:** 22, 65, 198 **Remarks:** Fragile species to transportation stresses
- 114** **History:** < KAGAWA **Locality:** Harima-Nada/Japan (1983-08-06) **Isolator:** Yoshimatsu, Sadaaki **Identified by:** Yoshimatsu, Sadaaki **Formerly identified as:** *Chattonella antiqua* (Hada) Ono **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** f/2; 20°C; 32-40µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Gene data:** CO1 (AB334450); ITS1-5.8S-ITS2 (AB334313); rbcL (AB334377) **Other strain no.:** KGW-74-8 **References:** 65, 198, 1217 **Remarks:** Fragile species to transportation stresses
- 161** **History:** < Takayama, Haruyoshi **Locality:** Hiroshima Bay/Hiroshima/Japan **Formerly identified as:** *Chattonella antiqua* (Hada) Ono **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** f/2; 20°C; 32-40µmol/m²/s; 1 M **Habitat:** Marine **Characteristics:** Red tide **Gene data:** CO1 (AB334451); ITS1-5.8S-ITS2 (AB334314); rbcL (AB334378) **Other strain no.:** Hiroshima-70 **References:** 65, 148, 149 **Remarks:** Fragile species to transportation stresses
- 558** **History:** < Honjo, Tsuneo **Locality:** Mikawa Bay/Aichi/Japan **Isolator:** Toriumi, Saburo **Identified by:** Toriumi, Saburo **Formerly identified as:** *Chattonella antiqua* (Hada) Ono **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** f/2; 20°C; 32-40µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Characteristics:** Red tide **References:** 65, 1215 **Remarks:** Fragile species to transportation stresses

Chattonella marina (Subrahmanyam) Y.Hara et Chihara var. *marina*

- 3** **History:** < Watanabe, Makoto M. **Locality:** Osaka Bay/Osaka/Japan (1982-08-**) **Isolator:** Yamochi, Susumu **Identified by:** Yamochi, Susumu **Formerly identified as:** *Chattonella marina* (Subrahmanyam) Hara et Chihara **States:** Unialgal; Clonal; Axenic[2012 Feb] **Culture conditions:** f/2; ESM; 20°C; 32-40µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Gene data:** 18S-ITS1-5.8S-ITS2-28S (AF137074); CO1 (AB334465); ITS1-5.8S-ITS2 (AB334328); rbcL (AB334392) **Other strain no.:** OCH-m **References:** 10, 65, 1064, 1065, 1109 **Remarks:** Fragile species to transportation stresses
- 14** **History:** < Watanabe, Makoto M. **Locality:** Harima-Nada/Japan (1983-02-**) **Isolator:** Watanabe,

- Makoto M. **Identified by:** Watanabe, Makoto M. **Formerly identified as:** *Chattonella marina* (Subrahmanyam) Hara et Chihara **States:** Unialgal; Clonal; Axenic[2012 Feb] **Culture conditions:** f/2; ESM; 20°C; 32-40µmol/m²/s; 1 M **Habitat:** Marine (Sand) **Characteristics:** Red tide **Gene data:** CO1 (AB334466); ITS1-5.8S-ITS2 (AB334329); rbcL (AB334393) **Other strain no.:** H-53-11 **References:** 65, 198, 1217 **Remarks:** Fragile species to transportation stresses
- 115** **History:** < KAGAWA **Locality:** Kinko Bay/Kagoshima/Japan (1978-06-14) **Isolator:** Aramaki, Takayuki; Yoshimatsu, Sadaaki **Identified by:** Yoshimatsu, Sadaaki **Formerly identified as:** *Chattonella marina* (Subrahmanyam) Hara et Chihara **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** f/2; ESM; 20°C; 32-40µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Other strain no.:** KGW-9-1 **References:** 65, 198 **Remarks:** Fragile species to transportation stresses
- 116** **History:** < KAGAWA **Locality:** Harima-Nada/Japan (1981-07-04) **Isolator:** Yoshimatsu, Sadaaki **Identified by:** Yoshimatsu, Sadaaki **Formerly identified as:** *Chattonella marina* (Subrahmanyam) Hara et Chihara **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** f/2; ESM; 20°C; 32-40µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Other strain no.:** KGW-46-7 **References:** 65, 198 **Remarks:** Fragile species to transportation stresses
- 118** **History:** < KAGAWA **Locality:** Harima-Nada/Japan (1983-07-29) **Isolator:** Yoshimatsu, Sadaaki **Identified by:** Yoshimatsu, Sadaaki **Formerly identified as:** *Chattonella marina* (Subrahmanyam) Hara et Chihara **States:** Unialgal; Clonal; Axenic **Culture conditions:** f/2; ESM; 20°C; 32-40µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Gene data:** CO1 (AB334468); ITS1-5.8S-ITS2 (AB334331); rbcL (AB334395) **Other strain no.:** KGW-75-2 **References:** 65, 137, 149, 198, 199, 491, 492, 493, 494, 495, 878, 1109 **Remarks:** Fragile species to transportation stresses
- 121** **History:** < Aramaki, Takayuki **Locality:** Kagoshima Bay/Kagoshima/Japan (1982-**-**) **Isolator:** Aramaki, Takayuki **Identified by:** Aramaki, Takayuki **Formerly identified as:** *Chattonella marina* (Subrahmanyam) Hara et Chihara **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** f/2; 20°C; 32-40µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Other strain no.:** KGO-57-1 **References:** 65, 198, 199, 335, 654, 1109 **Remarks:** Fragile species to transportation stresses
- 557** **History:** < Honjo, Tsuneo **Locality:** Hiroshima Bay/Hiroshima/Japan (1970-09-**) **Isolator:** Takayama, Haruyoshi **Identified by:** Kawachi, Masanobu (Reidentify) (2009-03-04) **Formerly identified as:** *Chattonella marina* (Subrahmanyam) Hara et Chihara; *Chattonella antiqua* (Hada) Ono **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** f/2; 20°C; 32-40µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Gene data:** CO1 (AB334469); ITS1-5.8S-ITS2 (AB334332); rbcL (AB334396) **Reference:** 65 **Remarks:** Fragile species to transportation stresses
- 559** **History:** < Honjo, Tsuneo **Locality:** Maizuru Bay/Kyoto/Japan (1975-10-04) **Isolator:** Takayama, Haruyoshi **Identified by:** Yoshimatsu, Sadaaki **Formerly identified as:** *Chattonella marina* (Subrahmanyam) Hara et Chihara **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** f/2; 20°C; 32-40µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Reference:** 65 **Remarks:** Fragile species to transportation stresses
- Chattonella marina* (Subrahmanyam) Y.Hara et Chihara var. *ovata* (Y.Hara et Chihara) Demura et Kawachi
- 603** **History:** < Sawaguchi, Tomohiro **Locality:** Harima-nada/Japan (1984-04-23) **Identified by:** Nozaki, Hisayoshi **Formerly identified as:** *Chattonella ovata* Hara et Chihara **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** f/2; ESM; 20°C; 32-40µmol/m²/s; 1 M **Habitat:** Marine (Sediment) **Gene data:** 18S rRNA (AB217628); 18S-ITS1-5.8S-ITS2 (AB217650); 28S rRNA (AF210738); 28S rRNA (AB217640); CO1 (AB334482); ITS1-5.8S-ITS2 (AB334345); psaA (AB36795); rbcL (AB334409); tufA (AB367951) **References:** 65, 137, 147, 149, 335 **Remarks:** Fragile species to transportation stresses
- 671** **History:** < KAGAWA < Yoshimatsu, Sadaaki **Locality:** Harima-nada/Japan (1982-07-30) **Isolator:** Yoshimatsu, Sadaaki **Identified by:** Yoshimatsu, Sadaaki **Formerly identified as:** *Chattonella ovata* Hara et Chihara **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** ESM; 20°C; 40-50µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Gene**

- data:** CO1 (AB334483); rbcL (AB334410) **Reference:** 65 **Remarks:** Fragile species to transportation stresses
- 849** **History:** < Hara, Yoshiaki **Locality:** Japan **Formerly identified as:** *Chattonella ovata* Hara et Chihara **States:** Unialgal; Non-axenic **Culture conditions:** f/2; ESM; 20°C; 32-40µmol/m²/s; 1 M **Habitat:** Marine **Characteristics:** Red tide **Gene data:** CO1 (AB334484); rbcL (AB334411) **References:** 65, 149 **Remarks:** Fragile species to transportation stresses
- 1872** **History:** < Aramaki, Takayuki **Locality:** Kagoshima Bay/Kagoshima/Japan (1982-**-**) **Isolator:** Aramaki, Takayuki **Identified by:** Demura, Mikihide (2007-08-01) **Formerly identified as:** *Chattonella ovata* Hara et Chihara **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 20°C; 32-40µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Other strain no.:** KGO-57-2 **Reference:** 65 **Remarks:** Fragile species to transportation stresses
- 1873** **History:** < KAGAWA **Locality:** Naoshima Isls./Kagawa/Japan (1982-07-30) **Isolator:** Yoshimatsu, Sadaaki **Identified by:** Demura, Mikihide (2007-08-01) **Formerly identified as:** *Chattonella ovata* Hara et Chihara **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; ESM; 20°C; 32-40µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Other strain no.:** KGW-60-3 **Reference:** 65 **Remarks:** Fragile species to transportation stresses

Chattonella subsalsa Biecheler

- 2633** **History:** < CCMP (2010) **Other collection strain no.:** CCMP 217 **Locality:** Gulf of Mexico **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 20°C; 32-40µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Remarks:** Fragile species to transportation stresses
- 2634** **History:** < CCMP (2010) **Other collection strain no.:** CCMP 2191 **Locality:** Indian River Bay/Delaware/U.S.A. (2001-08-13) **Isolator:** Zhang, Y. **Identified by:** Zhang, Y.; Coyne, K. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 20°C; 32-40µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Remarks:** Fragile species to transportation stresses

CHLAMYDOMONAS : Chlorophyceae*Chlamydomonas applanata* Pringsheim

- 2202** **History:** < IAM (2007) < BIU (UTEX; 1967) **Other collection strain no.:** IAM C-214; SAG 2.72; UTEX 969 **Locality:** Williamson County/Texas/U.S.A. **Isolator:** Deason, T. R. **Formerly identified as:** *Chlamydomonas aggregata* Deason et Bold **States:** Unialgal; Clonal; Axenic[2012 Feb] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Other strain no.:** Deason T-1-12 **Reference:** 38
- 2204** **History:** < IAM (2007) < BIU (UTEX; 1967) **Other collection strain no.:** IAM C-218; CCAP 11/2; SAG 6.72; UTEX 230 **Locality:** Franzensbad/Czechoslovakia **Isolator:** Pringsheim, E. G. **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Habitat:** Freshwater (Lake mud) **Reference:** 38
- 2206** **History:** < IAM (2007) < BIU (UTEX) **Other collection strain no.:** IAM C-237; ATCC 30455; CCAP 11/9; SAG 11-9; UTEX 225 **Locality:** Botanic Garden, Prague Univ./Czechoslovakia **Isolator:** Lucksch, I. **Formerly identified as:** *Chlamydomonas humicola* Lucksch **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Reference:** 484

Chlamydomonas asymmetrica Korshikov

- 2207** **History:** < IAM (2007) < BIU (UTEX; 1967) **Other collection strain no.:** IAM C-219; CCAP 11/41; SAG 11-41; UTEX 450 **Locality:** Yale/Connecticut/U.S.A. **Isolator:** Lewin, Ralph A. **States:** Unialgal; Clonal; Axenic[2012 Feb] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Habitat:** Terrestrial
- 2208** **History:** < IAM (2007) < BIU (UTEX; 1967) **Other collection strain no.:** IAM C-234; ATCC 30586; CCAP 11/7; SAG 11-7; UTEX 227; Rodhe 1635 **Locality:** Siggeforasjön/Sweden **Isolator:** Rodhe, W. **Formerly identified as:** *Chlamydomonas gloeopara* Rodhe et Skuja **States:** Unialgal;

Clonal; Axenic[2013 Jan] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M

Chlamydomonas debaryana Goroschankin

2212 History: < IAM (2007) < UTEX (1996) **Other collection strain no.:** IAM C-549 (=C-1); Tsubo 116; UTEX 618; CCAP 11/59; SAG 4.72 **Isolator:** Tsubo, Yoshihiro **Formerly identified as:** *Chlamydomonas angulosa* Dill **States:** Unialgal; Clonal; Axenic[2012 Feb] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **References:** 628, 735, 863, 864

Chlamydomonas debaryana Goroschankin var. *cristata* Ettl

884 History: < Nozaki, Hisayoshi < UTEX **Other collection strain no.:** CCAP 11/74; UTEX 1344 **Locality:** Nordmähren/Czech **Isolator:** Ettl, H. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C; 20°C; 15-22µmol/m²/s; 2 M **Habitat:** (Soil) **Characteristics:** Authentic strain **Gene data:** atpB (AB014034); psaA (AB044417); psaA (AB044418); psaB (AB044469); psbC (AB044527); rbcL (D86838) **References:** 716, 733, 738

Chlamydomonas eustigma Ettl

2499 History: < Higuchi, Sumio **Locality:** Matsukawa River/Nagano/Japan (1992-08-**) **Isolator:** Higuchi, Sumio **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic[2011 Aug] **Culture conditions:** M-Allen (A2); 20°C; 18-23µmol/m²/s; 2 M **Habitat:** Freshwater (Microfilm) **Characteristics:** Acidophilic

Chlamydomonas fasciata Ettl

437 History: < Suda, Shoichiro **Locality:** Tsukuba/Ibaraki/Japan (1984-05-08) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 20°C; 22-32µmol/m²/s; 2 M **Habitat:** Freshwater (Paddy soil) **Other strain no.:** H-3-4-2 **References:** 204, 567, 1088

Chlamydomonas gerloffii Ettl

2215 History: < IAM (2007) < UTEX (1996) **Other collection strain no.:** IAM C-554 (=C-233); CCAP 11/72; SAG 20.72; UTEX 1348 **Locality:** Schonhengst/Czechoslovakia **Isolator:** Ettl, H. **States:** Unialgal; Clonal; Axenic[2012 Feb] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Habitat:** Freshwater (Pond water) **Other strain no.:** Ettl 136

Chlamydomonas globosa J.Snow

2462 History: < Nakada, Takashi **Locality:** Yamagata/Japan (2008-05-10) **Isolator:** Nakada, Takashi **Identified by:** Nakada, Takashi (2009-06-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Soil) **Other strain no.:** Tks0803C2 **Reference:** 613

Chlamydomonas inflexa Pringsheim

2216 History: < IAM (2007) < BIU (UTEX; 1967) **Other collection strain no.:** IAM C-253; SAG 24.72; UTEX 727 **Isolator:** Lewin, Ralph A. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Other strain no.:** R.A.Lewin DD1/72

Chlamydomonas kuwadae Gerloff

968 History: < Nozaki, Hisayoshi **Locality:** Lake Nojiri (depth 0-10m)/Nagano/Japan (1992-05-13) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 10°C; 15-20µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Gene data:** 18S rRNA (AB451190); atpB (AB084318); psaB (AB084356); rbcL (AB084334) **Other strain no.:** 92-514-H-13 **References:** 609, 740

1021 History: < Moriya, Mayumi **Locality:** Osaka Bay/Hyogo/Japan (2000-11-**) **Isolator:** Moriya, Mayumi **Identified by:** Moriya, Mayumi **Formerly identified as:** *Chlamydomonas coccoides* Butcher **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 15-22µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** #95

Chlamydomonas media Klebs

Syn. *Chlamydomonas media* var. *eustigma* Gerloff

2743 History: < Nakada, Takashi **Locality:** Ibaraki/Japan (2004-07-06) **Isolator:** Nakada, Takashi

Identified by: Nakada, Takashi (2011-11-**) **States:** Unialgal; Clonal; Axenic **Culture conditions:** AF-6; 20°C; 15-27µmol/m²/s **Habitat:** Freshwater (Sediment) **Characteristics:** Strain for epitype designation **Gene data:** 18S rRNA (AB694003) **Other strain no.:** HcCl-5-3 **Reference:** 612

Chlamydomonas mexicana Lewin

2218 History: < IAM (2007) < UTEX (1996) **Other collection strain no.:** IAM C-555 (=C-257); UTEX 730; SAG 11-60b **Isolator:** Lewin, Ralph A. **Identified by:** Lewin, Ralph A. **States:** Unialgal; Clonal; Axenic[2012 Feb] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M

Chlamydomonas moewusii Gerloff

2219 History: < IAM (2007) < BIU (UTEX) **Other collection strain no.:** IAM C-258; CCAP 11/16g; UTEX 96; SAG 11-16G; ATCC 30418; UTCC 83; CGC 56 **Isolator:** Provasoli, L. **States:** Unialgal; Clonal; Axenic[2012 Feb] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **References:** 38, 128, 1159

2220 History: < IAM (2007) < BIU (UTEX; 1967) **Other collection strain no.:** IAM C-259; CCAP 11/16f; UTEX 97; SAG 11-16F; ATCC 30588; CGC 57 **Isolator:** Provasoli, L. **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M

2241 History: < IAM (2007) < BIU (UTEX; 1967) **Other collection strain no.:** IAM C-281; CCAP 11/26; (BIU 211) **Isolator:** Pringsheim, E. G. **Formerly identified as:** *Chlamydomonas simplex* Pascher **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Habitat:** Freshwater (Freshwater)

2576 History: < IAM (2007) < Tsubo, Yoshihiro (Kobe Univ.; 1967) **Other collection strain no.:** IAM C- 5 **Isolator:** Tsubo, Yoshihiro **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Characteristics:** Mating type(+) **Other strain no.:** Tsubo L

Chlamydomonas moewusii Gerloff var. *rotunda* Tsubo

2222 History: < IAM (2007) < Tsubo, Yoshihiro **Other collection strain no.:** IAM C-19 **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Other strain no.:** Tsubo 2475 **Reference:** 1080

2223 History: < IAM (2007) < UTEX (1996) **Other collection strain no.:** IAM C-556 (=C-16); CCAP 11/64A; UTEX 576; SAG 11-61a **Locality:** Sasayama/Hyogo/Japan **Isolator:** Tsubo, Yoshihiro **Identified by:** Tsubo, Yoshihiro **States:** Unialgal; Clonal; Axenic[2012 Feb] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Habitat:** Freshwater (Paddy soil) **Characteristics:** Mating type(+) **Other strain no.:** Tsubo 24 (+) **Reference:** 1190

2577 History: < IAM (2007) < Tsubo, Yoshihiro (Kobe Univ.) **Other collection strain no.:** IAM C- 18 **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Other strain no.:** Tsubo 2470

2578 History: < IAM (2007) < Tsubo, Yoshihiro (Kobe Univ.) **Other collection strain no.:** IAM C- 26 **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Other strain no.:** Tsubo 24122 **Reference:** 1080

Chlamydomonas monadina Stein var. *monadina*

438 History: < Suda, Shoichiro **Locality:** Lake Kasumigaura/Ibaraki/Japan (1983-07-22) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 20°C; 22-32µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Other strain no.:** Kas-7 **Reference:** 567

Chlamydomonas nasuta Korshikov

2225 History: < IAM (2007) < UTEX (1996) **Other collection strain no.:** IAM C-550 (=C-225); UTEX 451 **Locality:** Edgewood Park/Connecticut/U.S.A. **Isolator:** Lewin, Ralph A. **Formerly identified as:** *Chlamydomonas conferta* Korshikov **States:** Unialgal; Clonal; Axenic[2012 Feb] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Habitat:** (Soil)

Chlamydomonas neoplanconvexa (Iyengar) Nakada

Syn. *Chlamydomonas planoconvexa* Iyengar non Lund

2570 **History:** < Nakada, Takashi **Locality:** Tokyo/Japan (2004-08-08) **Isolator:** Nakada, Takashi **Identified by:** Nakada, Takashi (2010-11-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Sediment) **Characteristics:** Epitype **Gene data:** 18S rRNA (AB602849); psaB (AB602851); rbcL (AB602850) **Other strain no.:** IiS0801D6 **Reference:** 616

Chlamydomonas noctigama Korshikov

1048 **History:** < Nozaki, Hisayoshi **Locality:** Neuglobsow/Brandenburg/Germany (2001-08-14) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-27µmol/m²/s; 2 M **Habitat:** Freshwater **Gene data:** atpB (AB101502); psaB (AB101513); rbcL (AB101506); rbcL (AB101507) **Other strain no.:** 2001-814-C10

2213 **History:** < IAM (2007) < BIU (UTEX; 1967) **Other collection strain no.:** IAM C-228; CCAP 11/4; UTEX 228; SAG 23.87; ATCC 30594; CGC C-1812 **Locality:** Dorfteich, Hirschberg/Czechoslovakia **Isolator:** Mainx, F. **Formerly identified as:** *Chlamydomonas dorsoventralis* Pascher **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **References:** 38, 484, 735

2228 **History:** < IAM (2007) < BIU (UTEX) **Other collection strain no.:** IAM C-270; SAG 40.72; UTEX 1339 **Locality:** Czechoslovakia **Isolator:** Ettl, H. **Formerly identified as:** *Chlamydomonas pinicola* Ettl **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Habitat:** Soil (Soil) **Other strain no.:** Ettl 108

2229 **History:** < IAM (2007) < UTEX (1996) **Other collection strain no.:** IAM C-557 (=C-262); ATCC 30629; CCAP 11/17; SAG 33.72; UTEX 220 **Locality:** Czechoslovakia **Isolator:** Pringsheim, E. G. **Formerly identified as:** *Chlamydomonas monoica* Strehlow **States:** Unialgal; Clonal; Axenic[2012 Feb] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Habitat:** (Freshwater) **References:** 484, 1116

2579 **History:** < IAM (2007) < BIU (UTEX; 1961) **Other collection strain no.:** IAM C-264; SAG 35.72; UTEX 114 **Isolator:** Starr, R. C. **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Reference:** 1159

Chlamydomonas orbicularis Pringsheim

2230 **History:** < IAM (2007) < UTEX (1996) **Other collection strain no.:** IAM C-559 (=C-266); SAG 11-19; UTEX 218; CGC CC-1739; CCAP 11/19 **Locality:** near Celakovice/Czechoslovakia **Isolator:** Pringsheim, E. G. **States:** Unialgal; Clonal; Axenic[2012 Mar] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Habitat:** Freshwater (River sand)

Chlamydomonas parkeae Ettl

440 **History:** < Suda, Shoichiro **Locality:** Izumi Bay/Nagasaki/Japan (1986-03-12) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 20°C; 22-32µmol/m²/s; 2 M **Habitat:** Marine (Seawater) **Gene data:** rbcL (AB127988) **Other strain no.:** I-29 **References:** 396, 567, 889, 916

Chlamydomonas perpusilla (Korshikov) Gerloff var. *perpusilla*

Syn. *Chlamydomonas minima* Korshikov

1848 **History:** < Nakada, Takashi **Locality:** Sakata-ga-ike Pond/Chiba/Japan (2003-07-23) **Isolator:** Nakada, Takashi **Identified by:** Nakada, Takashi (2006-12-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Pond sediment) **Other strain no.:** SkCl-3 **Reference:** 608

1849 **History:** < Nakada, Takashi **Locality:** Sakata-ga-ike Pond/Chiba/Japan (2003-07-23) **Isolator:** Nakada, Takashi **Identified by:** Nakada, Takashi (2006-12-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Pond sediment) **Gene data:** psaB (AB451199) **Other strain no.:** SkCr-10 **References:** 608, 609

Chlamydomonas proteus Pringsheim

2231 **History:** < IAM (2007) < UTEX (1996) **Other collection strain no.:** IAM C-560 (=C-271); ATCC 30452; CCAP 11/21; SAG 41.72; UTEX 216 **Locality:** near Hirschberg/Czechoslovakia **Isolator:** Pringsheim, E. G. **Identified by:** Pringsheim, E. G. **States:** Unialgal; Clonal; Axenic[2012 Mar] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Habitat:** Freshwater (Freshwater)

Chlamydomonas pseudomacrostigma L.Ş. Péterfi ex H.Ettl

Syn. *Chlamydomonas macroplastida* J.W.G. Lund f. *macrostigma* Bourrelly; *Chlamydomonas monadina* F.Stein var. *charkoviensis* Korshikov

2744 **History:** < Nakada, Takashi **Locality:** Yamagata/Japan (2008-05-29) **Isolator:** Nakada, Takashi **Identified by:** Nakada, Takashi (2011-11-**) **States:** Unialgal; Clonal; Axenic **Culture conditions:** AF-6; 20°C; 15-27µmol/m²/s **Habitat:** Freshwater (Sediment) **Characteristics:** Strain for epitype designation **Gene data:** 18S rRNA (AB694004) **Other strain no.:** Tks0811B3 **Reference:** 612

Chlamydomonas pulsatilla Wollenweber

122 **History:** < IAM (1983) **Other collection strain no.:** IAM C-385 (=C-561) **Locality:** Muroran/Hokkaido/Japan (1966-05-12) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Axenic **Culture conditions:** P35; 20°C; 4-10µmol/m²/s; 2 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Lake water) **Gene data:** psaB (AB451200) **Other strain no.:** MKF-50 **References:** 234, 235, 293, 567, 609, 1159, 1187

Chlamydomonas pulvinata Vischer

2233 **History:** < IAM (2007) < BIU (UTEX) **Other collection strain no.:** IAM C-276; CCAP 11/25; SAG 45.72; UTEX 212 **Locality:** Basel/Switzerland **Isolator:** Vischer, W. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Habitat:** Freshwater (Freshwater)

Chlamydomonas pumilio Ettl var. *pumilio*

1850 **History:** < Nakada, Takashi **Locality:** Arisugawa-no-miya Memorial Park/Tokyo/Japan (2003-04-28) **Isolator:** Nakada, Takashi **Identified by:** Nakada, Takashi (2006-12-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Gene data:** psaB (AB451201) **Other strain no.:** ArCp-7 **References:** 608, 609

Chlamydomonas rapa Ettl

2234 **History:** < IAM (2007) **Other collection strain no.:** IAM C-279 **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M

Chlamydomonas reinhardtii Dangeard

2235 **History:** < IAM (2007) < Tsubo, Yoshihiro (1959) < Sager (1954) < Smith (1953) **Other collection strain no.:** IAM C-9 **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Characteristics:** Mating type(-); Crosses with NIES-2239 (IAM C-562) **Gene data:** Amt protein mRNA(putative) (AF509497); CAH1 (D90206); CAH1(5'-upstream region) (AB026126); CAH2 (X54488); CrDES (AB239769); EST information (<http://est.kazusa.or.jp/en/plant/chlamy/EST/index.html>); GCS1 mRNA (AB206813); MMP1 (AB058411); MMP1 mRNA (AB058413); MMP2 (AB058412); MMP2 mRNA (AB058414); MMP3 mRNA (AB108850); mRNA for plastid DNA recombination (AB048829); NSG1 mRNA (AB167472); NSG11 mRNA (AB167476); NSG13 mRNA (AB167477); NSG17 mRNA (AB167478); NSG6 mRNA (AB167474); NSG7 mRNA (AB167475); SIG1 mRNA (AB049220); Total genome information (<http://chlamy.pmb.lif.kyoto-u.ac.jp/chlamybase>) **Other strain no.:** Tsubo R (-) **References:** 1, 5, 23, 24, 25, 28, 41, 68, 69, 70, 77, 114, 121, 122, 332, 341, 361, 449, 450, 452, 453, 517, 518, 519, 520, 522, 526, 558, 821, 822, 823, 827, 1011, 1072, 1073, 1094, 1097, 1100, 1101, 1159, 1193, 1196, 1232, 1237, 1265

2236 **History:** < IAM (2007) < Kuchitsu, Kazuyuki (1991) < Mihara, S. < Matsuda, Y. < BIU (UTEX; 1967) **Other collection strain no.:** IAM C-239; CCAP 11/32A; SAG 11-32b; UTEX 90; NIBB 4014; CGC CC-1010; CGC CC-409 **Locality:** near Amherst/Massachusetts/U.S.A. **Isolator:**

- Smith, G. M. **States:** Unialgal; Clonal; Axenic[2012 Mar] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Habitat:** Terrestrial (Soil) **Characteristics:** Mating type(+) **Other strain no.:** 137c mt⁺ **References:** 503, 948, 1082
- 2237 History:** < IAM (2007) < Mihara, S. (1991) **Other collection strain no.:** IAM C-540 **States:** Unialgal; Clonal; Axenic[2012 Mar] **Culture conditions:** TAP (agar); 20°C; 8-15µmol/m²/s; 3 M **Characteristics:** Cell wall less mutant of NIES-2238 (IAM C-541) **Other strain no.:** cw-15 strain **Reference:** 397
- 2238 History:** < IAM (2007) < BIU (UTEX; 1967) **Other collection strain no.:** IAM C-541 (=C-238); CCAP 11/32B; SAG 11-32a; UTEX 89; NIBB 4013; UTCC 84; CGC CC-1009 **Locality:** near Amherst/Massachusetts/U.S.A. **Isolator:** Smith, G. M. **States:** Unialgal; Clonal; Axenic[2012 Mar] **Culture conditions:** TAP (agar); 20 °C ; 8-15µmol/m²/s; 3 M **Habitat:** Terrestrial (Soil) **Characteristics:** Mating type(-) **Other strain no.:** 137c mt⁻ **References:** 397, 795, 863, 864, 893, 894, 974, 1063
- 2239 History:** < IAM (2007) < Tsubo, Yoshihiro (1996) < Sager (1954) < Smith (1953) **Other collection strain no.:** IAM C-562 (=C-8) **States:** Unialgal; Clonal; Axenic[2012 Mar] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Habitat:** (Soil) **Characteristics:** Mating type(+); Crosses with NIES-2235 (IAM C-9) **Other strain no.:** Tsubo R (+) **References:** 219, 1159
- 2463 History:** < Nakada, Takashi **Locality:** Kagoshima/Japan (2006-03-26) **Isolator:** Nakada, Takashi **Identified by:** Nakada, Takashi (2009-06-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Soil) **Characteristics:** Heterothallic; Isogamy; Mating type(+) **Other strain no.:** KkS0801B1 **Reference:** 613
- 2464 History:** < Nakada, Takashi **Locality:** Kagoshima/Japan (2006-03-26) **Isolator:** Nakada, Takashi **Identified by:** Nakada, Takashi (2009-06-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Soil) **Characteristics:** Heterothallic; Isogamy; Mating type(-) **Other strain no.:** KkS0801D2 **Reference:** 613
- Chlamydomonas* sp.
- 1022 History:** < Moriya, Mayumi **Locality:** Mitsu Bay/Hiroshima/Japan (2001-03-**) **Isolator:** Moriya, Mayumi **Identified by:** Moriya, Mayumi **Formerly identified as:** *Chlamydomonas parkeae* Ettl **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20 °C ; 15-22µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** #97
- 1733 History:** < Sato, Mayumi **Locality:** Miyako Isl./Okinawa/Japan (2002-07-**) **Isolator:** Sato, Mayumi **Identified by:** Sato, Mayumi (2005-08-**) **Formerly identified as:** *Chlamydomonas parkeae* Ettl **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20 °C ; 18-23µmol/m²/s; 2 M **Habitat:** Marine (Seawater) **Other strain no.:** M-77
- 2211 History:** < IAM (2007) < BIU (UTEX) **Other collection strain no.:** IAM C-215; CCAP 11/1; SAG 11-1; UTEX 231 **Locality:** near Grossteich, Hirschberg/Czechoslovakia **Isolator:** Mainx, F. **Formerly identified as:** *Chlamydomonas debaryana* Goroschankin; *Chlamydomonas agloiformis* Pascher **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C (agar); 20 °C ; 8-15µmol/m²/s; 3 M **Habitat:** Freshwater (Pool water) **Reference:** 38
- 2314 History:** < Suda, Shoichiro **Locality:** Tsuchiura/Ibaraki/Japan (1983-07-22) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C; 20°C; 22-32µmol/m²/s; 2 M **Habitat:** Freshwater (Pond water) **Other strain no.:** SIS-ch
- 2315 History:** < Suda, Shoichiro **Locality:** Tsukuba/Ibaraki/Japan (1984-05-04) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C; 20°C; 22-32µmol/m²/s; 2 M **Habitat:** Freshwater (Paddy soil) **Other strain no.:** H-3-1
- 2316 History:** < Suda, Shoichiro **Locality:** Osaka Bay/Osaka/Japan (1982-08-03) **Isolator:** Watanabe, Makoto M. **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** OChla

- 2317** **History:** < Suda, Shoichiro **Locality:** Kazo/Saitama/Japan (1984-06-10) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C; 20°C; 22-32µmol/m²/s; 3 M **Habitat:** Freshwater (Paddy soil) **Characteristics:** Mating type(-) **Other strain no.:** KZ-5-8
- 2318** **History:** < Suda, Shoichiro **Locality:** Kazo/Saitama/Japan (1984-06-10) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C; 20°C; 22-32µmol/m²/s; 3 M **Habitat:** Freshwater (Paddy soil) **Characteristics:** Mating type(+) **Other strain no.:** KZ-5-17
- 2319** **History:** < Suda, Shoichiro **Locality:** Tsukuba/Ibaraki/Japan (1954-05-08) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C; 20°C; 22-32µmol/m²/s; 2 M **Habitat:** Freshwater (Paddy soil) **Other strain no.:** H-3-6
- 2320** **History:** < Suda, Shoichiro **Locality:** Tsukuba/Ibaraki/Japan (1985-11-05) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Other strain no.:** w-14-5
- 2321** **History:** < Suda, Shoichiro **Locality:** Tsukuba/Ibaraki/Japan (1985-11-05) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Other strain no.:** w-30
- 2322** **History:** < Suda, Shoichiro **Locality:** Tsukuba/Ibaraki/Japan (1985-11-05) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Other strain no.:** w-36
- 2323** **History:** < Suda, Shoichiro **Locality:** Shimoda/Shizuoka/Japan (1985-05-22) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 22-32µmol/m²/s; 2 M **Habitat:** Marine (Seawater) **Other strain no.:** Sa-38
- 2324** **History:** < Sawaguchi, Tomohiro **Locality:** Iriomote Isl./Okinawa/Japan (1986-01-23) **Isolator:** Sawaguchi, Tomohiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** STP; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** IC-9

Chlamydomonas sphaeroides Gerloff

- 2242** **History:** < IAM (2007) < BIU (UTEX; 1967) **Other collection strain no.:** IAM C-255; CCAP 11/14; UTEX 221; SAG 25.72; CGC CC-1811 **Isolator:** Pringsheim, E. G. **Formerly identified as:** *Chlamydomonas iyengari* Mitra **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M

Chlamydomonas subangulosa Fritsch et John

- 2243** **History:** < IAM (2007) < UTEX (1996) **Other collection strain no.:** IAM C-563 (=C-285); CCAP 11/28; SAG 57.72; UTEX 209 **Locality:** England/U.K. **Isolator:** Pringsheim, E. G. **States:** Unialgal; Clonal; Axenic[2012 Mar] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Habitat:** (Soil)

Chlamydomonas tetragama (Bohlin) Ettl

- 446** **History:** < Suda, Shoichiro **Locality:** Tsuchiura/Ibaraki/Japan (1985-04-13) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **Formerly identified as:** *Chlorogonium metamorphum* Skuja **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 20°C; 22-32µmol/m²/s; 2 M **Habitat:** Freshwater (Pond water) **Characteristics:** Authentic (Neotype) strain **Gene data:** atpB (AB084319); psaB (AB084357); rbcL (AJ001880) **Other strain no.:** 413D4-4 **References:** 567, 711, 737, 740, 1110

Chlamydomonas typica Deason et Bold

2246 **History:** < IAM (2007) < UTEX (1996) **Other collection strain no.:** IAM C-565 (=C-290); SAG 61.72; UTEX 971; CGC CC-1807 **Locality:** Williamson County/Texas/U.S.A. **Isolator:** Deason, T. R. **States:** Unialgal; Clonal; Axenic[2012 Mar] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Habitat:** (Soil) **Other strain no.:** Deason T-2-11

Chlamydomonas ulvaensis Lewin

2247 **History:** < IAM < UTEX (1996) **Other collection strain no.:** IAM C-566 (=C-291); CCAP 11/58; Lewin DD1/27; SAG 62.72; UTEX 724 **Locality:** Isle of Ulva /Scotland/U.K. **Isolator:** Lewin, Ralph A. **States:** Unialgal; Clonal; Axenic[2012 Mar] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Habitat:** Terrestrial (Pasture plant)

Chlamydomonas zebra Korshikov ex Pascher

2248 **History:** < IAM (2007) < BIU (UTEX; 1967) **Other collection strain no.:** IAM C-221; SAG 8.72; UTEX 229; CCAP 11/3 **Isolator:** Brannon, M. A. **Formerly identified as:** *Chlamydomonas brannonii* Pringsheim **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Other strain no.:** Brannon5

CHLORARACHNION : Chlorarachniophyceae

Chlorarachnion reptans Geitler

624 **History:** < CCAP **Other collection strain no.:** CCAP 815/1 **Locality:** Puerto Penasco/Mexico **Isolator:** Norris, Richard E. **States:** Unialgal **Culture conditions:** ESM2; 20°C; 32-40µmol/m²/s; 2 M **Habitat:** Marine (Seawater) **References:** 125, 1014

Chlorarachnion sp.

1408 **History:** < TKB **Locality:** Amami Isl., Ayamaru/Kagoshima/Japan (2000-06-**) **Isolator:** Yoshida, Masaki **Identified by:** Yoshida, Masaki (2003-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** mIMR; MNK; 20°C; 25-40µmol/m²/s; 6 M **Habitat:** Marine (Sand) **Characteristics:** Mixotrophic; Benthic **Other strain no.:** TKB-002 (ym-02)

CHLORELLA : Trebouxiophyceae

'*Chlorella ellipsoidea*' Gerneck

2150 **History:** < IAM (2007) < UTEX (1989) **Other collection strain no.:** IAM C-542 (=C-87); ATCC 30404; CCAP 211/1A; SAG 211-1a; UTEX 20 **Isolator:** Pringsheim, E. G. **Identified by:** Pringsheim, E. G.; Confirmed at NIES by DNA sequencing **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Gene data:** 18S rRNA (AB488583) **References:** 385, 437, 1022 **Remarks:** Cryopreserved

'*Chlorella*' *saccharophila* (Krüger) Migula

640 **History:** < Kasai, Fumie **Locality:** Otarunai River/Hokkaido/Japan (1987-07-02) **Isolator:** Kasai, Fumie **Identified by:** Kasai, Fumie; Confirmed at NIES by DNA sequencing **States:** Unialgal **Culture conditions:** C; 10°C; 6-12µmol/m²/s; 6 M (10°C; 10-15µmol/m²/s) **Habitat:** Freshwater (River water) **Gene data:** 18S rRNA (AB488790) **Other strain no.:** Tst-8-2 **References:** 567, 1018 **Remarks:** Cryopreserved

2352 **History:** < IAM (2007) < Safferman, R. S. **Other collection strain no.:** IAM C-183; SEC 95 **Identified by:** Kessler, E.; Confirmed at NIES by DNA sequencing **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Gene data:** 18S rRNA (AB488791) **Reference:** 1212 **Remarks:** Cryopreserved

Chlorella sorokiniana Shihira et Krauss

2167 **History:** < IAM (2007) < Yakult < IAM < Watanabe, Atsushi **Other collection strain no.:** IAM C-43 **Isolator:** Watanabe, Atsushi **Identified by:** Kessler, E.; Confirmed at NIES by DNA sequencing (1994) **Formerly identified as:** *Chlorella vulgaris* Beijerinck **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Gene data:** 18S rRNA (AB488789) **Remarks:** Cryopreserved

- 2168** **History:** < IAM (2007) < Murano, Fumio **Other collection strain no.:** IAM C-133 **Isolator:** Murano, Fumio **Identified by:** Fukushima, Hiroshi; Kessler, E.; Confirmed at NIES by DNA sequencing (1993) **Formerly identified as:** *Chlorella vulgaris* Beijerinck **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Gene data:** 18S rRNA (AB488572) **Other strain no.:** Murano (407)U-145 **References:** 71, 794, 1212 **Remarks:** Cryopreserved
- 2169** **History:** < IAM (2007) < Meyers, Jack **Other collection strain no.:** IAM C-212; ATCC 22521; CAUP H1957; CCAP 211/8k; SAG 211-8K; UTEX 1230 **Locality:** Texas/U.S.A. **Isolator:** Sorokin, C. **Identified by:** Kessler, E.; Confirmed at NIES by DNA sequencing (1993) **Formerly identified as:** *Chlorella pyrenoidosa* Chick **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Gene data:** 18S rRNA (AB080307); 18S rRNA (AB488573); Actin (AB080311) **References:** 38, 385, 496, 795, 1224 **Remarks:** Cryopreserved

Chlorella sp.

- 2171** **History:** < IAM (2007) < Murano, Fumio **Other collection strain no.:** IAM C-135 **Locality:** Botanical garden, Sendai/Miyagi/Japan **Isolator:** Murano, Fumio **Identified by:** Fukushima, Hiroshi; Kessler, E.; Re-identified at NIES by DNA sequencing (1993) **Formerly identified as:** *Chlorella vulgaris* Beijerinck **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Gene data:** 18S rRNA (AB488574) **Other strain no.:** Kiyohara U-140 **References:** 190, 1212 **Remarks:** Cryopreserved
- 2330** **History:** < Watanabe, Yoshitomo **Locality:** Lake Kasumigaura/Ibaraki/Japan (1991-04-22) **Isolator:** Watanabe, Yoshitomo **Identified by:** Watanabe, Yoshitomo **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 4-10µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Pond sediment) **Other strain no.:** HA-1 **Remarks:** Cryopreserved

Chlorella vulgaris Beijerinck

- 1269** **History:** < Moriya, Mayumi **Locality:** Banzu Tidal Flat/Chiba/Japan (2002-05-14) **Isolator:** Moriya, Mayumi **Identified by:** Moriya, Mayumi; Re-identified at NIES by DNA sequencing **Formerly identified as:** *Chlorella* sp. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** (Tidal flat water) **Gene data:** 18S rRNA (AB488579) **Other strain no.:** M-56 **Remarks:** Cryopreserved
- 2170** **History:** < IAM (2007) < Tokugawa Institute for Biological Research **Other collection strain no.:** IAM C-27 **Locality:** Sendai/Miyagi/Japan **Identified by:** Takeda, H.; Kessler, E.; Confirmed at NIES by DNA sequencing (1991) **Formerly identified as:** *Chlorella ellipsoidea* Gerneck **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Gene data:** 16S rRNA (AF350259); 16S rRNA (AF350260); 16S rRNA (AJ242748); 16S rRNA (AJ242753); 18S rRNA (AB178085); 18S rRNA (AJ242757); 18S rRNA (AB488580); CvFAD2 mRNA (AB075526); CvFAD3 mRNA (AB075527); G6PDH mRNA (AB085846); HiC12 mRNA (AB035642); HiC6 mRNA (U38231); Plastid DNA (AB001684) **Other strain no.:** Tamiya strain **References:** 7, 12, 15, 16, 93, 120, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 171, 172, 174, 175, 176, 177, 178, 179, 180, 193, 194, 195, 200, 201, 202, 209, 260, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 329, 330, 342, 343, 344, 345, 346, 373, 409, 498, 499, 504, 516, 525, 528, 529, 530, 531, 532, 533, 534, 536, 538, 542, 543, 544, 545, 546, 548, 550, 551, 552, 555, 556, 560, 570, 571, 667, 673, 674, 683, 752, 753, 754, 755, 761, 762, 763, 787, 810, 859, 860, 861, 862, 887, 888, 908, 942, 947, 966, 983, 996, 1001, 1010, 1013, 1022, 1023, 1024, 1025, 1026, 1027, 1028, 1029, 1030, 1037, 1038, 1039, 1040, 1041, 1042, 1043, 1044, 1045, 1046, 1047, 1048, 1049, 1050, 1051, 1052, 1094, 1101, 1114, 1205, 1211 **Remarks:** Cryopreserved
- 2172** **History:** < IAM < CCAP (Butcher, R. W.) **Other collection strain no.:** IAM C-176; CCAP 211/21A or B (?) **Isolator:** George, E. A. **Identified by:** Kessler, E.; Confirmed at NIES by DNA sequencing (1993) **Formerly identified as:** *Chlorella ovalis* Butcher (before 1993) **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Gene data:** 18S rRNA (AB488581) **Remarks:** Cryopreserved
- 2173** **History:** < IAM (2007) < Tsuzuki, Mikio (1988) < Avramova, S. T. (1982) < probably Semenenko **Other collection strain no.:** IAM C-536; IPPAS C-3 **States:** Unialgal; Clonal; Axenic [2012 Nov]

Culture conditions: C (agar); 20°C; 8-15µmol/m²/s; 3 M **Gene data:** 18S rRNA (AB080308); Actin-1 (AB080312); Actin-2 (AB080313) **References:** 5, 41, 548, 559, 560, 561, 1097, 1101, 1224 **Remarks:** Cryopreserved

- 2573 History:** < IAM (2007) < Safferman, R.S. (Indiana Univ.) **Other collection strain no.:** IAM C-182; SEC 121 **Identified by:** Kessler, E.; Confirmed at NIES by DNA sequencing **States:** Unialgal; Clonal; Axenic[2008 Dec] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Gene data:** 18S rRNA (AB488582) **Remarks:** Cryopreserved

Chlorella vulgaris Beijerinck var. *vulgaris*

- 227 History:** < IAM (1983) **Other collection strain no.:** IAM C-30 **Locality:** Japan **Isolator:** Watanabe, Atsushi **Identified by:** Fukushima, Hiroshi; Confirmed at NIES by DNA sequencing **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 4-10µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Gene data:** 16S rRNA (AJ242754); 16S rRNA (AJ242771); 18S rRNA (AJ242756); 18S rRNA (AB488575); 18S-ITS1-5.8S-ITS2 (AB162910); 28S rRNA (AB237642); CO1 (D63763); CO1 (AB011523); psaA (AB260919); rbcL (AB260909) **References:** 188, 235, 243, 261, 355, 381, 479, 498, 499, 567, 569, 721, 764, 811, 902, 968, 1108, 1111, 1125, 1135, 1187, 1212, 1268 **Remarks:** Cryopreserved
- 641 History:** < Kasai, Fumie **Locality:** Miyata River/Ibaraki/Japan (1987-02-25) **Isolator:** Kasai, Fumie **Identified by:** Kasai, Fumie; Confirmed at NIES by DNA sequencing **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 20°C; 8-15µmol/m²/s; 6 M **Habitat:** Freshwater (River water) **Gene data:** 18S rRNA (AB488576) **Other strain no.:** 1st-3-26 **References:** 482, 567, 1017, 1018 **Remarks:** Cryopreserved
- 642 History:** < Kasai, Fumie **Locality:** Miyata River/Ibaraki/Japan (1987-02-25) **Isolator:** Kasai, Fumie **Identified by:** Kasai, Fumie; Confirmed at NIES by DNA sequencing **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C; 20°C; 8-15µmol/m²/s; 6 M **Habitat:** Freshwater (River water) **Gene data:** 18S rRNA (AB488577) **Other strain no.:** 1st-2-17 **References:** 401, 567, 1017, 1018 **Remarks:** Cryopreserved
- 686 History:** < Katagiri, Masayuki < CCAP **Other collection strain no.:** CCAP 211/11b; IAM C-207; SAG 211-11b **Locality:** Delft/Netherland **Isolator:** Beijerinck, M. W. **Identified by:** Confirmed at NIES by DNA sequencing **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C (agar); 20°C; 4-10µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Characteristics:** Authentic strain **Gene data:** 18S rRNA (AB488578) **Other strain no.:** C-207 **References:** 44, 385, 567, 721, 983, 1212 **Remarks:** Cryopreserved

CHLOROCOCCUM : Chlorophyceae

Chlorococcum echinozygotum Starr

- 2249 History:** < IAM (2007) < Inst. Algological Research, Fac. Sci., Hokkaido Univ. (1969) **Other collection strain no.:** IAM C-386 **Isolator:** Starr, R. C. **Identified by:** Starr, R. C. **States:** Unialgal; Clonal; Axenic[2012 Mar] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M

Chlorococcum elkhartiense Archibald et Bold

- 2250 History:** < IAM (2007) < BIU (UTEX; 1967) **Other collection strain no.:** IAM C-567 (=C-283); SAG 56.72; UTEX 293; CCAP 11/57 **Locality:** Salen, Mull/Scotland/U.K. **Isolator:** Lewin, Ralph A. **Identified by:** Ettl, H.; Schlösser, U. G. **Formerly identified as:** Chlamydomonas sphagnophila Pascher **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Characteristics:** Homothallic **Other strain no.:** Lewin DD1/174

Chlorococcum hypnosporum Starr

- 2580 History:** < IAM (2007) **Other collection strain no.:** IAM C-387 **Identified by:** Confirmed at NIES by DNA sequencing **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Gene data:** 18S rRNA (AB488561)

CHLOROGONIUM : Chlorophyceae

Chlorogonium capillatum Nozaki, M.M. Watanabe et Aizawa

- 692** **History:** < Nozaki, Hisayoshi **Locality:** Miyatoko Mire/Fukushima/Japan (1992-04-**) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Axenic **Culture conditions:** AF-6; 10°C; 22-27µmol/m²/s; 1 M **Habitat:** Freshwater (Bog soil) **Characteristics:** Authentic strain; Monoecious; Isogamy; Paedogamy; Type specimen (NIES-50001, Epitype) **Gene data:** rbcL (AB010230) **Other strain no.:** 92-517-6-2 **References:** 567, 607, 610, 614, 737
- 742** **History:** < Nozaki, Hisayoshi < IAM **Other collection strain no.:** CCAP 12/4; IAM C-295; UTEX 201 **Locality:** Czechoslovakia **Isolator:** Meyer, H. **Identified by:** Nozaki, Hisayoshi (Reidentify) **Formerly identified as:** *Chlorogonium tetragamum* Bohlin **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 15-27µmol/m²/s; 2 M **Gene data:** rbcL (AB010234) **Reference:** 737
- 743** **History:** < Nozaki, Hisayoshi < UTEX **Other collection strain no.:** UTEX 1643 **Locality:** Leveret/Massachusetts/U.S.A. **Isolator:** Kugrens, P. **Identified by:** Nozaki, Hisayoshi (Reidentify) **Formerly identified as:** *Chlorogonium tetragamum* Bohlin **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 15-27µmol/m²/s; 2 M **Habitat:** (Soil) **Gene data:** rbcL (AB010235) **Reference:** 737
- 744** **History:** < Nozaki, Hisayoshi < UTEX **Other collection strain no.:** UTEX 2160 **Locality:** Germany **Identified by:** Nozaki, Hisayoshi (Reidentify) **Formerly identified as:** *Chlorogonium* sp. (in UTEX) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 15-27µmol/m²/s; 2 M **Gene data:** rbcL (AB010236) **Reference:** 737
- 745** **History:** < Nozaki, Hisayoshi < CCAP **Other collection strain no.:** CCAP 12/2A **Locality:** Berlin/Germany **Isolator:** Pringsheim, E. G. **Identified by:** Nozaki, Hisayoshi (Reidentify) **Formerly identified as:** *Chlorogonium elongatum* (Dangeard) Dangeard (in CCAP) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 15-27µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Gene data:** rbcL (AB010231) **Reference:** 737
- 746** **History:** < Nozaki, Hisayoshi < CCAP **Other collection strain no.:** CCAP 12/2B **Locality:** Cape Flats/South Africa **Isolator:** George **Identified by:** Nozaki, Hisayoshi (Reidentify) **Formerly identified as:** *Chlorogonium elongatum* (Dangeard) Dangeard (in CCAP) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 15-27µmol/m²/s; 2 M **Habitat:** (Soil) **Gene data:** rbcL (AB010232) **Reference:** 737
- 747** **History:** < Nozaki, Hisayoshi < CCAP **Other collection strain no.:** CCAP 12/5 **Isolator:** Pringsheim, E. G. **Identified by:** Nozaki, Hisayoshi (Reidentify) **Formerly identified as:** *Chlorogonium* sp. (in CCAP) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 15-27µmol/m²/s; 2 M **Habitat:** (Freshwater) **Gene data:** rbcL (AB010233) **Reference:** 737
- 748** **History:** < Nozaki, Hisayoshi < SAG **Other collection strain no.:** SAG 12-2e **Locality:** near Prague/Czechoslovakia **Isolator:** Pringsheim, E. G. **Identified by:** Nozaki, Hisayoshi (Reidentify) **Formerly identified as:** *Chlorogonium elongatum* (Dangeard) Dangeard (in SAG) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 15-27µmol/m²/s; 2 M **Gene data:** psaB (AB451203); rbcL (AB010237) **References:** 609, 737
- 749** **History:** < Nozaki, Hisayoshi < SAG **Other collection strain no.:** SAG 47.84 **Isolator:** Provasoli, L. **Identified by:** Nozaki, Hisayoshi (Reidentify) **Formerly identified as:** *Chlorogonium euchlorum* Ehrenberg (in SAG) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 15-27µmol/m²/s; 2 M **Gene data:** rbcL (AB010238) **Reference:** 737
- 750** **History:** < Nozaki, Hisayoshi < SAG **Other collection strain no.:** SAG 4.93 **Locality:** Leveret/Massachusetts/U.S.A. **Isolator:** Kugrens, P. **Identified by:** Nozaki, Hisayoshi (Reidentify) **Formerly identified as:** *Chlorogonium tetragamum* Bohlin (in SAG) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 15-27µmol/m²/s; 2 M **Habitat:** (Soil) **Gene data:** rbcL (AB010239) **Reference:** 737

Chlorogonium complexum Nakada

- 2296** **History:** < Nakada, Takashi **Locality:** Saitama/Japan (2004-08-10) **Isolator:** Nakada, Takashi **Identified by:** Nakada, Takashi (2007-12-**) **States:** Unialgal; Clonal; Non-axenic **Culture**

conditions: AF-6; MG; 20°C; 32-40µmol/m²/s; 1 M **Habitat:** Freshwater (Soil) **Characteristics:** Authentic strain; Homothallic; Isogamy; Resting spore forming **Other strain no.:** KsCl-4-1 **Reference:** 614

- 2297** **History:** < Nakada, Takashi **Locality:** Toyama/Japan (2005-09-22) **Isolator:** Nakada, Takashi **Identified by:** Nakada, Takashi (2007-12-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; MG; 20°C; 32-40µmol/m²/s; 1 M **Habitat:** Freshwater (Soil) **Characteristics:** Homothallic; Isogamy; Resting spore forming **Other strain no.:** ChCl-508 **Reference:** 614

Chlorogonium elongatum (Dangeard) Francé

- 751** **History:** < Nozaki, Hisayoshi < IAM **Other collection strain no.:** CCAP 12/1; IAM C-293 (=C-568); UTEX 204 **Locality:** Caldbeck/England/U.K. **Isolator:** Pringsheim, E. G. **Identified by:** Nozaki, Hisayoshi (Reidentify) **Formerly identified as:** *Chlorogonium acus* **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 15-27µmol/m²/s; 2 M **Habitat:** Freshwater (Pond water) **Characteristics:** Authentic strain; Type specimen (NIES-50002, Epitype) **Gene data:** rbcL (AJ001881) **References:** 610, 614, 737
- 752** **History:** < Nozaki, Hisayoshi < UTEX **Other collection strain no.:** UTEX 2571 **Locality:** Austin/Texas/U.S.A. **Isolator:** Wood, M. **Identified by:** Nozaki, Hisayoshi (Reidentify) **Formerly identified as:** *Chlorogonium* sp. (in UTEX) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 15-27µmol/m²/s; 2 M **Habitat:** Freshwater (Pond water) **Gene data:** psaB (AB451204); rbcL (AB010240) **References:** 609, 614, 737
- 753** **History:** < Nozaki, Hisayoshi < UTEX **Other collection strain no.:** UTEX 2572 **Locality:** Austin/Texas/U.S.A. **Isolator:** Wood, M. **Identified by:** Nozaki, Hisayoshi (Reidentify) **Formerly identified as:** *Chlorogonium* sp. (in UTEX) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 15-27µmol/m²/s; 2 M **Habitat:** Freshwater (Pond water) **Gene data:** rbcL (AB010241) **References:** 614, 737
- 1357** **History:** < Nakada, Takashi **Locality:** Atsugi, Shimokawairi/Kanagawa/Japan (1998-03-07) **Isolator:** Nakada, Takashi **Identified by:** Nakada, Takashi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** VT; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Paddy soil) **Characteristics:** Mixotrophic **Gene data:** rbcL (AB206330) **Other strain no.:** Chlgo-1/1998-3-7 **References:** 606, 607, 610
- 1358** **History:** < Nakada, Takashi **Locality:** Narita, Ohtake/Chiba/Japan (2003-07-23) **Isolator:** Nakada, Takashi **Identified by:** Nakada, Takashi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** VT; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Paddy soil) **Characteristics:** Mixotrophic **Gene data:** psaB (AB451205); rbcL (AB206329) **Other strain no.:** SkCl-2 **References:** 606, 607, 609

Chlorogonium euchlorum (Ehrenberg) Ehrenberg

- 754** **History:** < Nozaki, Hisayoshi < UTEX **Other collection strain no.:** UTEX 1639 **Locality:** Schickley/Nebraska/U.S.A. **Isolator:** Kugrens, P. **Identified by:** Nozaki, Hisayoshi (Reidentify) **Formerly identified as:** *Chlorogonium elongatum* (Dangeard) Dangeard (in UTEX) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 15-27µmol/m²/s; 2 M **Habitat:** (Soil) **Gene data:** rbcL (AB010226) **Reference:** 737
- 755** **History:** < Nozaki, Hisayoshi < UTEX **Other collection strain no.:** UTEX 2010 **Locality:** Germany **Isolator:** Müller, Dieter G. **Identified by:** Nozaki, Hisayoshi (Reidentify) **Formerly identified as:** *Chlorogonium* sp. (in UTEX) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 15-27µmol/m²/s; 2 M **Characteristics:** Authentic strain; Type specimen (NIES-50003, Epitype) **Gene data:** rbcL (AB010227) **References:** 610, 737
- 756** **History:** < Nozaki, Hisayoshi < UTEX **Other collection strain no.:** UTEX 2011 **Locality:** Germany **Isolator:** Müller, Dieter G. **Identified by:** Nozaki, Hisayoshi (Reidentify) **Formerly identified as:** *Chlorogonium* sp. (in UTEX) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 15-27µmol/m²/s; 2 M **Gene data:** rbcL (AB010228) **Reference:** 737
- 757** **History:** < Nozaki, Hisayoshi < CCAP **Other collection strain no.:** CCAP 12/2C **Locality:** Amiens/France **Isolator:** Pringsheim, E. G. **Identified by:** Nozaki, Hisayoshi (Reidentify)

- Formerly identified as:** *Chlorogonium elongatum* (Dangeard) Dangeard (in CCAP) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 15-27µmol/m²/s; 2 M **Habitat:** (Freshwater) **Gene data:** rbcL (AB010224) **Reference:** 737
- 758** **History:** < Nozaki, Hisayoshi < CCAP **Other collection strain no.:** CCAP 12/3 **Locality:** Berlin/Germany **Isolator:** Mainx **Identified by:** Nozaki, Hisayoshi (Reidentify) **Formerly identified as:** *Chlorogonium euchlorum* Ehrenberg (in CCAP) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 15-27µmol/m²/s; 2 M **Habitat:** (Freshwater) **Gene data:** rbcL (AJ001882) **Reference:** 737
- 759** **History:** < Nozaki, Hisayoshi < CCAP **Other collection strain no.:** CCAP 12/6 **Isolator:** Pringsheim, E. G. **Identified by:** Nozaki, Hisayoshi (Reidentify) **Formerly identified as:** *Chlorogonium* sp. (in CCAP) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 15-27µmol/m²/s; 2 M **Habitat:** (Freshwater) **Gene data:** rbcL (AB010225) **Reference:** 737
- 760** **History:** < Nozaki, Hisayoshi < SAG **Other collection strain no.:** SAG 12-2d **Locality:** Cape Flats/South Africa **Isolator:** Pringsheim, E. G. **Identified by:** Nozaki, Hisayoshi (Reidentify) **Formerly identified as:** *Chlorogonium elongatum* (Dangeard) Dangeard (in SAG) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 15-27µmol/m²/s; 2 M **Habitat:** (Soil) **Gene data:** psaB (AB451206); rbcL (AB010229) **References:** 609, 737

CHLOROKYBUS : Charophyceae*Chlorokybus* sp.

- 160** **History:** < Watanabe, Shin **Locality:** Tottori/Japan (1972-05-19) **Isolator:** Watanabe, Shin **Identified by:** Watanabe, Shin **Formerly identified as:** *Chlorosarcinopsis caeca* S.Watanabe **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** C (agar); 20°C; 4-10µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Soil) **Other strain no.:** TOT-24 **References:** 567, 1186

CHLOROMONAS : Chlorophyceae*Chloromonas actinochloris* (Deason et Bold) Pröschold, Marin, Schlösser et Melkonian

- 2201** **History:** < IAM (2007) < BIU (UTEX; 1960) **Other collection strain no.:** IAM C-213; SAG 1.72; UTEX 965 **Locality:** Caldwell County/Texas/U.S.A. **Isolator:** Deason, T. R. **Formerly identified as:** *Chlamydomonas actinochloris* Deason et Bold **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Characteristics:** Hydrogen evolution **Other strain no.:** Deason C-2-14 **Reference:** 38
- 2224** **History:** < IAM (2007) < UTEX (1996) **Other collection strain no.:** IAM C-558 (=C-7); UTEX 578; SAG 34.72 **Isolator:** Tsubo, Yoshihiro **Formerly identified as:** *Chlamydomonas mutabilis* Gerloff **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Other strain no.:** Tsubo T-A

Chloromonas augustae (Skuja) Pröschold, Marin, Schlösser et Melkonian

- 158** **History:** < Watanabe, Shin **Locality:** Sumatra/Indonesia (1979-08-21) **Isolator:** Watanabe, Shin **Identified by:** Watanabe, Shin **Formerly identified as:** *Chlamydomonas augustae* Skuja var. *ellipsoidea* S.Watanabe **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 4-10µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Paddy soil) **Characteristics:** Authentic strain **Other strain no.:** ASE-242 **References:** 374, 567, 1186, 1187

Chloromonas carrizoensis (Ettl et Schwarz) Pröschold, Marin, Schlösser et Melkonian

- 2575** **History:** < IAM (2007) < BIU (UTEX; 1967) **Other collection strain no.:** IAM C-277; SAG 46.72; UTEX B 968 **Locality:** Caldwell County/Texas/U.S.A. **Isolator:** Deason, T. R. **Formerly identified as:** *Chlamydomonas chlorococcoides* Ettl et Schwarz **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Habitat:** (Soil) **Other strain no.:** Deason C-2-4

Chloromonas insignis (Anachin) Gerloff et Ettl

447 **History:** < Suda, Shoichiro **Locality:** Lake Kasumigaura/Ibaraki/Japan (1983-08-22) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 20°C; 22-32µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Gene data:** atpB (AB084313); psaB (AB084348); rbcL (AB022226) **Other strain no.:** Kas-8 **References:** 567, 572, 740

Chloromonas pseudoplatyrhyncha (Pascher) Silva

Syn. Chlamydomonas platyrhyncha Pascher 1927 p.308; Chlamydomonas polychloris Korshikov non Pascher; Chloromonas platyrhyncha Ettl

2563 **History:** < Nozaki, Hisayoshi **Locality:** Hojo-ike Pond/Kagawa/Japan (2003-10-21) **Isolator:** Nakada, Takashi **Identified by:** Matsuzaki, Ryo (2009-08-28) **States:** Unialgal; Clonal; Axenic **Culture conditions:** AF-6; 20°C; 32-40µmol/m²/s; 1 M **Habitat:** Freshwater (Sediment) **Other strain no.:** HjCl-3 **Reference:** 510

Chloromonas sp.

2203 **History:** < IAM (2007) < BIU (UTEX; 1967) **Other collection strain no.:** IAM C-216; SAG 3.72; UTEX 967 **Locality:** Caldwell County/Texas/U.S.A. **Isolator:** Deason, T. R. **Formerly identified as:** Chlamydomonas applanata Prinsheim; Chlamydomonas akinetos Deason et Bold **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Habitat:** (Soil) **Other strain no.:** Deason C-1-11 **Reference:** 38

2379 **History:** < Muramoto, Kyohei **Locality:** Mt. Gassan/Yamagata/Japan (2006-06-15) **Isolator:** Muramoto, Kyohei **Identified by:** Muramoto, Kyohei; Nozaki, Hisayoshi (2008-02-06) **Formerly identified as:** Chloromonas miwae (Fukushima) Muramoto **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 10 °C ; 20-32µmol/m²/s; 2 M **Habitat:** Terrestrial (Snow) **Characteristics:** Stenothermal; Cryophilic **Other strain no.:** GS1 **Reference:** 588

2380 **History:** < Muramoto, Kyohei **Locality:** Mt. Gassan/Yamagata/Japan (2006-06-15) **Isolator:** Muramoto, Kyohei **Identified by:** Muramoto, Kyohei; Nozaki, Hisayoshi (2008-02-06) **Formerly identified as:** Chloromonas miwae (Fukushima) Muramoto **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 10 °C ; 20-32µmol/m²/s; 2 M **Habitat:** Terrestrial (Snow) **Characteristics:** Stenothermal; Cryophilic **Other strain no.:** STR **Reference:** 588

CHLOROTETRAEDRON : Chlorophyceae

Chlorotetraedron incus (Teiling) MacEntee et al.

Syn. Tetraëdron incus (Teiling) G.M. Smith

392 **History:** < Kasai, Fumie **Locality:** Tsukuba/Ibaraki/Japan (1984-05-07) **Isolator:** Kasai, Fumie **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 20°C; 4-10µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Pond water) **Other strain no.:** F115 **Remarks:** Cryopreserved

CHORICYSTIS : Trebouxiophyceae

Choricystis minor (Skuja) Fott

1436 **History:** < TKB **Locality:** Hyotaro-ike Pond/Ibaraki/Japan (2003-01-**) **Isolator:** Nakayama, Takeshi **Identified by:** Nakayama, Takeshi **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** AF-6; 15°C; 20-30µmol/m²/s; 2 M **Habitat:** Freshwater (Pond water) **Other strain no.:** TKB-052 (nak-07)

Choricystis sp.

1840 **History:** < TKB **Locality:** Shishizuka-ohike Pond/Ibaraki/Japan (2004-06-24) **Isolator:** Nakayama, Takeshi **Identified by:** Nakayama, Takeshi (2004-**-**) **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** C; 20°C; 20-30µmol/m²/s; 2 M **Habitat:** Freshwater (Pond water) **Other strain no.:** TKB-198

2333 **History:** < Takamura, Noriko **Locality:** Lake Misuzu/Nagano/Japan (1991-05-17) **Isolator:** Takamura, Noriko **Identified by:** Takamura, Noriko; Re-identified at NIES by DNA sequencing

- Formerly identified as:** Mychonastes sp. **States:** Unialgal **Culture conditions:** CB; 15°C; 15-22µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Gene data:** 18S rRNA (AB488792); 18S rRNA (AB488793) **Other strain no.:** MSZ 3
- 2335 History:** < Takamura, Noriko **Locality:** Lake Kuttara/Hokkaido/Japan (1991-07-15) **Isolator:** Takamura, Noriko **Identified by:** Takamura, Noriko; Re-identified at NIES by DNA sequencing **Formerly identified as:** Mychonastes sp. **States:** Unialgal **Culture conditions:** CB; 15°C; 15-22µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Gene data:** 18S rRNA (AB488584) **Other strain no.:** KUTA 1
- 2337 History:** < Takamura, Noriko **Locality:** Lake Shikotsu/Hokkaido/Japan (1991-05-27) **Isolator:** Takamura, Noriko **Identified by:** Takamura, Noriko; Re-identified at NIES by DNA sequencing **Formerly identified as:** Mychonastes sp. **States:** Unialgal **Culture conditions:** C; 15°C; 15-22µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Gene data:** 18S rRNA (AB488585) **Other strain no.:** SKT 1
- 2338 History:** < Takamura, Noriko **Locality:** Lake Toya/Hokkaido/Japan (1991-05-30) **Isolator:** Takamura, Noriko **Identified by:** Takamura, Noriko; Re-identified at NIES by DNA sequencing **Formerly identified as:** Mychonastes sp. **States:** Unialgal **Culture conditions:** C; 15°C; 15-22µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Gene data:** 18S rRNA (AB488586) **Other strain no.:** TOYA 1
- 2342 History:** < Takamura, Noriko **Locality:** Lake Otadomarinuma/Hokkaido/Japan (1991-05-29) **Isolator:** Takamura, Noriko **Identified by:** Takamura, Noriko; Re-identified at NIES by DNA sequencing **Formerly identified as:** Auxenochlorella sp. **States:** Unialgal **Culture conditions:** CB; 15°C; 15-22µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Gene data:** 18S rRNA (AB488587) **Other strain no.:** OTD 1 **Remarks:** Cryopreserved

CHROMULINA : Chrysophyceae

Chromulina sp.

- 2304 History:** < Suda, Shoichiro **Locality:** Harima-nada/Japan (1984-08-10) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 22-32µmol/m²/s; 3 M **Habitat:** Marine (Seawater) **Other strain no.:** 810YB-10

CHROODACTYLON : Stylonematophyceae

Chroodactylon ornatum (C.Agardh) Basson

Syn. *Asterocystis smargadina* Reinsch; *Asterocystis ramosa* (Thwaites) Gobi; *Chroodactylon ramosum* (Thwaites) Hansgirg

- 1969 History:** < Sato, Mayumi **Locality:** Miyako Isl./Okinawa/Japan (2002-07-**) **Isolator:** Sato, Mayumi **Identified by:** Yokoyama, Akiko (2007-02-20) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20 °C ; 15-22µmol/m²/s; 2 M **Habitat:** Marine (Seawater) **Characteristics:** Epiphytic **Other strain no.:** M-76
- 1970 History:** < Sato, Mayumi **Locality:** Ishigaki Isl., Urasoko Bay/Okinawa/Japan (2004-02-19) **Isolator:** Sato, Mayumi **Identified by:** Yokoyama, Akiko (2007-02-20) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 15-22µmol/m²/s; 2 M **Habitat:** Marine (Seawater) **Characteristics:** Epiphytic **Other strain no.:** M-183
- 1971 History:** < Sato, Mayumi **Locality:** Seragaki Beach/Okinawa/Japan (2004-02-20) **Isolator:** Sato, Mayumi **Identified by:** Yokoyama, Akiko (2007-02-20) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20 °C ; 15-22µmol/m²/s; 2 M **Habitat:** Marine (Seawater) **Characteristics:** Epiphytic **Other strain no.:** M-184

CHROOGLOEOCYSTIS : Cyanophyceae

Chroogloeocystis siderophila I.I. Brown et Cooksey

- 1031 History:** < Brown, Igor I. **Locality:** La Duke Hot Spring/Montana/U.S.A. (2001-7-**) **Isolator:**

Brown, Igor I. **Identified by:** Brown, Igor; Mummey, Daniel **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** DH + Fe (agar); MDM (agar); 24°C; 20-30µmol/m²/s; 4 M (37°C; 15-25µmol/m²/s) **Habitat:** Hot spring (Bottom mud) **Characteristics:** Biofilm process; Thermophilic **Gene data:** 16S rRNA (AY380791) **Other strain no.:** 5.2 s.c.1

CHROOMONAS : Cryptophyceae

Chroomonas caudata Geitler

712 **History:** < Erata, Mayumi **Locality:** Funada-ike Pond/Chiba/Japan (1985-09-**) **Isolator:** Erata, Mayumi **Identified by:** Erata, Mayumi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 15°C; 8-15µmol/m²/s; 2 M **Habitat:** Freshwater (Pond water) **Gene data:** 18S rRNA (AB240963); Nuclear actin (AB126024) **Other strain no.:** #00171 **References:** 86, 1248

Chroomonas coerulea (Geitler) Skuja

Syn. *Cryptomonas coerulea* Geitler

713 **History:** < Erata, Mayumi **Locality:** Sugadaira Moor/Nagano/Japan (1985-11-10) **Isolator:** Erata, Mayumi **Identified by:** Erata, Mayumi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 15°C; 8-15µmol/m²/s; 2 M **Habitat:** Freshwater (Bog water) **Other strain no.:** #00191 **References:** 84, 86

714 **History:** < Erata, Mayumi **Locality:** Sugadaira Moor/Nagano/Japan (1985-11-10) **Isolator:** Erata, Mayumi **Identified by:** Erata, Mayumi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 15°C; 8-15µmol/m²/s; 2 M **Habitat:** Freshwater (Bog water) **Other strain no.:** #00217 **References:** 84, 86, 87

1004 **History:** < Moriya, Mayumi **Locality:** Bibi River/Hokkaido/Japan (1999-11-**) **Isolator:** Moriya, Mayumi **Identified by:** Moriya, Mayumi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 15°C; 20-30µmol/m²/s; 2 M **Habitat:** Freshwater (River water) **Other strain no.:** #74

Chroomonas collegionis Butcher

703 **History:** < Erata, Mayumi < Hara, Yoshiaki < CCAP **Other collection strain no.:** CCAP 978/11 **Locality:** River Thames/Essex/U.K. (1961-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 15°C; 20-30µmol/m²/s; 1 M **Habitat:** Brackish water **Characteristics:** Authentic strain **Other strain no.:** M08

Chroomonas dispersa Butcher

704 **History:** < Erata, Mayumi < Hara, Yoshiaki < CCAP **Other collection strain no.:** CCAP 978/10 **Locality:** Bristol Channel/U.K. (1960-08-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 15°C; 20-30µmol/m²/s; 1 M **Habitat:** Marine **Characteristics:** Authentic strain **Gene data:** 18S rRNA (AB240961) **Other strain no.:** M09

Chroomonas mesostigmatica Butcher

1370 **History:** < TKB **Locality:** Isonoura Beach/Wakayama/Japan (2004-02-09) **Isolator:** Kai, Atsushi **Identified by:** Kai, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2 + NH₄Cl; 20°C; 15-22µmol/m²/s; 1 M **Habitat:** Marine (Sand and seawater) **Other strain no.:** TKB-112 (AK-13)

Chroomonas nordstedtii Hansgirg

706 **History:** < Erata, Mayumi **Locality:** Sugadaira Moor/Nagano/Japan (1976-09-**) **Isolator:** Inouye, Isao **Identified by:** Erata, Mayumi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 15°C; 8-15µmol/m²/s; 2 M **Habitat:** Freshwater (Bog water) **Other strain no.:** #00165 **References:** 84, 85, 86, 142, 1036

707 **History:** < Erata, Mayumi **Locality:** Funada-ike Pond/Chiba/Japan (1985-09-**) **Isolator:** Erata, Mayumi **Identified by:** Erata, Mayumi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 15°C; 8-15µmol/m²/s; 2 M **Habitat:** Freshwater (Pond water) **Other strain no.:** #00173 **References:** 86, 87

- 708** **History:** < Erata, Mayumi **Locality:** Hokkaido University/Hokkaido/Japan (1987-09-24) **Isolator:** Erata, Mayumi **Identified by:** Erata, Mayumi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 15°C; 8-15µmol/m²/s; 2 M **Habitat:** Freshwater (Pond water) **Gene data:** 18S rRNA (AB240962); 28S rRNA (HE820916); Nuclear actin (AB126023) **Other strain no.:** #00324 **Reference:** 86
- 709** **History:** < Erata, Mayumi **Locality:** Hokkaido University/Hokkaido/Japan (1987-09-24) **Isolator:** Erata, Mayumi **Identified by:** Erata, Mayumi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 15°C; 8-15µmol/m²/s; 2 M **Habitat:** Freshwater (Pond water) **Other strain no.:** #00330 **Reference:** 86
- 710** **History:** < Erata, Mayumi **Locality:** Hokkaido University/Hokkaido/Japan (1987-09-24) **Isolator:** Erata, Mayumi **Identified by:** Erata, Mayumi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 15°C; 8-15µmol/m²/s; 2 M **Habitat:** Freshwater (Pond water) **Other strain no.:** #00331 **Reference:** 86
- 711** **History:** < Erata, Mayumi **Locality:** Mitsukaido/Ibaraki/Japan (1987-01-17) **Isolator:** Suda, Shoichiro **Identified by:** Erata, Mayumi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 15°C; 8-15µmol/m²/s; 2 M **Habitat:** Freshwater (Sediment) **Other strain no.:** #00354

Chroomonas placoidea Butcher

- 705** **History:** < Erata, Mayumi < Hara, Yoshiaki < CCAP **Other collection strain no.:** CCAP 978/8 **Locality:** Yorkshire/U.K. (1959-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 15°C; 20-30µmol/m²/s; 1 M **Habitat:** Marine **Characteristics:** Authentic strain **Other strain no.:** M11 **Reference:** 85

Chroomonas sp.

- 2331** **History:** < Hatakeyama, Noriko **Locality:** Naka River/Ibaraki/Japan (1992-04-14) **Isolator:** Hatakeyama, Noriko **Identified by:** Hatakeyama, Noriko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; WESM; 20°C; 15-27µmol/m²/s; 2 M **Habitat:** Brackish water (Sediment) **Other strain no.:** NAK-1

CHRYSOCHROMULINA : Prymnesiophyceae*Chrysochromulina hirta* Manton

- 741** **History:** < Kawachi, Masanobu **Locality:** Chiba Harbor/Chiba/Japan (1986-06-23) **Isolator:** Kawachi, Masanobu **Identified by:** Kawachi, Masanobu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 15 °C ; 35-50µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Characteristics:** Mixotrophic; Phagotrophic **Other strain no.:** CH1 **Reference:** 142

Chrysochromulina parva Lackey

- 562** **History:** < Hatakeyama, Noriko **Locality:** inside NIES/Ibaraki/Japan (1992-02-13) **Isolator:** Hatakeyama, Noriko **Identified by:** Kawachi, Masanobu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 15°C; 35-50µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water)

Chrysochromulina quadrikonta Kawachi et Inouye

- 998** **History:** < Kawachi, Masanobu **Locality:** off Uramura/Mie/Japan (2001-01-12) **Isolator:** Hata, Naotsugu **Identified by:** Inouye, Isao **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MNK; 20°C; 20-30µmol/m²/s; 14 D **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Other strain no.:** CQ13T

Chrysochromulina simplex Estep, Davis, Hargraves et Sieburth

- 1392** **History:** < TKB **Locality:** Chiba Harbor/Chiba/Japan (2004-07-**) **Isolator:** Nakayama, Takeshi **Identified by:** Nakayama, Takeshi **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** mIMR; 20°C; 15-22µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** TKB-129 (nak23)

Chrysochromulina sp.

- 1333** **History:** < TKB **Locality:** Tokyo Bay/Japan (2003-10-16) **Isolator:** Okamoto, Noriko **Identified by:** Okamoto, Noriko **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** ESM; 20°C; 40-50µmol/m²/s; 14 D **Habitat:** Marine (Seawater) **Characteristics:** Prey for *Kathablepharis japonica* (NIES-1334) and *Leucocryptos marina* (NIES-1335) **Gene data:** 18S rRNA (DQ980478); β-tubulin (AB194979) **Other strain no.:** TKB-079 (nrc063) **References:** 392, 799
- 1391** **History:** < TKB **Locality:** Tokyo Bay/Tokyo/Japan (2003-08-**) **Isolator:** Yoshida, Masaki **Identified by:** Yoshida, Masaki (2003-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** WESM; 20°C; 40-50µmol/m²/s; 2 M **Habitat:** Marine (Seawater) **Other strain no.:** TKB-210 (ym-12)
- 2506** **History:** < Inouye, Isao **Locality:** Ashikita Beach/Kumamoto/Japan (2006-03-26) **Isolator:** Chikuni, Tomoko **Identified by:** Chikuni, Tomoko (2006-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** IMK; 20°C; 10-15µmol/m²/s; 14 D **Habitat:** Marine (Seawater) **Other strain no.:** TKB-348

CHRYSOCULTER : Prymnesiophyceae

Chrysoculter rhomboideus Nakayama, Yoshida, Noël, Kawachi et Inouye

- 1874** **History:** < Nakayama, Takeshi **Locality:** Okumatsushima/Miyagi/Japan (1998-10-**) **Isolator:** Nakayama, Takeshi **Identified by:** Nakayama Takeshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MNK; 20 °C ; 22-32µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Characteristics:** Authentic strain **Other strain no.:** TKB-54 **Reference:** 660

CHRYSOPHAEUM : Pelagophyceae

Chrysophaeum taylorii Lewis et Bryan

- 1699** **History:** < Honda, Daiske **Locality:** Iriomote Isl., Funaura/Okinawa/Japan (2000-08-04) **Isolator:** Fukaya, Sachiko **Identified by:** Fukaya, Sachiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MNK; 20°C; 25-40µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** SEK-105
- 1700** **History:** < Honda, Daiske **Locality:** Guam Isl., Agat Bay, Haps Reef/U.S.A. (2001-05-13) **Isolator:** Fukaya, Sachiko **Identified by:** Fukaya, Sachiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MNK; 20°C; 25-40µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** SEK-109

CLOSTERIUM : Charophyceae

Closterium acerosum Ehrenberg ex Ralfs

- 124** **History:** < Watanabe, Masayuki **Locality:** Daramshara/Nepal (1965-10-25) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C; 20°C; 8-15µmol/m²/s; 3 M (20°C; 15-27µmol/m²/s) **Habitat:** Freshwater (Pond sediment) **Other strain no.:** N-20-1 **References:** 229, 567
- 125** **History:** < Watanabe, Masayuki **Locality:** Rukumkot/Nepal (1965-10-29) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 20°C; 8-15µmol/m²/s; 3 M (20°C; 15-27µmol/m²/s) **Habitat:** Freshwater (Pond sediment) **Gene data:** 18S rRNA (AF352230) **Other strain no.:** N-25-22 **References:** 66, 229, 567
- 127** **History:** < IAM (1983) **Other collection strain no.:** IAM C-435 **Locality:** Sapporo/Hokkaido/Japan **Isolator:** Nishihama, Yuji **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 20 °C ; 8-15µmol/m²/s; 3 M (20 °C ; 15-27µmol/m²/s) **Habitat:** Freshwater (Stream sediment) **Characteristics:** Homothallic **Other strain no.:** H-2-2 **References:** 229, 235, 567
- 448** **History:** < IAM (1983) **Other collection strain no.:** IAM C-314; UTEX 1075 **Locality:** Japan **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 20°C; 8-15µmol/m²/s; 3 M (20°C;

15-27 $\mu\text{mol}/\text{m}^2/\text{s}$) **Habitat:** Freshwater **References:** 235, 567

Closterium aciculare T.West var. *subpronum* W. et G.S. West

258 **History:** < Watanabe, Makoto M. **Locality:** Lake Biwa/Shiga/Japan (1983-12-13) **Isolator:** Watanabe, Makoto M. **Identified by:** Watanabe, Makoto M. **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** CA; 20°C; 32-40 $\mu\text{mol}/\text{m}^2/\text{s}$; 2 M **Habitat:** Freshwater (Lake water) **Characteristics:** Other water bloom; Heterothallic; Mating type(+); Crosses with NIES-259 and 260 **Other strain no.:** Bca-25 **Reference:** 55

259 **History:** < Watanabe, Makoto M. **Locality:** Lake Biwa/Shiga/Japan (1983-12-13) **Isolator:** Watanabe, Makoto M. **Identified by:** Watanabe, Makoto M. **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** CA; 20°C; 32-40 $\mu\text{mol}/\text{m}^2/\text{s}$; 2 M **Habitat:** Freshwater (Lake water) **Characteristics:** Other water bloom; Heterothallic; Mating type(-); Crosses with NIES-258 **Other strain no.:** Bca-26 **Reference:** 567

Closterium calosporum Wittrock var. *calosporum*

271 **History:** < IAM (1983) **Other collection strain no.:** IAM C-318 **Locality:** Vermont/U.S.A. **Isolator:** Cook, P. W. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 8-15 $\mu\text{mol}/\text{m}^2/\text{s}$; 3 M (20°C; 22-32 $\mu\text{mol}/\text{m}^2/\text{s}$) **Habitat:** Freshwater (Pool soil) **Gene data:** 18S rRNA (AF352225) **References:** 66, 235, 241, 567, 1137, 1138

Closterium calosporum Wittrock var. *galiciense* Gutwinski

128 **History:** < Watanabe, Masayuki **Locality:** Ibaraki/Japan **Isolator:** Watanabe, Makoto M. **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Axenic **Culture conditions:** CA; 20°C; 8-15 $\mu\text{mol}/\text{m}^2/\text{s}$; 3 M (20°C; 22-32 $\mu\text{mol}/\text{m}^2/\text{s}$) **Habitat:** Freshwater (Paddy soil) **Characteristics:** Heterothallic; Mating type(-); Crosses with NIES-162 **Other strain no.:** IB-21-20 **Reference:** 567

162 **History:** < Watanabe, Masayuki **Locality:** Ibaraki/Japan **Isolator:** Watanabe, Makoto M. **Identified by:** Watanabe, Makoto M. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CA; 20°C; 8-15 $\mu\text{mol}/\text{m}^2/\text{s}$; 3 M (25°C; 60-70 $\mu\text{mol}/\text{m}^2/\text{s}$) **Habitat:** Freshwater (Paddy soil) **Characteristics:** Heterothallic; Mating type(+); Crosses with NIES-128, 163 and 168 **Other strain no.:** IB-21-21 **Reference:** 567

163 **History:** < IAM (1983) **Other collection strain no.:** IAM C-455 **Locality:** Ginama/Okinawa/Japan (1973-06-15) **Isolator:** Ichimura, Terunobu **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Axenic **Culture conditions:** CA; 20°C; 8-15 $\mu\text{mol}/\text{m}^2/\text{s}$; 3 M (20°C; 22-32 $\mu\text{mol}/\text{m}^2/\text{s}$) **Habitat:** Freshwater (Paddy soil) **Characteristics:** Heterothallic; Mating type(-); Crosses with NIES-162, 164 and 165 **Other strain no.:** R-5-3 **References:** 241, 567, 1137, 1138

164 **History:** < IAM (1983) **Other collection strain no.:** IAM C-454 **Locality:** Ginama/Okinawa/Japan (1973-06-15) **Isolator:** Ichimura, Terunobu **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CA; 20°C; 8-15 $\mu\text{mol}/\text{m}^2/\text{s}$; 3 M (20°C; 22-32 $\mu\text{mol}/\text{m}^2/\text{s}$) **Habitat:** Freshwater (Paddy soil) **Characteristics:** Heterothallic; Mating type(+); Crosses with NIES-163 and 166 **Other strain no.:** R-5-2 **References:** 241, 567, 1137, 1138

165 **History:** < IAM (1983) **Other collection strain no.:** IAM C-457 **Locality:** Iriomote Isl./Okinawa/Japan (1973-03-25) **Isolator:** Ichimura, Terunobu **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Axenic **Culture conditions:** CA; 20°C; 8-15 $\mu\text{mol}/\text{m}^2/\text{s}$; 3 M (25°C; 60-70 $\mu\text{mol}/\text{m}^2/\text{s}$) **Habitat:** Freshwater (Paddy soil) **Characteristics:** Heterothallic; Mating type(+); Crosses with NIES-163, 166 and 168 **Gene data:** 18S rRNA (AF352239) **Other strain no.:** R-11-6 **References:** 66, 241, 567, 1137, 1138

166 **History:** < Watanabe, Masayuki **Locality:** Kagawa/Japan (1974-09-**) **Isolator:** Ichimura, Terunobu **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Axenic **Culture conditions:** CA; 20°C; 8-15 $\mu\text{mol}/\text{m}^2/\text{s}$; 3 M (20°C; 22-32 $\mu\text{mol}/\text{m}^2/\text{s}$) **Characteristics:** Heterothallic; Mating type(-); Crosses with NIES-164, 165 and 167 **Other strain no.:** J5-56-11 **Reference:** 567

- 167** **History:** < Watanabe, Masayuki **Locality:** Kagawa/Japan (1974-09-**) **Isolator:** Ichimura, Terunobu **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Axenic **Culture conditions:** CA; 20 °C ; 8-15µmol/m²/s; 3 M (20 °C ; 22-32µmol/m²/s) **Characteristics:** Heterothallic: Mating type(+); Crosses with NIES-166 **Other strain no.:** J5-56-12 **Reference:** 567
- 168** **History:** < Watanabe, Masayuki **Locality:** Iriomote Isl./Okinawa/Japan (1973-03-**) **Isolator:** Ichimura, Terunobu **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Axenic **Culture conditions:** CA; 20°C; 8-15µmol/m²/s; 3 M (20°C; 22-32µmol/m²/s) **Habitat:** Freshwater (Paddy soil) **Characteristics:** Heterothallic: Mating type(-); Crosses with NIES-165 **Other strain no.:** R-11-5 **References:** 241, 567, 1137, 1138

Closterium calosporum Wittrock var. *himalayense* M.Watanabe

- 169** **History:** < Watanabe, Masayuki **Locality:** Shewaden/Nepal (1972-06-**) **Isolator:** Watanabe, Makoto M. **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Axenic **Culture conditions:** CA; 20°C; 8-15µmol/m²/s; 3 M (20°C; 22-32µmol/m²/s) **Habitat:** Freshwater (Stream sediment) **Characteristics:** Homothallic **Other strain no.:** N-134-5 **References:** 567, 1137, 1138
- 170** **History:** < Watanabe, Masayuki **Locality:** Suke/Nepal (1972-06-**) **Isolator:** Watanabe, Makoto M. **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CA; 20°C; 8-15µmol/m²/s; 3 M (20°C; 22-32µmol/m²/s) **Habitat:** Freshwater (Pond sediment) **Characteristics:** Homothallic **Gene data:** 18S rRNA (AF352229) **Other strain no.:** N-143-19 **References:** 66, 567
- 171** **History:** < Watanabe, Masayuki **Locality:** Suke/Nepal (1972-06-**) **Isolator:** Watanabe, Makoto M. **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CA; 20°C; 8-15µmol/m²/s; 3 M (20°C; 22-32µmol/m²/s) **Habitat:** Freshwater (Pond sediment) **Characteristics:** Homothallic **Other strain no.:** N-147-3 **References:** 357, 567, 1137
- 336** **History:** < Watanabe, Masayuki **Locality:** Suke/Nepal (1972-06-**) **Isolator:** Watanabe, Makoto M. **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Axenic **Culture conditions:** CA; 22°C; 60-70µmol/m²/s; 2 M **Habitat:** Freshwater (Pond sediment) **Characteristics:** Homothallic **Other strain no.:** N-147-12 **References:** 567, 1137

Closterium ehrenbergii Meneghini ex Ralfs

- 228** **History:** < Ichimura, Terunobu **Locality:** Ebina/Kanagawa/Japan (1975-12-04) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C; 20°C; 8-15µmol/m²/s; 3 M (25°C; 60-70µmol/m²/s) **Habitat:** Freshwater (Paddy soil) **Characteristics:** Heterothallic; Mating type(+); Mating group B; Crosses with NIES-229 **Gene data:** 18S rRNA (AY148818); 5.8S-ITS2-28S (AY148895); cdip-1 mRNA (AB066448) **Other strain no.:** KK-33-1 **References:** 54, 67, 116, 117, 118, 119, 191, 232, 233, 236, 237, 239, 259, 357, 358, 396, 567, 756, 891, 917, 956
- 229** **History:** < Ichimura, Terunobu **Locality:** Ebina/Kanagawa/Japan (1975-12-04) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C; 20°C; 8-15µmol/m²/s; 3 M (20°C; 15-27µmol/m²/s) **Habitat:** Freshwater (Paddy soil) **Characteristics:** Heterothallic; Mating type(-); Mating group B; Crosses with NIES-228 **Gene data:** 18S rRNA (AY148821); 5.8S-ITS2-28S (AY148898); scdip-1mRNA (AB066448) **Other strain no.:** KK-33-6 **References:** 54, 67, 116, 117, 118, 119, 191, 232, 233, 236, 237, 239, 357, 358, 567, 756, 757, 917

Closterium gracile Brébisson ex Ralfs

- 179** **History:** < IAM (1983) **Other collection strain no.:** IAM C-444 (=C-570) **Locality:** Kathmandu/Nepal (1968-05-18) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Axenic **Culture conditions:** CA; 20°C; 8-15µmol/m²/s; 3 M (20°C; 15-27µmol/m²/s) **Habitat:** Freshwater (Sediment) **Characteristics:** Heterothallic: Mating type(+); Crosses with NIES-180 **Other strain no.:** N-90-58 **References:** 228, 229, 235, 567
- 180** **History:** < IAM (1983) **Other collection strain no.:** IAM C-445 (=C-571) **Locality:** Kathmandu/Nepal (1968-05-18) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CA; 20°C; 8-15µmol/m²/s; 3 M (20°C;

15-27 $\mu\text{mol}/\text{m}^2/\text{s}$) **Habitat:** Freshwater (Sediment) **Characteristics:** Heterothallic: Mating type(-); Crosses with NIES-179 **Gene data:** 18S rRNA (AF352227); 18S rRNA (AF352237) **Other strain no.:** N-90-59 **References:** 66, 228, 229, 235, 567

Closterium incurvum Brébisson

181 **History:** < IAM (1983) **Other collection strain no.:** IAM C-438 (=C-572) **Locality:** Dhorpatan/Nepal (1965-11-09) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CA; 20°C; 8-15 $\mu\text{mol}/\text{m}^2/\text{s}$; 3 M (20°C; 22-32 $\mu\text{mol}/\text{m}^2/\text{s}$) **Habitat:** Freshwater (Sphagnum) **Characteristics:** Homothallic **Gene data:** 18S rRNA (AF352231) **Other strain no.:** N-34-2 **References:** 66, 228, 229, 235, 567

337 **History:** < Watanabe, Masayuki **Locality:** Nawakot/Nepal (1965-10-12) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** CA; 20°C; 8-15 $\mu\text{mol}/\text{m}^2/\text{s}$; 3 M (20°C; 22-32 $\mu\text{mol}/\text{m}^2/\text{s}$) **Habitat:** Freshwater (Pond water) **Characteristics:** Homothallic **Other strain no.:** N-12-92 **References:** 229, 567

Closterium moniliferum Ehrenberg ex Ralfs var. *moniliferum*

172 **History:** < Watanabe, Masayuki **Locality:** Nepal **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** C; 20°C; 8-15 $\mu\text{mol}/\text{m}^2/\text{s}$; 3 M (20°C; 22-32 $\mu\text{mol}/\text{m}^2/\text{s}$) **Characteristics:** Homothallic **Gene data:** 18S rRNA (AY148874); 18S rRNA (AY148875); 5.8S-ITS2-28S (AY148948) **Other strain no.:** N-100-1 **References:** 67, 567

173 **History:** < IAM (1983) **Other collection strain no.:** IAM C-432 (=C-573) **Locality:** Kitamoto/Saitama/Japan (1969-01-**) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 20°C; 8-15 $\mu\text{mol}/\text{m}^2/\text{s}$; 3 M (20°C; 15-27 $\mu\text{mol}/\text{m}^2/\text{s}$) **Habitat:** Freshwater (Paddy soil) **Characteristics:** Homothallic **Gene data:** 5.8S-ITS2-28S (AY148950) **Other strain no.:** S-1-22 **References:** 67, 228, 235, 567

174 **History:** < Watanabe, Masayuki **Locality:** Ghorepani/Nepal (1965-12-02) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C; 20°C; 8-15 $\mu\text{mol}/\text{m}^2/\text{s}$; 3 M (20°C; 15-27 $\mu\text{mol}/\text{m}^2/\text{s}$) **Habitat:** Freshwater (Pond sediment) **Characteristics:** Homothallic **Gene data:** 18S rRNA (AF352233); 5.8S-ITS2-28S (AY148949) **Other strain no.:** N-76-30 **References:** 66, 67, 229, 567

Closterium moniliferum Ehrenberg ex Ralfs var. *submoniliferum* (Woronichin) Krieger

182 **History:** < IAM (1983) **Other collection strain no.:** IAM C-433 **Locality:** Kitamoto/Saitama/Japan (1969-01-**) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 20°C; 8-15 $\mu\text{mol}/\text{m}^2/\text{s}$; 3 M (20°C; 15-27 $\mu\text{mol}/\text{m}^2/\text{s}$) **Habitat:** Freshwater (Sediment) **Characteristics:** Heterothallic: Mating type(+); Crosses with NIES-183 **Gene data:** 18S rRNA (AY148869); 18S rRNA (AY148870); 5.8S-ITS2-28S (AY148940) **Other strain no.:** S-1-13 **References:** 67, 229, 235, 567, 941

183 **History:** < IAM (1983) **Other collection strain no.:** IAM C-434 (=C-574) **Locality:** Kitamoto/Saitama/Japan (1969-01-**) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C; 20°C; 8-15 $\mu\text{mol}/\text{m}^2/\text{s}$; 3 M (20°C; 15-27 $\mu\text{mol}/\text{m}^2/\text{s}$) **Habitat:** Freshwater (Sediment) **Characteristics:** Heterothallic: Mating type(-); Crosses with NIES-182 **Gene data:** 18S rRNA (AY148871); 18S rRNA (AY148872); 5.8S-ITS2-28S (AY148942) **Other strain no.:** S-1-24 **References:** 67, 228, 229, 235, 567

Closterium navicula (Brébisson) Lütkemüller

175 **History:** < IAM (1983) **Other collection strain no.:** IAM C-443 (=C-575) **Locality:** Chingkhola/Nepal (1965-11-18) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 8-15 $\mu\text{mol}/\text{m}^2/\text{s}$; 3 M (20°C; 22-32 $\mu\text{mol}/\text{m}^2/\text{s}$) **Habitat:** Freshwater (Paddy soil) **Characteristics:** Homothallic **Gene data:** 18S rRNA (AF352232) **Other strain no.:** N-49-7 **References:** 66, 228, 229, 235, 567

176 **History:** < Watanabe, Masayuki **Locality:** Ghorepani/Nepal (1965-12-02) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 20°C; 8-15 $\mu\text{mol}/\text{m}^2/\text{s}$; 3 M (20°C; 22-32 $\mu\text{mol}/\text{m}^2/\text{s}$) **Habitat:** Freshwater (Paddy soil) **Characteristics:** Homothallic **Other strain no.:** N-75-10 **References:** 229, 567

177 **History:** < Watanabe, Masayuki **Locality:** Billethadi/Nepal (1965-12-03) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CA; 20°C; 8-15µmol/m²/s; 3 M (20°C; 22-32µmol/m²/s) **Habitat:** Freshwater (Pond sediment) **Characteristics:** Homothallic **Other strain no.:** N-79-26 **References:** 229, 567

178 **History:** < Watanabe, Masayuki **Locality:** Shewaden/Nepal (1972-06-**) **Isolator:** Watanabe, Makoto M. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CA; 20°C; 8-15µmol/m²/s; 3 M (20°C; 22-32µmol/m²/s) **Habitat:** Freshwater (Stream sediment) **Other strain no.:** N-134-15 **Reference:** 567

Closterium peracerosum-strigosum-littorale complex

51 **History:** < Watanabe, Makoto M. **Locality:** Katsuta/Ibaraki/Japan (1974-08-**) **Isolator:** Watanabe, Makoto M. **Identified by:** Watanabe, Makoto M. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CA; 15°C; 10-18µmol/m²/s; 3 M (20°C; 22-32µmol/m²/s) **Habitat:** Freshwater (Paddy water) **Characteristics:** Heterothallic: Mating type(+); Mating group II A **Other strain no.:** IB-4-2 **References:** 567, 1147, 1152, 1153, 1154

52 **History:** < Watanabe, Makoto M. **Locality:** Katsuta/Ibaraki/Japan (1974-08-**) **Isolator:** Watanabe, Makoto M. **Identified by:** Watanabe, Makoto M. **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 15°C; 10-18µmol/m²/s; 3 M (20°C; 22-32µmol/m²/s) **Habitat:** Freshwater (Paddy water) **Characteristics:** Heterothallic: Mating type(-); Mating group II A **Gene data:** 18S rRNA (AF352226) **Other strain no.:** IB-4-9 **References:** 66, 567, 941, 1147, 1152, 1153, 1154

53 **History:** < Watanabe, Makoto M. **Locality:** Katsuta/Ibaraki/Japan (1974-08-**) **Isolator:** Watanabe, Makoto M. **Identified by:** Watanabe, Makoto M. **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 15°C; 10-18µmol/m²/s; 3 M (20°C; 22-32µmol/m²/s) **Habitat:** Freshwater (Paddy water) **Characteristics:** Heterothallic: Mating type(+); Mating group II A **Other strain no.:** IB-6-8 **References:** 567, 1147, 1152, 1153, 1154

54 **History:** < Watanabe, Makoto M. **Locality:** Katsuta/Ibaraki/Japan (1974-08-**) **Isolator:** Watanabe, Makoto M. **Identified by:** Watanabe, Makoto M. **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 15°C; 10-18µmol/m²/s; 3 M (20°C; 22-32µmol/m²/s) **Habitat:** Freshwater (Paddy water) **Characteristics:** Heterothallic: Mating type(-); Mating group II A **Other strain no.:** IB-6-9 **References:** 567, 1147, 1152, 1153

55 **History:** < Watanabe, Makoto M. **Locality:** Katsuta/Ibaraki/Japan (1975-05-**) **Isolator:** Watanabe, Makoto M. **Identified by:** Watanabe, Makoto M. **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 15°C; 10-18µmol/m²/s; 3 M (20°C; 22-32µmol/m²/s) **Habitat:** Freshwater (Paddy water) **Characteristics:** Heterothallic: Mating type(-); Mating group II C **Other strain no.:** IB-8-15 **References:** 567, 1147, 1152, 1153

56 **History:** < Watanabe, Makoto M. **Locality:** Katsuta/Ibaraki/Japan (1975-05-**) **Isolator:** Watanabe, Makoto M. **Identified by:** Watanabe, Makoto M. **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 15°C; 10-18µmol/m²/s; 3 M (20°C; 22-32µmol/m²/s) **Habitat:** Freshwater (Paddy water) **Characteristics:** Heterothallic: Mating type(-); Mating group II A **Other strain no.:** IB-8-24 **References:** 567, 838, 1147, 1152, 1153

57 **History:** < Watanabe, Makoto M. **Locality:** Katsuta/Ibaraki/Japan (1975-05-**) **Isolator:** Watanabe, Makoto M. **Identified by:** Watanabe, Makoto M. **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C; 15°C; 10-18µmol/m²/s; 3 M (20°C; 22-32µmol/m²/s) **Habitat:** Freshwater (Paddy water) **Characteristics:** Heterothallic: Mating type(+); Mating group II A **Other strain no.:** IB-8-25 **References:** 567, 838, 1147, 1152, 1153

58 **History:** < Watanabe, Makoto M. **Locality:** Mito/Ibaraki/Japan (1975-06-**) **Isolator:** Watanabe, Makoto M. **Identified by:** Watanabe, Makoto M. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C; 15°C; 10-18µmol/m²/s; 3 M (20°C; 22-32µmol/m²/s) **Habitat:** Freshwater (Paddy water) **Characteristics:** Heterothallic: Mating type(-); Mating group II A **Other strain no.:** IB-10-1 **References:** 567, 1147, 1152, 1153

59 **History:** < Watanabe, Makoto M. **Locality:** Mito/Ibaraki/Japan (1975-06-**) **Isolator:** Watanabe, Makoto M. **Identified by:** Watanabe, Makoto M. **States:** Unialgal; Clonal; Axenic **Culture**

- conditions:** C; 15°C; 10-18µmol/m²/s; 3 M (20°C; 22-32µmol/m²/s) **Habitat:** Freshwater (Paddy water) **Characteristics:** Heterothallic: Mating type(+); Mating group II A **Other strain no.:** IB-10-2 **References:** 567, 1147, 1152, 1153
- 60** **History:** < Watanabe, Makoto M. **Locality:** Mito/Ibaraki/Japan (1975-06-**) **Isolator:** Watanabe, Makoto M. **Identified by:** Watanabe, Makoto M. **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 15°C; 10-18µmol/m²/s; 3 M (20°C; 22-32µmol/m²/s) **Habitat:** Freshwater (Paddy water) **Characteristics:** Heterothallic: Mating type(+); Mating group II B **Other strain no.:** IB-12-1 **References:** 567, 1147, 1152, 1153
- 61** **History:** < Watanabe, Makoto M. **Locality:** Mito/Ibaraki/Japan (1975-06-**) **Isolator:** Watanabe, Makoto M. **Identified by:** Watanabe, Makoto M. **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 15°C; 10-18µmol/m²/s; 3 M (20°C; 22-32µmol/m²/s) **Habitat:** Freshwater (Paddy water) **Characteristics:** Heterothallic: Mating type(-); Mating group II B **Other strain no.:** IB-12-2 **References:** 567, 1147, 1152, 1153
- 62** **History:** < Watanabe, Makoto M. **Locality:** Katsuta/Ibaraki/Japan (1975-06-**) **Isolator:** Watanabe, Makoto M. **Identified by:** Watanabe, Makoto M. **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 15°C; 10-18µmol/m²/s; 3 M (20°C; 22-32µmol/m²/s) **Habitat:** Freshwater (Paddy water) **Characteristics:** Heterothallic: Mating type(+); Mating group II A **Other strain no.:** IB-13-1 **References:** 567, 1147, 1152, 1153
- 63** **History:** < Watanabe, Makoto M. **Locality:** Katsuta/Ibaraki/Japan (1975-06-**) **Isolator:** Watanabe, Makoto M. **Identified by:** Watanabe, Makoto M. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C; 15°C; 10-18µmol/m²/s; 3 M (20°C; 22-32µmol/m²/s) **Habitat:** Freshwater (Paddy water) **Characteristics:** Heterothallic: Mating type(-); Mating group II A **Other strain no.:** IB-13-2 **References:** 567, 1147, 1152, 1153
- 64** **History:** < Watanabe, Makoto M. **Locality:** Lake Kasumigaura/Ibaraki/Japan (1974-11-**) **Isolator:** Watanabe, Makoto M. **Identified by:** Watanabe, Makoto M. **States:** Unialgal; Clonal; Axenic[2012 Nov] **Culture conditions:** C; 15°C; 10-18µmol/m²/s; 3 M (20°C; 22-32µmol/m²/s) **Habitat:** Freshwater (Lake water) **Characteristics:** Heterothallic: Mating type(-); Mating group II B **Other strain no.:** KAS-4-29 **References:** 363, 364, 365, 567, 657, 917, 922, 923, 931, 1147, 1152, 1153, 1154
- 65** **History:** < Watanabe, Makoto M. **Locality:** Lake Kasumigaura/Ibaraki/Japan (1974-11-**) **Isolator:** Watanabe, Makoto M. **Identified by:** Watanabe, Makoto M. **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C; 15°C; 10-18µmol/m²/s; 3 M (20°C; 22-32µmol/m²/s) **Habitat:** Freshwater (Lake water) **Characteristics:** Heterothallic: Mating type(+); Mating group II B **Other strain no.:** KAS-4-30 **References:** 363, 364, 365, 567, 657, 917, 922, 923, 931, 1147, 1152, 1153, 1154
- 66** **History:** < Ichimura, Terunobu **Other collection strain no.:** IAM C-440 (=C-576) **Locality:** Piuthan/Nepal (1965-10-14) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C; 15°C; 10-18µmol/m²/s; 3 M (20°C; 22-32µmol/m²/s) **Habitat:** Freshwater (Pond sediment) **Characteristics:** Heterothallic: Mating type(+); Mating group IA **Other strain no.:** N-13-1 **References:** 227, 228, 229, 567, 1147
- 67** **History:** < Ichimura, Terunobu **Locality:** Damchan/Nepal (1965-11-05) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C; 15°C; 10-18µmol/m²/s; 3 M (20°C; 22-32µmol/m²/s) **Habitat:** Freshwater (Pool soil) **Characteristics:** Heterothallic: Mating type(+); Mating group I B **Gene data:** 5.8S-ITS2-28S (AB625554); CpMADS1 mRNA (AB091476); CpPI (AB012698); ESTs(cDNA) (AU294770-AU295959); PR-IP(two subunits) (AB000908); PR-IP(two subunits) (AB000909) **Other strain no.:** N-31-19 **References:** 8, 83, 229, 257, 567, 686, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 1014, 1055, 1084, 1085, 1147
- 68** **History:** < Ichimura, Terunobu **Locality:** Damchan/Nepal (1965-11-05) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 15°C; 10-18µmol/m²/s; 3 M (20°C; 22-32µmol/m²/s) **Habitat:** Freshwater (Pool soil) **Characteristics:** Heterothallic: Mating type(-); Mating group I B **Gene data:** CpMADS1

- mRNA (AB091476); CpPI (AB012698); ESTs(cDNA) (AU294770-AU295959) **Other strain no.:** N-31-24 **References:** 8, 83, 229, 257, 567, 686, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 930, 931, 932, 1055, 1084, 1085, 1147
- 69** **History:** < Watanabe, Makoto M. **Locality:** Lake Teganuma/Chiba/Japan (1974-06-**) **Isolator:** Watanabe, Makoto M. **Identified by:** Watanabe, Makoto M. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C; 15°C; 10-18µmol/m²/s; 3 M (20°C; 22-32µmol/m²/s) **Habitat:** Freshwater **Characteristics:** Heterothallic: Mating type(+); Mating group II B **Other strain no.:** TG-2-21 **References:** 567, 1147, 1152, 1153
- 70** **History:** < Watanabe, Makoto M. **Locality:** Lake Teganuma/Chiba/Japan (1974-06-**) **Isolator:** Watanabe, Makoto M. **Identified by:** Watanabe, Makoto M. **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 15°C; 10-18µmol/m²/s; 3 M (20°C; 22-32µmol/m²/s) **Habitat:** Freshwater **Characteristics:** Heterothallic: Mating type(-); Mating group II B **Other strain no.:** TG-2-22 **References:** 567, 1147, 1152, 1153
- 261** **History:** < Watanabe, Makoto M. **Locality:** Katsuta/Ibaraki/Japan (1974-08-**) **Isolator:** Watanabe, Makoto M. **Identified by:** Watanabe, Makoto M. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C; 15°C; 10-18µmol/m²/s; 3 M (20°C; 22-32µmol/m²/s) **Habitat:** Freshwater (Paddy water) **Characteristics:** Heterothallic: Mating type(+); Mating group II C **Other strain no.:** IB-8-14 **References:** 567, 1147, 1152, 1153
- 262** **History:** < Ichimura, Terunobu **Other collection strain no.:** IAM C-441(=C-577) **Locality:** Piuthan/Nepal (1965-10-14) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C; 15°C; 10-18µmol/m²/s; 3 M (20°C; 22-32µmol/m²/s) **Habitat:** Freshwater (Reservoir sediment) **Characteristics:** Heterothallic; Mating type(-); Mating group I A **Other strain no.:** N-13-4 **References:** 227, 228, 229, 567, 1147
- 2666** **History:** < Sekimoto, Hiroyuki **Locality:** Saitama/Japan (2004-08-08) **Isolator:** Tsuchikane, Yuki **Identified by:** Tsuchikane, Yuki (2004-09-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CA; 22°C; 60-70µmol/m²/s; 2 M **Habitat:** Freshwater (Water) **Characteristics:** Homothallic; Isogamy **Other strain no.:** kodama20

Closterium pleurodermatum W. et G.S. West

- 449** **History:** < IAM (1983) **Other collection strain no.:** IAM C-518 **Locality:** Iriomote Isl./Okinawa/Japan (1973-03-25) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 8-15µmol/m²/s; 3 M (25°C; 60-70µmol/m²/s) **Habitat:** Freshwater (Paddy soil) **Gene data:** 18S rRNA (AF352238) **Other strain no.:** R-11-20 **References:** 66, 567

Closterium praelongum Brébisson var. *brevius* (Nordstedt) Krieger

- 450** **History:** < IAM (1983) **Other collection strain no.:** IAM C-447 (=C-578) **Locality:** Nawakot/Nepal (1965-10-12) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Axenic **Culture conditions:** CA; 20°C; 8-15µmol/m²/s; 3 M (20°C; 22-32µmol/m²/s) **Habitat:** Freshwater (Pond sediment) **Characteristics:** Homothallic **Other strain no.:** N-12-3 **References:** 228, 229, 235, 567
- 451** **History:** < Watanabe, Masayuki **Locality:** Billethadi/Nepal (1965-12-03) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 20°C; 8-15µmol/m²/s; 3 M (20°C; 22-32µmol/m²/s) **Habitat:** Freshwater (Pond sediment) **Characteristics:** Homothallic **Other strain no.:** N-78-8 **References:** 229, 567

Closterium pusillum Hantzsch var. *maius* Raciborski

- 185** **History:** < IAM (1983) **Other collection strain no.:** IAM C-449 **Locality:** Billethadi/Nepal (1965-12-03) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20 °C ; 8-15µmol/m²/s; 3 M (20 °C ; 22-32µmol/m²/s) **Habitat:** Freshwater (Pond sediment) **Characteristics:** Heterothallic **Gene data:** 18S rRNA (AF352235) **Other strain no.:** N-79-19 **References:** 66, 229, 235, 567

Closterium rostratum Ehrenberg ex Ralfs var. *subrostratum* (Krieger) Krieger
Syn. *Closterium subrostratum* Krieger

- 338** **History:** < IAM (1983) **Other collection strain no.:** IAM C-446 (=C-579) **Locality:** Kathmandu/Nepal (1968-05-18) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Axenic **Culture conditions:** CA; 20°C; 8-15µmol/m²/s; 3 M (20°C; 15-27µmol/m²/s) **Habitat:** Freshwater (Sediment) **Characteristics:** Homothallic **Other strain no.:** N-90-55 **References:** 228, 229, 235, 567

Closterium selenastrum M.Watanabe

- 339** **History:** < Watanabe, Masayuki **Locality:** Mt.Yonahadake/Okinawa/Japan (1972-10-**) **Isolator:** Ichimura, Terunobu **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CA; 20°C; 8-15µmol/m²/s; 3 M (25°C; 60-70µmol/m²/s) **Habitat:** Freshwater (Rush field soil) **Characteristics:** Homothallic **Gene data:** 18S rRNA (AF352242) **Other strain no.:** R-9-40 **References:** 66, 241, 567, 1137, 1138
- 340** **History:** < Watanabe, Masayuki **Locality:** Mt.Yonahadake/Okinawa/Japan (1972-10-**) **Isolator:** Ichimura, Terunobu **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Axenic **Culture conditions:** CA; 20°C; 8-15µmol/m²/s; 3 M (25°C; 60-70µmol/m²/s) **Habitat:** Freshwater (Rush field soil) **Characteristics:** Homothallic **Other strain no.:** R-9-42 **References:** 241, 567, 1138

Closterium spinosporum Hodgetts var. *crassum* M.Watanabe

- 186** **History:** < Watanabe, Masayuki **Locality:** Lake Akan/Hokkaido/Japan (1973-09-**) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Axenic **Culture conditions:** CA; 20°C; 8-15µmol/m²/s; 3 M (20°C; 22-32µmol/m²/s) **Habitat:** Freshwater (Pond water) **Characteristics:** Authentic strain; Homothallic **Other strain no.:** AK-46 **References:** 241, 567, 1137, 1138
- 187** **History:** < IAM (1983) **Other collection strain no.:** IAM C-461 **Locality:** Mt.Yonahadake/Okinawa/Japan (1973-06-16) **Isolator:** Ichimura, Terunobu **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CA; 20°C; 8-15µmol/m²/s; 3 M (20°C; 22-32µmol/m²/s) **Habitat:** Freshwater (Rush field soil) **Characteristics:** Homothallic **Gene data:** 18S rRNA (AF352241) **Other strain no.:** R-9-13 **References:** 66, 241, 567, 1137, 1138
- 341** **History:** < Watanabe, Masayuki **Locality:** Mt.Yonahadake/Okinawa/Japan (1972-10-**) **Isolator:** Ichimura, Terunobu **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Axenic **Culture conditions:** CA; 20°C; 8-15µmol/m²/s; 3 M (20°C; 22-32µmol/m²/s) **Habitat:** Freshwater (Rush field soil) **Characteristics:** Homothallic **Other strain no.:** R-9-12 **References:** 241, 567, 1137, 1138

Closterium spinosporum Hodgetts var. *malaysiense* M.Watanabe

- 188** **History:** < Watanabe, Masayuki **Locality:** Penang/Malaysia (1974-01-**) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Axenic **Culture conditions:** CA; 20°C; 8-15µmol/m²/s; 3 M (20°C; 22-32µmol/m²/s) **Habitat:** Freshwater (Paddy soil) **Characteristics:** Heterothallic: Mating type(+) **Gene data:** 18S rRNA (AF352227) **Other strain no.:** M-10-1 **References:** 66, 567, 1137, 1138
- 189** **History:** < Watanabe, Masayuki **Locality:** Penang/Malaysia (1974-01-**) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Axenic **Culture conditions:** CA; 20°C; 8-15µmol/m²/s; 3 M (20°C; 22-32µmol/m²/s) **Habitat:** Freshwater (Paddy soil) **Characteristics:** Heterothallic: Mating type(-) **Other strain no.:** M-10-4 **References:** 567, 1137, 1138

Closterium spinosporum Hodgetts var. *ryukyuense* M.Watanabe

- 191** **History:** < Watanabe, Masayuki **Locality:** Iriomote Isl./Okinawa/Japan (1973-06-**) **Isolator:** Ichimura, Terunobu **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Axenic **Culture conditions:** CA; 20°C; 8-15µmol/m²/s; 3 M (20°C; 22-32µmol/m²/s) **Habitat:** Freshwater (Paddy soil) **Characteristics:** Homothallic **Gene data:** 18S rRNA (AF352240) **Other strain no.:** R-12-3 **References:** 66, 567, 1137, 1138
- 192** **History:** < Watanabe, Masayuki **Locality:** Iriomote Isl./Okinawa/Japan (1973-06-**) **Isolator:** Ichimura, Terunobu **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Axenic **Culture**

conditions: CA; 20°C; 8-15µmol/m²/s; 3 M (25°C; 60-70µmol/m²/s) **Habitat:** Freshwater (Paddy soil) **Characteristics:** Homothallic **Other strain no.:** R-12-6 **References:** 567, 1137, 1138

- 193** **History:** < Watanabe, Masayuki **Locality:** Iriomote Isl./Okinawa/Japan (1973-06-**) **Isolator:** Ichimura, Terunobu **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Axenic **Culture conditions:** CA; 20°C; 8-15µmol/m²/s; 3 M (20°C; 22-32µmol/m²/s) **Habitat:** Freshwater (Paddy soil) **Characteristics:** Homothallic; Giang cell **Other strain no.:** R-12-2G3 **References:** 567, 1137

Closterium spinosporum Hodgetts var. *spinosporum*

- 194** **History:** < Watanabe, Masayuki **Locality:** Tsukude/Aichi/Japan (1972-10-**) **Isolator:** Ichimura, Terunobu **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Axenic **Culture conditions:** CAM; 20°C; 8-15µmol/m²/s; 3 M (25°C; 60-70µmol/m²/s) **Habitat:** Freshwater (Pond water) **Characteristics:** Homothallic **Gene data:** 18S rRNA (AF352224) **Other strain no.:** A-2-22 **References:** 66, 241, 567, 1137, 1138
- 195** **History:** < Watanabe, Masayuki **Locality:** Tsukude/Aichi/Japan (1972-10-**) **Isolator:** Watanabe, Makoto M. **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CAM; 20°C; 8-15µmol/m²/s; 3 M (20°C; 22-32µmol/m²/s) **Habitat:** Freshwater (Paddy soil) **Characteristics:** Homothallic **Other strain no.:** A-7-3 **References:** 567, 1138
- 196** **History:** < Watanabe, Masayuki **Locality:** Tsukude/Aichi/Japan (1972-10-**) **Isolator:** Watanabe, Makoto M. **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CAM; 20°C; 8-15µmol/m²/s; 3 M (20°C; 22-32µmol/m²/s) **Habitat:** Freshwater (Paddy soil) **Characteristics:** Homothallic **Other strain no.:** A-7-6 **References:** 567, 1137
- 197** **History:** < Watanabe, Masayuki **Locality:** Tsukude/Aichi/Japan (1972-10-**) **Isolator:** Watanabe, Makoto M. **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CA; 20°C; 8-15µmol/m²/s; 3 M (20°C; 22-32µmol/m²/s) **Habitat:** Freshwater (Paddy soil) **Characteristics:** Homothallic **Other strain no.:** A-13-4 **References:** 567, 1137, 1138

Closterium tumidum Johnson

- 198** **History:** < IAM (1983) **Other collection strain no.:** IAM C-450 (=C-580) **Locality:** Billethadi/Nepal (1965-12-03) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C; 20°C; 8-15µmol/m²/s; 3 M (20°C; 22-32µmol/m²/s) **Habitat:** Freshwater (Pond sediment) **Characteristics:** Homothallic **Gene data:** 18S rRNA (AF352234) **Other strain no.:** N-79-11 **References:** 66, 228, 229, 235, 567

Closterium venus Kützing ex Ralfs

- 199** **History:** < Watanabe, Masayuki **Locality:** Kathmandu/Nepal (1968-**-**) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CA; 20°C; 8-15µmol/m²/s; 3 M (20°C; 22-32µmol/m²/s) **Habitat:** Freshwater (Pond sediment) **Gene data:** 18S rRNA (AF352236) **Other strain no.:** N-90-48 **References:** 66, 567

Closterium wallichii Turner

- 200** **History:** < IAM (1983) **Other collection strain no.:** IAM C-451 **Locality:** Kitamoto/Saitama/Japan (1969-01-**) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C; 20°C; 8-15µmol/m²/s; 3 M (20°C; 15-27µmol/m²/s) **Characteristics:** Homothallic **Gene data:** 18S rRNA (AF352243) **Other strain no.:** S-1-0 **References:** 66, 235, 567
- 201** **History:** < Kasai, Fumie **Locality:** Lake Kasumigaura/Ibaraki/Japan (1983-09-26) **Isolator:** Kasai, Fumie **Identified by:** Kasai, Fumie **States:** Unialgal; Clonal; Axenic [2013 Jan] **Culture conditions:** C; 20°C; 8-15µmol/m²/s; 3 M (20°C; 15-27µmol/m²/s) **Habitat:** Freshwater (Lake water) **Characteristics:** Homothallic **Other strain no.:** F60-21 **Reference:** 567
- 202** **History:** < Watanabe, Masayuki **Locality:** Ghasa/Nepal (1965-11-23) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 20°C; 8-15µmol/m²/s; 3 M (20°C; 15-27µmol/m²/s) **Habitat:** Freshwater (Sediment) **Characteristics:** Homothallic **Other strain no.:** N-63-0 **References:** 229, 567

COCCOLITHUS : Prymnesiophyceae*Coccolithus braarudii*

- 2696** **History:** < RCC (2010) **Other collection strain no.:** RCC 1200 **Locality:** South Atlantic (2000-10-01) **Isolator:** Probert, I. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** K/2; 15°C; 10-18µmol/m²/s; 14 D **Habitat:** Marine (Seawater) **Other strain no.:** AC400

COCCOMYXA : Trebouxiophyceae*Coccomyxa dispar* Schmidle

- 2252** **History:** < IAM (2007) < Ishikawa, Masako **Other collection strain no.:** IAM C-137 **Isolator:** Ishikawa, Masako **Identified by:** Fukushima, Hiroshi; Confirmed at NIES by DNA sequencing **States:** Unialgal; Clonal; Axenic[2012 Mar] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Gene data:** 18S rRNA (AB488787); 18S rRNA (AB488788) **Other strain no.:** Ishikawa U-109
- 2353** **History:** < IAM (2007) < Holm-Hansen, O. **Other collection strain no.:** IAM C-168 **Locality:** Cape Royds/Antarctica **Isolator:** Holm-Hansen, O. **Identified by:** Confirmed at NIES by DNA sequencing **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C (agar); 20 °C ; 8-15µmol/m²/s; 3 M **Habitat:** (Dried "algal mat") **Gene data:** 18S rRNA (AB488794); 18S rRNA (AB488795) **Other strain no.:** Holm-Hansen R-1

Coccomyxa sp.

- 2166** **History:** < IAM (2007) < Holm-Hansen, O. **Other collection strain no.:** IAM C-169 **Locality:** Marble Point/Antarctica **Isolator:** Holm-Hansen, O. **Identified by:** Kessler, E. (1994) **Formerly identified as:** *Chlorella vulgaris* Beijerinck; '*Chlorella*' *saccharophila* (Krüger) Migula **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Habitat:** (Dried "algal peat") **Other strain no.:** Holm-Hansen M-42-a **References:** 190, 1212 **Remarks:** Cryopreserved

COCHLODINIUM : Dinophyceae*Cochlodinium* sp.

- 2327** **History:** < Sawaguchi, Tomohiro **Locality:** Shimoda Harbor/Shizuoka/Japan (1985-05-23) **Isolator:** Sawaguchi, Tomohiro **Identified by:** Sawaguchi, Tomohiro **States:** Unialgal; Clonal; Axenic **Culture conditions:** ESM; 15°C; 15-22µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** SMHD-7 **Remarks:** Fragile species to transportation stresses

COELASTRUM : Chlorophyceae*Coelastrum astroideum* De Notaris

- 129** **History:** < TAC **Locality:** Lake Shoji/Yamanashi/Japan (1981-10-27) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 20°C; 8-15µmol/m²/s; 2 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater **Other strain no.:** TAC 56 (TAN-56-7) **Reference:** 567 **Remarks:** Cryopreserved
- 130** **History:** < TAC **Locality:** Lake Shoji/Yamanashi/Japan (1981-08-31) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 20°C; 8-15µmol/m²/s; 2 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater **Other strain no.:** TAC 51-9A (TAN-51-9A) **Reference:** 567 **Remarks:** Cryopreserved
- 244** **History:** < Watanabe, Masayuki **Locality:** Lake Kasumigaura/Ibaraki/Japan (1983-08-23) **Isolator:** Kasai, Fumie **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C (agar); 20°C; 4-10µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Lake water) **Reference:** 567 **Remarks:** Cryopreserved
- 342** **History:** < TAC **Locality:** Lake Kawaguchi/Yamanashi/Japan (1981-10-27) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture**

conditions: C; 20°C; 8-15 μ mol/m²/s; 2 M **Habitat:** Freshwater **Other strain no.:** TAC 54 (TAN-54-1) **Reference:** 567 **Remarks:** Cryopreserved

Coelastrum morus W. et G.S. West

231 **History:** < Kasai, Fumie **Locality:** Hachijo Isl./Tokyo/Japan (1984-04-18) **Isolator:** Kasai, Fumie **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 4-10 μ mol/m²/s; 3 M (25°C; 70-80 μ mol/m²/s) **Habitat:** Freshwater (Lake water) **Other strain no.:** F78-4-2 **References:** 360, 567 **Remarks:** Cryopreserved

Coelastrum proboscideum Bohlin

131 **History:** < IAM (1983) **Other collection strain no.:** IAM C-344 **Locality:** Near Tukcha/Nepal (1965-11-23) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 4-10 μ mol/m²/s; 3 M (25°C; 70-80 μ mol/m²/s) **Habitat:** Freshwater (Dry river bed) **Other strain no.:** N-63-20 **References:** 235, 567, 1159 **Remarks:** Cryopreserved

Coelastrum reticulatum (Dangeard) Senn

132 **History:** < TAC **Locality:** Lake Yamanaka/Yamanashi/Japan (1981-10-26) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 20°C; 8-15 μ mol/m²/s; 2 M (25°C; 70-80 μ mol/m²/s) **Habitat:** Freshwater **Other strain no.:** TAC 53-5A (TAN-53-5A) **Reference:** 567 **Remarks:** Cryopreserved

Coelastrum reticulatum (Dangeard) Senn var. *reticulatum*

245 **History:** < Kasai, Fumie **Locality:** Lake Kasumigaura/Ibaraki/Japan (1983-10-04) **Isolator:** Kasai, Fumie **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 4-10 μ mol/m²/s; 3 M (25°C; 70-80 μ mol/m²/s) **Habitat:** Freshwater (Lake water) **Other strain no.:** F63-3 **Reference:** 567 **Remarks:** Cryopreserved

COMPSOPOGON : Compsopogonophyceae

Compsopogon coeruleus (Balbis) Montagne

1461 **History:** < Higa, Atsushi **Locality:** Higashinire River/Ibaraki/Japan (2004-05-16) **Isolator:** Higa, Atsushi **Identified by:** Higa, Atsushi (2004-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12 μ mol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; VU **Other strain no.:** HNC2

1462 **History:** < Higa, Atsushi **Locality:** Inawashiro, Kawakami/Fukushima/Japan (2004-05-10) **Isolator:** Higa, Atsushi **Identified by:** Kumano, Shigeru (2004-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12 μ mol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; VU **Other strain no.:** KWC12 **Reference:** 142

COMPSOPOGONOPSIS : Compsopogonophyceae

Compsopogonopsis japonica Chihara

1463 **History:** < Kawachi, Masanobu **Locality:** Ishigaki Isl./Okinawa/Japan (2001-10-09) **Isolator:** Iwaki, Hiroyuki **Identified by:** Kumano, Shigeru **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12 μ mol/m²/s; 20 D **Habitat:** Freshwater **Characteristics:** Epilithic; CR+EN **Other strain no.:** ISI-1 **Reference:** 142

COOLIA : Dinophyceae

Coolia monotis Meunier

343 **History:** < Suda, Shoichiro **Locality:** Hachijo Isl./Tokyo/Japan (1984-04-17) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Axenic **Culture conditions:** ESM; 20°C; 15-22 μ mol/m²/s; 3 M **Habitat:** Marine (Seawater) **Other strain no.:** 8-1 **Remarks:** Unstable; Fragile species to transportation stresses

615 **History:** < Murata, Michio **Locality:** Motobu/Okinawa/Japan (1993-06-06) **Isolator:** Kobayashi,

Hidetaka **Identified by:** Fukuyo, Yasuo **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 20°C; 32-40µmol/m²/s; 1 M **Habitat:** Marine (Plant) **Characteristics:** Toxic **Other strain no.:** CM-01 **Remarks:** Toxic; Fragile species to transportation stresses

- 1833** **History:** < TKB **Locality:** Naha/Okinawa/Japan (2005-01-22) **Isolator:** Nakayama, Takeshi **Identified by:** Nakayama, Takeshi (2006-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 20°C; 40-50µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** TKB-260 **Remarks:** Fragile species to transportation stresses

CORYNOPLASTIS : Rhodellophyceae

Corynoplatis japonica Yokoyama, Scott, Zuccarello, Kajikawa, Hara et West

- 2662** **History:** < Yokoyama, Akiko **Locality:** Tobishima Isl./Yamagata/Japan (1997-04-09) **Isolator:** Iwataki, Mitsunori **Identified by:** Yokoyama, Akiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 13-18µmol/m²/s; 1 M **Habitat:** Marine **Characteristics:** Authentic strain **Gene data:** 18S rRNA (AB045605) **Other strain no.:** TB4-T2

COSMARIUM : Charophyceae

Cosmarium askenasyi Schmidle

- 768** **History:** < Kasai, Fumie **Locality:** near Cairns/Queensland/Australia (1988-09-01) **Isolator:** Kasai, Fumie **Identified by:** Kasai, Fumie **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 22°C; 55-70µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Lake water) **Characteristics:** Heterothallic; Crosses with NIES-769 **Other strain no.:** 88-8-37
- 769** **History:** < Kasai, Fumie **Locality:** near Cairns/Queensland/Australia (1988-09-01) **Isolator:** Kasai, Fumie **Identified by:** Kasai, Fumie **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 22°C; 55-70µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Lake water) **Characteristics:** Heterothallic; Crosses with NIES-768 **Other strain no.:** 88-8-38
- 770** **History:** < Kasai, Fumie **Locality:** near Cairns/Queensland/Australia (1988-09-01) **Isolator:** Kasai, Fumie **Identified by:** Kasai, Fumie **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 22°C; 55-70µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Lake water) **Characteristics:** Heterothallic; Crosses with NIES-771 **Other strain no.:** 88-8-39
- 771** **History:** < Kasai, Fumie **Locality:** near Cairns/Queensland/Australia (1988-09-01) **Isolator:** Kasai, Fumie **Identified by:** Kasai, Fumie **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 22°C; 55-70µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Lake water) **Characteristics:** Heterothallic; Crosses with NIES-770 **Other strain no.:** 88-8-40

Cosmarium contractum Kirchner

- 133** **History:** < TAC **Locality:** Lake Yamanaka/Yamanashi/Japan (1981-10-26) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C; 20°C; 8-15µmol/m²/s; 2 M (20°C; 15-27µmol/m²/s) **Habitat:** Freshwater **Other strain no.:** TAC 53-2 (TAN-53-2) **Reference:** 567

Cosmarium dilatatum Lütkenmüller in Järnefeld et Grönblad

- 839** **History:** < Gontcharov, A. **Locality:** Ryoanji Temple/Kyoto/Japan (1998-06-30) **Isolator:** Gontcharov, A. **Identified by:** Gontcharov, A. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C; 22°C; 55-70µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** (Freshwater) **Reference:** 127

Cosmarium hians Borge

- 452** **History:** < Watanabe, Michiko H. **Locality:** Lake Yamanaka/Yamanashi/Japan (1981-06-**) **Isolator:** Watanabe, Michiko H. **Identified by:** Watanabe, Michiko H. **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 20°C; 8-15µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Other strain no.:** YAMA-Cos-4 **Reference:** 567

COSMOCLADIUM : Charophyceae*Cosmocladium constrictum* (Archer) Archer

- 248** **History:** < Kasai, Fumie **Locality:** Lake Biwa/Shiga/Japan (1983-12-13) **Isolator:** Kasai, Fumie **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 20°C; 8-15µmol/m²/s; 3 M (20°C; 15-27µmol/m²/s) **Habitat:** Freshwater (Lake water) **Other strain no.:** F75-2 **Reference:** 567

CRYPTOGLENA : Euglenophyceae*Cryptoglena pigra* Ehrenberg

- 1407** **History:** < TKB **Locality:** Tsukuba, Kuribara/Ibaraki/Japan (2004-09-08) **Isolator:** Yubuki, Naoji **Identified by:** Yubuki, Naoji **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** URO; DY-V; 20°C; 40-50µmol/m²/s; 20 D **Habitat:** Freshwater **Other strain no.:** TKB-137 (NY0156)

Cryptoglena skujae Marin et MelkonianSyn. *Phacus agilis* Skuja

- 387** **History:** < Watanabe, Makoto M. **Locality:** Kashiwa/Chiba/Japan (1986-09-16) **Isolator:** Watanabe, Makoto M.; Ichimura, Terunobu **Identified by:** Watanabe, Makoto M. **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** MAF-6; AF-6; 20°C; 32-40µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** PhD-3 **Reference:** 143

CRYPTOMONAS : Cryptophyceae*Cryptomonas acuta* Butcher

- 697** **History:** < Erata, Mayumi < Hara, Yoshiaki < CCAP **Other collection strain no.:** CCAP 979/10 **Locality:** N.Wales/U.K. **Isolator:** Butcher, R. W. **Identified by:** Butcher, R. W. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 15°C; 20-30µmol/m²/s; 1 M **Habitat:** Marine **Characteristics:** Authentic strain **Gene data:** 18S rRNA (AB240956); Nuclear actin-1 (AB126018); Nuclear actin-2 (AB126019) **Other strain no.:** M01 **Reference:** 85

Cryptomonas irregularis Butcher

- 698** **History:** < Erata, Mayumi < Hara, Yoshiaki < CCAP **Other collection strain no.:** CCAP 979/7 **Locality:** Plymouth/Devon/U.K. (1960-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 15°C; 20-30µmol/m²/s; 1 M **Habitat:** Marine **Characteristics:** Authentic strain **Other strain no.:** M04 **Reference:** 85

Cryptomonas ovata Ehrenberg

- 274** **History:** < Ishimitsu, Mayumi **Locality:** Tsuchiura/Ibaraki/Japan (1982-10-28) **Isolator:** Ishimitsu, Mayumi **Identified by:** Ishimitsu, Mayumi **States:** Unialgal; Clonal; Axenic **Culture conditions:** VT; 15°C; 20-30µmol/m²/s; 2 M **Habitat:** Freshwater (Pond water) **Gene data:** 18S rRNA (AB073109); 18S rRNA (AB240952); CO1 (AB009419) **Other strain no.:** #00046 **References:** 142, 208, 245, 261, 284, 1034, 1248
- 275** **History:** < Ishimitsu, Mayumi **Locality:** Tsuchiura/Ibaraki/Japan (1982-09-10) **Isolator:** Ishimitsu, Mayumi **Identified by:** Ishimitsu, Mayumi **States:** Unialgal; Clonal; Axenic **Culture conditions:** VT; 15°C; 20-30µmol/m²/s; 2 M **Habitat:** Freshwater (Pond water) **Other strain no.:** #00042 **References:** 14, 284, 360, 760, 1036, 1203, 1204

Cryptomonas paramaecium (Ehrenberg) Hoef-Emden et MelkonianSyn. *Chilomonas paramecium* Ehrenberg

- 715** **History:** < Erata, Mayumi **Locality:** Sugadaira Moor/Nagano/Japan (1985-11-10) **Isolator:** Erata, Mayumi **Identified by:** Erata, Mayumi **States:** Unialgal; Clonal; Axenic[2012 Nov] **Culture conditions:** CYT; 15°C; 8-15µmol/m²/s; 2 M **Habitat:** Freshwater (Bog water) **Characteristics:** Heterotrophic **Gene data:** 18S rRNA (AB073108); 18S rRNA (AB240955) **Other strain no.:** #00210 **References:** 84, 142, 1034
- 766** **History:** < Erata, Mayumi **Locality:** Lake Jusanko/Aomori/Japan (1987-07-**) **Isolator:** Erata,

Mayumi **Identified by:** Erata, Mayumi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CYT; 15°C; 8-15µmol/m²/s; 2 M **Habitat:** Brackish water (Water) **Characteristics:** Heterotrophic **Other strain no.:** #00318

- 767 **History:** < Erata, Mayumi **Locality:** Lake Jusanko/Aomori/Japan (1987-07-**) **Isolator:** Erata, Mayumi **Identified by:** Erata, Mayumi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CYT; 15°C; 8-15µmol/m²/s; 2 M **Habitat:** Brackish water (Water) **Characteristics:** Heterotrophic **Other strain no.:** #00319

Cryptomonas platyuris Skuja

- 276 **History:** < Ishimitsu, Mayumi **Locality:** Higashihiroshima/Hiroshima/Japan (1983-08-23) **Isolator:** Ishimitsu, Mayumi **Identified by:** Ishimitsu, Mayumi **States:** Unialgal; Clonal; Axenic **Culture conditions:** VT; 10°C; 15-20µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Other strain no.:** #00096 **References:** 142, 208, 284
- 344 **History:** < Ishimitsu, Mayumi **Locality:** Higashihiroshima/Hiroshima/Japan (1983-08-23) **Isolator:** Ishimitsu, Mayumi **Identified by:** Ishimitsu, Mayumi **States:** Unialgal; Clonal; Axenic **Culture conditions:** VT; 10°C; 15-20µmol/m²/s; 2 M **Habitat:** Freshwater (Pond water) **Other strain no.:** #00103 **Reference:** 284

Cryptomonas rostratiformis Skuja

- 277 **History:** < Ishimitsu, Mayumi **Locality:** Hongo/Hiroshima/Japan (1983-10-19) **Isolator:** Ishimitsu, Mayumi **Identified by:** Ishimitsu, Mayumi **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** VT; 15°C; 20-30µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Gene data:** 18S rRNA (AB240953) **Other strain no.:** #00148 **References:** 142, 284
- 278 **History:** < Ishimitsu, Mayumi **Locality:** Hongo/Hiroshima/Japan (1983-10-19) **Isolator:** Ishimitsu, Mayumi **Identified by:** Ishimitsu, Mayumi **States:** Unialgal; Clonal; Axenic **Culture conditions:** VT; 15°C; 20-30µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Other strain no.:** #00154 **Reference:** 284
- 345 **History:** < Ishimitsu, Mayumi **Locality:** Sugadaira Moor/Nagano/Japan (1982-07-31) **Isolator:** Ishimitsu, Mayumi **Identified by:** Ishimitsu, Mayumi **States:** Unialgal; Clonal; Axenic **Culture conditions:** VT; 15°C; 20-30µmol/m²/s; 2 M **Habitat:** Freshwater (Bog water) **Other strain no.:** #00006 **Reference:** 284
- 1327 **History:** < Erata, Mayumi **Locality:** Sugadaira Moor/Nagano/Japan (1985-11-10) **Isolator:** Erata, Mayumi **Identified by:** Erata, Mayumi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** VT; 15°C; 35-50µmol/m²/s; 2 M **Habitat:** Freshwater (Bog water) **Other strain no.:** #00266

Cryptomonas tetrapyrenoidosa Skuja

- 279 **History:** < Ishimitsu, Mayumi **Locality:** Higashihiroshima, Hachihonmatsu/Hiroshima/Japan (1983-08-23) **Isolator:** Ishimitsu, Mayumi **Identified by:** Ishimitsu, Mayumi **States:** Unialgal; Clonal; Axenic **Culture conditions:** VT; 10°C; 15-20µmol/m²/s; 2 M **Habitat:** Freshwater (Pond water) **Gene data:** 18S rRNA (AM051199); 18S rRNA (AJ566183); 5.8S-ITS2-28S (AJ715455); rbcL (AM051220) **Other strain no.:** #00099 **References:** 208, 284
- 280 **History:** < Ishimitsu, Mayumi **Locality:** Sugadaira Moor/Nagano/Japan (1982-07-31) **Isolator:** Ishimitsu, Mayumi **Identified by:** Ishimitsu, Mayumi **States:** Unialgal; Clonal; Axenic **Culture conditions:** VT; 10°C; 15-20µmol/m²/s; 2 M **Habitat:** Freshwater (Bog water) **Gene data:** 18S rRNA (AB240954) **Other strain no.:** #00014 **References:** 283, 284, 360
- 281 **History:** < Ishimitsu, Mayumi **Locality:** Minamiizu/Shizuoka/Japan (1983-05-13) **Isolator:** Ishimitsu, Mayumi **Identified by:** Ishimitsu, Mayumi **States:** Unialgal; Clonal; Axenic **Culture conditions:** VT; 10°C; 15-20µmol/m²/s; 2 M **Habitat:** Freshwater (Pond water) **Other strain no.:** #00073 **References:** 284, 565
- 282 **History:** < Ishimitsu, Mayumi **Locality:** Shishizuka-ohike Pond/Ibaraki/Japan (1982-09-10) **Isolator:** Ishimitsu, Mayumi **Identified by:** Ishimitsu, Mayumi **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** VT; 15°C; 20-30µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Other strain no.:** #00056 **References:** 28, 29, 30, 142, 284, 464, 487, 488

- 346** **History:** < Ishimitsu, Mayumi **Locality:** Sugadaira Moor/Nagano/Japan (1982-07-31) **Isolator:** Ishimitsu, Mayumi **Identified by:** Ishimitsu, Mayumi **States:** Unialgal; Clonal; Axenic **Culture conditions:** VT; 10°C; 15-20µmol/m²/s; 2 M **Habitat:** Freshwater (Bog water) **Other strain no.:** #00009 **Reference:** 284
- 347** **History:** < Ishimitsu, Mayumi **Locality:** Minamiizu/Shizuoka/Japan (1983-05-13) **Isolator:** Ishimitsu, Mayumi **Identified by:** Ishimitsu, Mayumi **States:** Unialgal; Clonal; Axenic **Culture conditions:** VT; 10°C; 15-20µmol/m²/s; 2 M **Habitat:** Freshwater (Pond water) **Other strain no.:** #00072 **Reference:** 284
- 348** **History:** < Ishimitsu, Mayumi **Locality:** Higashihiroshima/Hiroshima/Japan (1983-08-23) **Isolator:** Ishimitsu, Mayumi **Identified by:** Ishimitsu, Mayumi **States:** Unialgal; Clonal; Axenic **Culture conditions:** VT; 10°C; 15-20µmol/m²/s; 2 M **Habitat:** Freshwater (Pond water) **Other strain no.:** #00109 **Reference:** 284

CYANIDIOSCHYZON : Cyanidiophyceae*Cyanidioschyzon merolae* De Luca, Taddei et Varano

- 1332** **History:** < Kuroiwa, Tsuneyoshi **Locality:** Sardinia Isl./Italy **Isolator:** Toda, Kyoko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** M-Allen; 37°C; 15-25µmol/m²/s; 2 M **Habitat:** Hot spring (Water) **Characteristics:** Acidophilic; Thermophilic **Gene data:** aladh (AB159599); atpC (AB159600); gnd (AB159595); gnd (AB159596); Hsp70 (AB095185); Hsp90 (AB095179); Hsp90 (AB095186); Mitochondrial DNA (D89861); Nuclear DNA (chromosome 1-20) (AP006483-AP006502); pgk (AB159598); Plastid DNA (AB002583); psbO (AB159597); RPB1 (AB095180); RPB1 (AB095187); RpS8b (AB095181); RpS8b (AB095188); TPI (AB095182); TPI (AB095189); VatA (AB095183); VatA (AB095190); VatB (AB095184); VatB (AB095191) **Other strain no.:** 10D **References:** 61, 142, 509, 730, 731, 732, 744, 790, 791, 793 **Remarks:** Fragile species to temperature changes
- 1804** **History:** < Tanaka, Kan **Locality:** Sardinia Isl./Italy **Isolator:** Toda, Kyoko **Identified by:** Ohnuma, Mio **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** M-Allen; 37°C; 15-25µmol/m²/s; 2 M **Habitat:** Hot spring **Characteristics:** Acidophilic; Pigmentation paler than wild type **Gene data:** Chromosome unassigned contigs (AP006600-AP006614); Mitochondrial DNA (D89861); Nuclear DNA (chromosome 1-20) (AP006483-AP006502); Plastid DNA (AB002583) **Other strain no.:** MO **Remarks:** Fragile species to temperature changes
- 1805** **History:** < Tanaka, Kan **Locality:** Sardinia Isl./Italy **Isolator:** Toda, Kyoko **Identified by:** Minoda, Ayumi **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** M-Allen (+ U); 37 °C ; 15-25µmol/m²/s; 2 M **Habitat:** Hot spring **Characteristics:** Acidophilic; Mutant (Uracil-required; 5-FOA tolerant) **Gene data:** Chromosome unassigned contigs (AP006600-AP006614); Mitochondrial DNA (D89861); Nuclear DNA (chromosome 1-20) (AP006483-AP006502); Plastid DNA (AB002583) **Other strain no.:** M4 **Remarks:** Fragile species to temperature changes
- 1806** **History:** < Tanaka, Kan **Locality:** Sardinia Isl./Italy **Isolator:** Toda, Kyoko **Identified by:** Inoue, Takayuki **States:** Unialgal; Clonal; Axenic **Culture conditions:** M-Allen (+ U); 37 °C ; 15-25µmol/m²/s; 2 M **Habitat:** Hot spring **Characteristics:** Acidophilic; Mutant (Uracil-required; 5-FOA tolerant) **Gene data:** Chromosome unassigned contigs (AP006600-AP006614); Mitochondrial DNA (D89861); Nuclear DNA (chromosome 1-20) (AP006483-AP006502); Plastid DNA (AB002583) **Other strain no.:** HUT1-1 **Remarks:** Fragile species to temperature changes

CYANIDIUM : Cyanidiophyceae*Cyanidium caldarium* (Tilden) Geitler

- 2137** **History:** < IAM (2007) < Nagashima, Hideyuki (1991) **Other collection strain no.:** IAM R-11 **Locality:** Nikko-Yumoto Hot spring/Tochigi/Japan **Isolator:** Fukuda, I. **Identified by:** Fukushima, Hiroshi; Nagashima, Hideyuki **States:** Unialgal; Clonal; Axenic[2012 Feb] **Culture conditions:** M-Allen; 37°C; 13-18µmol/m²/s; 3 M **Habitat:** Hot spring **Other strain no.:** RK-1 **References:** 140, 603, 792

CYANOPHORA : Glaucophyceae*Cyanophora paradoxa* Korshikov

- 547** **History:** < Kikuchi, Tadatoshi < UTEX **Other collection strain no.:** UTEX 555 **Locality:** U.K. **Isolator:** Pringsheim, E. G. **Identified by:** Pringsheim, E. G. **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C; 20°C; 8-15µmol/m²/s; 2 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Lake water) **Characteristics:** Alkaline water **Gene data:** FtsZ (AB183875); psaD (AJ132477) **References:** 246, 435, 713, 729, 892, 943, 1181
- 763** **History:** < Suda, Shoichiro **Locality:** Mitsukaido/Ibaraki/Japan (1987-01-17) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Axenic **Culture conditions:** CSi; 20°C; 15-22µmol/m²/s; 2 M **Habitat:** Freshwater (Soil) **Other strain no.:** S117 **Reference:** 142

Cyanophora tetracyanea Korshikov

- 764** **History:** < Suda, Shoichiro **Locality:** Mitsukaido/Ibaraki/Japan (1987-01-17) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Axenic **Culture conditions:** CSi; 20°C; 15-22µmol/m²/s; 2 M **Habitat:** Freshwater (Soil) **Other strain no.:** S118 **Reference:** 142

CYCLOTELLA : Bacillariophyceae*Cyclotella meneghiniana* Kützing

- 803** **History:** < Kasai, Fumie **Locality:** Mitsukaido/Ibaraki/Japan (1993-05-03) **Isolator:** Kasai, Fumie **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CSi; 15°C; 10-18µmol/m²/s; 1 M **Habitat:** Freshwater (River water) **Other strain no.:** 506-26 **Reference:** 356
- 804** **History:** < Kasai, Fumie **Locality:** Mitsukaido/Ibaraki/Japan (1993-05-18) **Isolator:** Kasai, Fumie **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CSi; 15°C; 10-18µmol/m²/s; 1 M **Habitat:** Freshwater (River water) **Other strain no.:** 518-39 **Reference:** 356
- 805** **History:** < Kasai, Fumie **Locality:** Mitsukaido/Ibaraki/Japan (1993-06-13) **Isolator:** Kasai, Fumie **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CSi; 15°C; 10-18µmol/m²/s; 1 M **Habitat:** Freshwater (River water) **Other strain no.:** 613-2 **Reference:** 356
- 2363** **History:** < Shirokawa, Yuka **Locality:** Arakawa River/Tokyo/Japan (2006-10-15) **Isolator:** Shirokawa, Yuka **Identified by:** Mayama, Shigeki (2006-10-15) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CSi; 20°C; 15-22µmol/m²/s; 3 M **Habitat:** Brackish water (River water) **Characteristics:** Euryhaline **Other strain no.:** HK
- 2364** **History:** < Shirokawa, Yuka **Locality:** Meguro River/Tokyo/Japan (2006-07-01) **Isolator:** Shirokawa, Yuka **Identified by:** Mayama, Shigeki (2006-10-15) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CSi; 20°C; 15-22µmol/m²/s; 3 M **Habitat:** Brackish water (River water) **Characteristics:** Euryhaline **Other strain no.:** MG
- 2365** **History:** < Shirokawa, Yuka **Locality:** Saitama/Japan (2006-07-10) **Isolator:** Shirokawa, Yuka **Identified by:** Mayama, Shigeki (2006-10-15) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CSi; 20°C; 15-22µmol/m²/s; 3 M **Habitat:** Freshwater (Lake water) **Characteristics:** Euryhaline **Other strain no.:** SR-0
- 2367** **History:** < Shirokawa, Yuka **Locality:** Saitama/Japan (2006-07-10) **Isolator:** Shirokawa, Yuka **Identified by:** Mayama, Shigeki (2006-10-15) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CSi; 20°C; 15-22µmol/m²/s; 3 M **Habitat:** Freshwater (Lake water) **Characteristics:** Euryhaline **Other strain no.:** SR-2
- 2368** **History:** < Shirokawa, Yuka **Locality:** Saitama/Japan (2006-07-10) **Isolator:** Shirokawa, Yuka **Identified by:** Mayama, Shigeki (2006-10-15) **States:** Unialgal; Clonal; Non-axenic **Culture**

conditions: CSI; 20°C; 15-22µmol/m²/s; 3 M **Habitat:** Freshwater (Lake water) **Characteristics:** Euryhaline **Other strain no.:** SR-3

CYLINDROCYSTIS : Charophyceae

Cylindrocystis brebissonii (Ralfs) De Bary var. *brebissonii*

349 History: < IAM **Other collection strain no.:** IAM C-354 **Locality:** Lake Ohnuma/Hokkaido/Japan (1967-06-15) **Isolator:** Haga, Masaru **Identified by:** Haga, Masaru **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 4 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Sediment) **Characteristics:** Homothallic **Other strain no.:** 6801-68 **Reference:** 567

Cylindrocystis crassa De Bary

2283 History: < IAM (2007) **Other collection strain no.:** IAM C-334 **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M

Cylindrocystis sp.

2284 History: < IAM (2007) **Other collection strain no.:** IAM C-630 (=C-382) **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M

2301 History: < IAM (1983) **Other collection strain no.:** IAM C-353 **Locality:** Ebetsu/Hokkaido/Japan (1967-05-24) **Isolator:** Haga, Masaru **Identified by:** Haga, Masaru **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 4 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (High moor pool soil) **Characteristics:** Homothallic **Other strain no.:** 6801-15

2302 History: < IAM (1983) **Other collection strain no.:** IAM C-351 **Locality:** Ebetsu/Hokkaido/Japan (1967-05-24) **Isolator:** Haga, Masaru **Identified by:** Haga, Masaru **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 4 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (High moor pool soil) **Characteristics:** Homothallic **Other strain no.:** 6801-01

2303 History: < IAM (1983) **Other collection strain no.:** IAM C-350 **Locality:** Lake Akan/Hokkaido/Japan (1967-03-14) **Isolator:** Haga, Masaru **Identified by:** Haga, Masaru **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 4 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Sediment) **Characteristics:** Homothallic **Other strain no.:** 6707-01

CYLINDROSPERMOPSIS : Cyanophyceae

Cylindropermopsis raciborskii (Woloszynska) Seenayya et S.Raju

930 History: < Otsuka, Shigeto **Locality:** Shinobazu-no-ike Pond/Tokyo/Japan (2000-07-04) **Isolator:** Otsuka, Shigeto **Identified by:** Otsuka, Shigeto **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CT; 25°C; 20-30µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** CYL1

991 History: < Yongmanitchai, W. **Locality:** Gonoike Pond/Ibaraki/Japan (2001-07-**) **Isolator:** Chonudomkul, D. **Identified by:** Yongmanitchai, W. **States:** Unialgal; Clonal; Axenic[2012 Feb] **Culture conditions:** CT; 23°C; 45-55µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Gene data:** 16S rRNA (AB115487) **Other strain no.:** KJA1 **Reference:** 52

992 History: < Yongmanitchai, W. **Locality:** Gonoike Pond/Ibaraki/Japan (2001-07-**) **Isolator:** Chonudomkul, D. **Identified by:** Yongmanitchai, W. **States:** Unialgal; Clonal; Axenic[2012 Feb] **Culture conditions:** CT; 23°C; 45-55µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Gene data:** 16S rRNA (AB115488) **Other strain no.:** KJA2 **Reference:** 52

993 History: < Yongmanitchai, W. **Locality:** Gonoike Pond/Ibaraki/Japan (2001-07-**) **Isolator:** Chonudomkul, D. **Identified by:** Yongmanitchai, W. **States:** Unialgal; Clonal; Axenic[2012 Feb] **Culture conditions:** CT; 23°C; 45-55µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Gene**

- data:** 16S rRNA (AB115489) **Other strain no.:** KJA3 **Reference:** 52
- 994** **History:** < CCMP **Other collection strain no.:** CCMP 1973 **Locality:** Florida/U.S.A. (1999-10-03) **Isolator:** Andersen, Robert A. **Identified by:** Andersen, Robert A. **Culture conditions:** CT; 23°C; 45-55µmol/m²/s; 1 M **Habitat:** Freshwater
- 1040** **History:** < Yongmanitchai, W. **Locality:** Shinobazu-no-ike Pond/Tokyo/Japan **Isolator:** Chonudomkul, D. **Identified by:** Yongmanitchai, W. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CT; 23°C; 45-55µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Gene data:** 16S rRNA (AB115485) **Other strain no.:** CRJ1 **Reference:** 52
- 1041** **History:** < Yongmanitchai, W. **Locality:** Shinobazu-no-ike Pond/Tokyo/Japan **Isolator:** Chonudomkul, D. **Identified by:** Yongmanitchai, W. **States:** Unialgal; Clonal; Axenic[2012 Feb] **Culture conditions:** CT; 23°C; 45-55µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Gene data:** 16S rRNA (AB115486) **Other strain no.:** CRJ2 **Reference:** 52
- 1259** **History:** < Sano, Tomoharu **Locality:** Gonoike Pond/Ibaraki/Japan (2002-08-30) **Isolator:** Sano, Tomoharu **Identified by:** Sano, Tomoharu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CT; 20°C; 45-55µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** GOU-CR-1
- 1260** **History:** < Sano, Tomoharu **Locality:** Gonoike Pond/Ibaraki/Japan (2002-08-30) **Isolator:** Sano, Tomoharu **Identified by:** Sano, Tomoharu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CT; 20°C; 45-55µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** GOU-CR-2
- 1261** **History:** < Sano, Tomoharu **Locality:** Shinobazu-no-ike Pond/Tokyo/Japan **Isolator:** Sano, Tomoharu **Identified by:** Sano, Tomoharu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CT; 20°C; 45-55µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** SHI-CR-3
- 1262** **History:** < Sano, Tomoharu **Locality:** Shinobazu-no-ike Pond/Tokyo/Japan **Isolator:** Sano, Tomoharu **Identified by:** Sano, Tomoharu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CT; 20°C; 45-55µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** SHI-CR-5

CYLINDROSPERMUM : Cyanophyceae*Cylindrospermum muscicola* Kützing

- 2102** **History:** < IAM (2007) < Ishikawa, Masako **Other collection strain no.:** IAM M-32 **Isolator:** Ishikawa, Masako **Identified by:** Fukushima, Hiroshi; Maruyama, Ko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** BG-11 (agar); 20°C; 13-18µmol/m²/s; 3 M **Other strain no.:** Ishikawa X2W-N-F

CYLINDROTHERCA : Bacillariophyceae*Cylindrotheca closterium* (Ehrenberg) Reimann et Lewin

- 1045** **History:** < Mayama, Shigeki **Locality:** Tskuba University, Shimoda Marine Research Center/Shizuoka/Japan (2001-05-10) **Isolator:** Takahashi, Yuko **Identified by:** Mayama, Shigeki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 15°C; 10-18µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Characteristics:** Epilithic

Cylindrotheca fusiformis Reimann et Lewin

- 1046** **History:** < Mayama, Shigeki < CCMP **Other collection strain no.:** CCMP 343 **States:** Unialgal **Culture conditions:** f/2; 15 °C ; 10-18µmol/m²/s; 2 M **Habitat:** Marine (Seawater) **Characteristics:** Benthic

Cylindrotheca sp.

- 1047** **History:** < Mayama, Shigeki **Locality:** Futtsu/Chiba/Japan (2001-05-28) **Isolator:** Takahashi, Yuko **Identified by:** Mayama, Shigeki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:**

f/2; 15°C; 10-18µmol/m²/s; 2 M **Habitat:** Marine (Plant) **Characteristics:** Epiphytic

DESMODESMUS : Chlorophyceae

Desmodesmus abundans (Kirchner) Hegewald

Syn. *Scenedesmus abundans* (Kirchner) Chodat

- 685** **History:** < Katagiri, Masayuki < IAM **Other collection strain no.:** IAM C-101 **Locality:** Japan **Isolator:** Lewin, Ralph A. **Identified by:** Confirmed at NIES by DNA sequencing **Formerly identified as:** *Chlorella fusca* Shihira et Krauss var. *fusca* **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C (agar); 20 °C ; 4-10µmol/m²/s; 3 M (25 °C ; 70-80µmol/m²/s) **Characteristics:** Authentic strain **References:** 424, 425, 436, 498, 499, 567, 1211

Desmodesmus serratus (Corda) Friedl et Hegewald

Syn. *Scenedesmus serratus* (Corda) Bohlin

- 97** **History:** < TAC **Locality:** Lake Shoji/Yamanashi/Japan (1981-08-31) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki; Confirmed at NIES by DNA sequencing **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 20 °C ; 4-10µmol/m²/s; 3 M (25 °C ; 70-80µmol/m²/s) **Habitat:** Freshwater (Lake water) **Other strain no.:** TAC 51-3C (TAN-51-3C) **Reference:** 567 **Remarks:** Cryopreserved

Desmodesmus sp.

- 96** **History:** < TAC **Locality:** Lake Shoji/Yamanashi/Japan (1981-08-31) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki; Re-identified at NIES by DNA sequencing **Formerly identified as:** *Scenedesmus quadricauda* (Turpin) Brébisson sensu Chodat **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 20 °C ; 4-10µmol/m²/s; 3 M (25 °C ; 70-80µmol/m²/s) **Habitat:** Freshwater (Lake water) **Gene data:** *atpB* (AB084305); *CO1* (D63658); *CO1* (AB011524); *psaB* (AB084339); *rbcL* (AB084332) **Other strain no.:** TAC 51-3B (TAN-51-3B) **References:** 188, 567, 625, 740, 1135, 1236 **Remarks:** Cryopreserved
- 2277** **History:** < IAM (2007) < Watanabe, Atsushi **Other collection strain no.:** IAM C-70 **Isolator:** Watanabe, Atsushi **Identified by:** Fukushima, Hiroshi; Re-identified at NIES by DNA sequencing **Formerly identified as:** *Scenedesmus nanus* Chodat **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M
- 2278** **History:** < IAM (2007) < Watanabe, Atsushi **Other collection strain no.:** IAM C-71 **Isolator:** Watanabe, Atsushi **Identified by:** Fukushima, Hiroshi; Re-identified at NIES by DNA sequencing **Formerly identified as:** *Scenedesmus nanus* Chodat **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M

Desmodesmus subspicatus (Chodat) Hegewald et Schmidt

Syn. *Scenedesmus gutwinskii* Chodat var. *heterospina* Bodrogközy

- 797** **History:** < Kasai, Fumie **Locality:** inside NIES/Ibaraki/Japan (1992-06-17) **Isolator:** Kasai, Fumie **Identified by:** Nakano, Taketo; Confirmed at NIES by DNA sequencing **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C; 20°C; 4-10µmol/m²/s; 4 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Pond water) **Characteristics:** Herbicide (simetryn) susceptible **Other strain no.:** B8-7 **Reference:** 354
- 798** **History:** < Kasai, Fumie **Locality:** inside NIES/Ibaraki/Japan (1992-06-17) **Isolator:** Kasai, Fumie **Identified by:** Nakano, Taketo; Confirmed at NIES by DNA sequencing **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C; 20°C; 4-10µmol/m²/s; 4 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Pond water) **Characteristics:** Herbicide (simetryn) susceptible **Other strain no.:** B8-16 **Reference:** 354
- 799** **History:** < Kasai, Fumie **Locality:** inside NIES/Ibaraki/Japan (1992-06-17) **Isolator:** Kasai, Fumie **Identified by:** Kasai, Fumie; Confirmed at NIES by DNA sequencing **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C; 20°C; 4-10µmol/m²/s; 4 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Pond water) **Characteristics:** Herbicide (simetryn) susceptible **Other strain no.:** B8-23 **Reference:** 354
- 800** **History:** < Kasai, Fumie **Locality:** inside NIES/Ibaraki/Japan (1992-06-17) **Isolator:** Kasai,

- Fumie **Identified by:** Nakano, Taketo; Confirmed at NIES by DNA sequencing **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C; 20°C; 4-10µmol/m²/s; 4 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Pond water) **Characteristics:** Herbicide (simetryn) tolerant **Other strain no.:** B3-12 **Reference:** 354
- 801** **History:** < Kasai, Fumie **Locality:** inside NIES/Ibaraki/Japan (1992-06-17) **Isolator:** Kasai, Fumie **Identified by:** Nakano, Taketo; Confirmed at NIES by DNA sequencing **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C; 20°C; 4-10µmol/m²/s; 4 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Pond water) **Characteristics:** Herbicide (simetryn) tolerant **Other strain no.:** B3-15 **Reference:** 354
- 802** **History:** < Kasai, Fumie **Locality:** inside NIES/Ibaraki/Japan (1992-06-17) **Isolator:** Kasai, Fumie **Identified by:** Nakano, Taketo; Confirmed at NIES by DNA sequencing **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C; 20°C; 4-10µmol/m²/s; 4 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Pond water) **Characteristics:** Herbicide (simetryn) tolerant **Other strain no.:** B12-2 **References:** 353, 354, 1239, 1240, 1241, 1242

DESMOTETRA : Chlorophyceae

Desmotetra delicata (S.Watanabe) S.Watanabe
Syn. *Chlorosarcinopsis delicata* S.Watanabe

- 153** **History:** < Watanabe, Shin **Locality:** Kyoto/Japan (1975-04-07) **Isolator:** Watanabe, Shin **Identified by:** Watanabe, Shin **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C (agar); 20°C; 4-10µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Terrestrial (Soil) **Characteristics:** Authentic strain **Other strain no.:** KUC3-6 **References:** 567, 1186

DEVELOPAYELLA : Bigyromonadea

Developayella elegans Tong

- 1388** **History:** < TKB **Locality:** Chiba Harbor/Chiba/Japan (2002-11-29) **Isolator:** Nakayama, Takeshi **Identified by:** Nakayama, Takeshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2 + Wheat; 15°C; 0µmol/m²/s; 20 D **Habitat:** Marine (Seawater) **Characteristics:** Heterotrophic **Other strain no.:** TKB-017 (NY0124)

DICTYOCHLOROPSIS : Trebouxiophyceae

Dictyochloropsis irregularis Nakano et Isagi

- 378** **History:** < Nakano, Taketo **Locality:** Akkeshi/Hokkaido/Japan (1982-07-25) **Isolator:** Isagi, Yuji **Identified by:** Nakano, Taketo **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 4-10µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Terrestrial (Plant (Bark of *Picea yezoensis*)) **Characteristics:** Aerial; Epiphytic **Other strain no.:** CCHU-2227 **References:** 567, 655 **Remarks:** Cryopreserved

DICTYOSPHAERIUM : Trebouxiophyceae

Dictyosphaerium pulchellum Wood

- 453** **History:** < Niiyama, Yuko **Locality:** Lake Kasumigaura/Ibaraki/Japan (1988-12-11) **Isolator:** Yanai, Takanori **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 15°C; 15-22µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Reference:** 567

DIMORPHOCOCCUS : Chlorophyceae

Dimorphococcus lunatus A.Brown

- 134** **History:** < Kasai, Fumie **Locality:** Ozegahara/Gunma/Japan (1983-08-29) **Isolator:** Kasai, Fumie **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CA; 20°C; 4-10µmol/m²/s; 2 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Bog water) **Other strain no.:** 34-5 **Reference:** 567

135 **History:** < Kasai, Fumie **Locality:** Tsuchiura/Ibaraki/Japan (1983-10-03) **Isolator:** Kasai, Fumie **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Axenic **Culture conditions:** CA; 20°C; 4-10µmol/m²/s; 2 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Pond water) **Other strain no.:** F-61-4 **References:** 567, 1159

DINOBYRON : Chrysophyceae

Dinobryon divergens Imhof

284 **History:** < Kasai, Fumie **Locality:** Lake Biwa/Shiga/Japan (1983-12-13) **Isolator:** Kasai, Fumie **Identified by:** Kasai, Fumie **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6/2; 15°C; 20-30µmol/m²/s; 4 M **Habitat:** Freshwater (Lake water) **Other strain no.:** F-75-26

DITYLUM : Bacillariophyceae

Ditylum brightwellii (T.West) Grunow et Heurck

350 **History:** < Sawaguchi, Tomohiro **Locality:** Bentsujima/Shizuoka/Japan (1985-05-23) **Isolator:** Sawaguchi, Tomohiro **Identified by:** Sawaguchi, Tomohiro **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 10°C; 6-12µmol/m²/s; 2M **Habitat:** Marine (Seawater) **Other strain no.:** KBB-10

DOCIDIUM : Charophyceae

Docidium undulatum Bailey var. *undulatum*

285 **History:** < Kasai, Fumie **Locality:** Ozegahara/Fukushima/Japan (1983-08-29) **Isolator:** Kasai, Fumie **Identified by:** Kasai, Fumie **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** SW; 20°C; 8-15µmol/m²/s; 3 M **Habitat:** Freshwater (Bog water) **Other strain no.:** 41-11

DUNALIELLA : Chlorophyceae

Dunaliella bioculata Butcher

2253 **History:** < IAM (2007) < Hara, Yoshiaki (1989) < UTEX (1983-1986) **Other collection strain no.:** IAM C-523; CCAP 19/4; UTEX LB 199; Prague 281a; SAG 19-4 **Locality:** Russia **Isolator:** Mainx, F. **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** f/2; 20 °C ; 8-15µmol/m²/s; 3 M **Habitat:** Salt water **Characteristics:** Authentic strain **References:** 33, 913, 914

Dunaliella parva Lerche

2254 **History:** < IAM (2007) < Hara, Yoshiaki (1989) < UTEX (1980?) **Other collection strain no.:** IAM C-527; UTEX 1983 **Isolator:** Ben-Amotz, A. **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** f/2; 20°C; 8-15µmol/m²/s; 3 M **Reference:** 1005

Dunaliella peircei Nicolai

2255 **History:** < IAM (2007) < Hara, Yoshiaki (1989) < UTEX (1980?) **Other collection strain no.:** IAM C-528; CCAP 19/2; SAG 19-2; UTEX LB 2192; IUCC 295 **Locality:** Lake Marina/California/U.S.A. **Isolator:** Nicolai, E. **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** f/2; 20°C; 8-15µmol/m²/s; 3 M

Dunaliella primolecta Butcher

2256 **History:** < IAM (2007) < Hara, Yoshiaki (1989) < UTEX (1980?) **Other collection strain no.:** IAM C-525; CCAP 11/34; UTEX LB 1000; SG 183.30; UTEX L 2355 **Locality:** Plymouth/Devon/U.K. **Isolator:** Gross **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** f/2; 20°C; 8-15µmol/m²/s; 3 M **References:** 794, 1249

Dunaliella salina (Dunal) Teodoresco

2257 **History:** < IAM (2007) < Hara, Yoshiaki (1990) < UTEX (1980?) **Other collection strain no.:** IAM C-522; CCAP 19/3; SAG 19-3; UTEX LB 200 **Locality:** EUN (Soviet Union) **Isolator:** Mainx, F. **States:** Unialgal; Clonal; Axenic[2012 Feb] **Culture conditions:** f/2; 20 °C ;

8-15 $\mu\text{mol}/\text{m}^2/\text{s}$; 3 M **Habitat:** Salt water **References:** 472, 1005

Dunaliella tertiolecta Butcher

2258 History: < IAM (2007) < Hara, Yoshiaki (1989) < UTEX **Other collection strain no.:** IAM C-524; UTEX LB 999; CCAP 19/6B **Locality:** Oslofjord/Norway **Isolator:** Foyn, B. **States:** Unialgal; Clonal; Axenic[2012 Feb] **Culture conditions:** f/2; 20 °C; 8-15 $\mu\text{mol}/\text{m}^2/\text{s}$; 3 M **References:** 34, 972, 1005, 1006, 1249

DYSNECTES : Metamonada incertae sedis

Dysnectes brevis Yubuki, Inagaki, Nakayama et Inouye

1843 History: < TKB **Locality:** Yamakawa Harbor/Kagoshima/Japan (2005-03-15) **Isolator:** Yubuki, Naoji **Identified by:** Yubuki, Naoji (2005-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2 + mTYGM-9 + Rice; SUY 1/10 + mTYGM-9 + Rice; 15 °C; 0 $\mu\text{mol}/\text{m}^2/\text{s}$; 1 M **Habitat:** (Seawater) **Characteristics:** Heterotrophic; Benthic; Authentic strain **Other strain no.:** TKB-272 **Reference:** 1270

ECHINOSPHAERIDIUM : Chlorophyceae

Echinospaeridium nordstedtii Lemmermann

137 History: < Kasai, Fumie **Locality:** Lake Kasumigaura/Ibaraki/Japan (1983-08-23) **Isolator:** Kasai, Fumie **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20 °C; 4-10 $\mu\text{mol}/\text{m}^2/\text{s}$; 3 M (25 °C; 70-80 $\mu\text{mol}/\text{m}^2/\text{s}$) **Habitat:** Freshwater (Lake water) **Other strain no.:** F-56-3 **References:** 360, 567, 1159

EMILIANA : Prymnesiophyceae

Emiliana huxleyi (Lohmann) Hay et Mohler

837 History: < Kawachi, Masanobu **Locality:** Great Barrier Reef/Australia (1990-11-**) **Isolator:** Inouye, Isao **Identified by:** Inouye, Isao **States:** Unialgal; Clonal; Non-axenic; Coccolith(+)[2013 Jan] **Culture conditions:** mIMR; MNK; 20 °C; 20-30 $\mu\text{mol}/\text{m}^2/\text{s}$; 20 D **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Gene data:** EhSEP2 (AB205027) **Other strain no.:** EH-2 **References:** 62, 296, 565, 746, 747, 748, 909, 910, 911, 933, 934, 935, 936, 957, 958, 961, 962 **Remarks:** Unstable

1310 History: < Kawachi, Masanobu **Locality:** South Pacific (2002-08-11) **Isolator:** Noël, Mary-Hélène **Identified by:** Noël, Mary-Hélène **States:** Unialgal; Clonal; Non-axenic; Coccolith(+/-)[2013 Jan] **Culture conditions:** ESM; 20 °C; 22-32 $\mu\text{mol}/\text{m}^2/\text{s}$; 14-20 D **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Other strain no.:** MH 9

1311 History: < Kawachi, Masanobu **Locality:** Bearing Sea (2002-08-02) **Isolator:** Noël, Mary-Hélène **Identified by:** Noël, Mary-Hélène **States:** Unialgal; Clonal; Non-axenic; Coccolith(+)[2013 Jan] **Culture conditions:** MNK; 15 °C; 10-18 $\mu\text{mol}/\text{m}^2/\text{s}$; 14-20 D **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Other strain no.:** MH 27

1312 History: < Kawachi, Masanobu **Locality:** Bearing Sea (2002-08-02) **Isolator:** Noël, Mary-Hélène **Identified by:** Noël, Mary-Hélène **States:** Unialgal; Clonal; Non-axenic; Coccolith(+)[2013 Jan] **Culture conditions:** MNK; 15 °C; 10-18 $\mu\text{mol}/\text{m}^2/\text{s}$; 14-20 D **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Other strain no.:** MH 28

1313 History: < Kawachi, Masanobu **Locality:** East China Sea (2003-08-06) **Isolator:** Noël, Mary-Hélène **Identified by:** Noël, Mary-Hélène **States:** Unialgal; Clonal; Non-axenic; Coccolith(+/-)[2013 Jan] **Culture conditions:** MNK; 20 °C; 22-32 $\mu\text{mol}/\text{m}^2/\text{s}$; 14-20 D **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Other strain no.:** MH 74

1314 History: < Kawachi, Masanobu **Locality:** East China Sea (2003-08-06) **Isolator:** Kawachi, Masanobu **Identified by:** Kawachi, Masanobu **States:** Unialgal; Clonal; Non-axenic; Coccolith(+/-)[2013 Jan] **Culture conditions:** MNK; 20 °C; 22-32 $\mu\text{mol}/\text{m}^2/\text{s}$; 14 D **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Other strain no.:** YK3-87

2697 **History:** < RCC (2010) **Other collection strain no.:** RCC 1216 **Locality:** Tasman Sea/Australia (1998-09-01) **Isolator:** Probert, I. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** K/2; 15°C; 10-18µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** AC472

EOCERCOMONAS : Sarcomonadea

Eocercomonas echina Howe et Cavalier-Smith

2449 **History:** < Bass, David **Locality:** U.K. (2006-**-**) **Isolator:** Howe, Alexis T. **Identified by:** Bass, David; Howe, Alexis T. (2008-**-**) **Culture conditions:** AF-6 + Wheat; 20 °C ; 0µmol/m²/s; 2-3 M **Habitat:** Terrestrial (Plant (Ivy leaf)) **Characteristics:** Heterotrophic; Authentic strain; Resting spore forming **Other strain no.:** IVY19 **Reference:** 32

EPIPYXIS : Chrysophyceae

Epipyxis glabra (Matvienko) Hilliard

1826 **History:** < TKB **Locality:** Hyotaro-ike Pond/Ibaraki/Japan (2004-05-**) **Isolator:** Nakayama, Takeshi **Identified by:** Nakayama, Takeshi (2004-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C ; 20-30µmol/m²/s; 2 M **Habitat:** Freshwater (Pond water) **Characteristics:** Mixotrophic **Other strain no.:** TKB-124

EREMOSPHERA : Trebouxiophyceae

Eremosphaera gigas (Archer) Fott et Kalina

379 **History:** < IAM **Other collection strain no.:** IAM C-338 **Locality:** Osaka/Japan (1968-11-10) **Isolator:** Ichimura, Terunobu **Identified by:** Nakano, Taketo **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C (agar); 20°C ; 4-10µmol/m²/s; 3 M (25°C ; 70-80µmol/m²/s) **Habitat:** Freshwater (Paddy soil) **Other strain no.:** O-2 **References:** 235, 567, 1159 **Remarks:** Cryopreserved

Eremosphaera viridis De Bary

380 **History:** < Kasai, Fumie **Locality:** Ozegahara/Fukushima/Japan (1983-08-30) **Isolator:** Kasai, Fumie **Identified by:** Nakano, Taketo **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CAM; 20°C ; 4-10µmol/m²/s; 3 M (25°C ; 70-80µmol/m²/s) **Habitat:** Freshwater (Pond water) **Other strain no.:** 43-23 **Reference:** 567

643 **History:** < Nozaki, Hisayoshi **Locality:** Miyatoko Mire/Fukushima/Japan (1992-04-27) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C ; 22-27µmol/m²/s; 2 M **Habitat:** Freshwater (Bog water) **Other strain no.:** 92-604-E-5 **Reference:** 567

644 **History:** < Nozaki, Hisayoshi **Locality:** Miyatoko Mire/Fukushima/Japan (1992-04-27) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C ; 22-27µmol/m²/s; 2 M **Habitat:** Freshwater (Bog water) **Other strain no.:** 92-604-E-3 **Reference:** 567

ESQUAMULA : Imbricatea

Esquamula lacrimiformis Shiratori, Yabuki et Ishida

2745 **History:** < Shiratori, Takashi **Locality:** Miyagi/Japan (2007-02-02) **Isolator:** Yabuki, Akinori **Identified by:** Shiratori, Takashi (2012-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20 °C ; 0µmol/m²/s; 14 D **Habitat:** Marine (Sand) **Characteristics:** Heterotrophic; Benthic **Gene data:** 18S rRNA (AB714270); 28S rRNA (AB714271) **Other strain no.:** YPF708 **Reference:** 967

EUASTRUM : Charophyceae

Euastrum diverrucosum Gontcharov et M.M. Watanabe

Syn. *Euastrum englerii* Schmidle var. *madagascariense* Bourrelly et Mangium

840 **History:** < Gontcharov, A. **Locality:** Hirosawa-ike Pond/Kyoto/Japan (1998-06-30) **Isolator:** Gontcharov, A. **Identified by:** Gontcharov, A. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CAM; 22°C; 55-70µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Pond water) **Reference:** 127

Euastrum turgidum Wallich

772 **History:** < Kasai, Fumie **Locality:** Ishigaki Isl./Okinawa/Japan (1984-03-21) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 22°C; 55-70µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Lake water) **Characteristics:** Heterothallic; Crosses with NIES-773 **Other strain no.:** 84-15-75

773 **History:** < Kasai, Fumie **Locality:** Ishigaki Isl./Okinawa/Japan (1984-03-21) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 22°C; 55-70µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Lake water) **Characteristics:** Heterothallic; Crosses with NIES-772 **Other strain no.:** 84-15-76

EUCAMPIA : Bacillariophyceae

Eucampia sp.

2668 **History:** < Hagiwara, Tomiji **Locality:** Chiba/Japan (2009-02-09) **Isolator:** Hagiwara, Tomiji **Identified by:** Hagiwara, Tomiji (2009-10-06) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 15°C; 10-18µmol/m²/s; 1 M **Habitat:** Marine (Seawater)

EUDORINA : Chlorophyceae

Eudorina cylindrica Korshikov

722 **History:** < Nozaki, Hisayoshi < UTEX **Other collection strain no.:** UTEX 1197 **Locality:** Iowa/U.S.A. **States:** Unialgal; Clonal; Axenic **Culture conditions:** AF-6; 20°C; 15-22µmol/m²/s; 2 M **Habitat:** Freshwater (Soil) **Characteristics:** Heterothallic **Gene data:** atpB (AB014033); psaA (AB044210); psaB (AB044441); psbC (AB044493); rbcL (D86833) **References:** 567, 716, 733, 738, 1208

Eudorina elegans Ehrenberg

351 **History:** < Suda, Shoichiro **Locality:** Lake Biwa/Shiga/Japan (1983-12-13) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Axenic[2012 Nov] **Culture conditions:** CA; 20°C; 15-22µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Homothallic **Other strain no.:** B-Eud-6 **References:** 374, 567, 973

Eudorina elegans Ehrenberg var. *carteri* (G.M. Smith) Goldstein

721 **History:** < Nozaki, Hisayoshi < UTEX **Other collection strain no.:** UTEX 1212 **Locality:** Kentucky/U.S.A. **States:** Unialgal; Clonal; Axenic **Culture conditions:** AF-6; 20 °C ; 15-22µmol/m²/s; 2 M **Habitat:** Freshwater (Pond water) **Characteristics:** Homothallic; Monoecious **Gene data:** atpB (AB014012); psaA (AB044202); psaA (AB044203); psaB (AB044438); psbC (AB044487); psbC (AB044488); rbcL (D88806) **References:** 567, 662, 717, 733, 738

Eudorina elegans Ehrenberg var. *elegans*

456 **History:** < Nozaki, Hisayoshi **Locality:** Imperial Palace/Tokyo/Japan (1977-09-**) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Axenic **Culture conditions:** VT; 20°C; 15-22µmol/m²/s; 1 M **Habitat:** Freshwater (Moat water) **Characteristics:** Heterothallic; Mating type(male); Crosses with NIES-457 **Gene data:** atpB (AB014009); psaA (AB044199); psaB (AB044435); psbC (AB044485); rbcL (D63432) **Other strain no.:** A-5 (m) **References:** 567, 691, 714, 715, 733, 738, 740

457 **History:** < Nozaki, Hisayoshi **Locality:** Imperial Palace/Tokyo/Japan (1977-09-**) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Axenic **Culture conditions:** VT; 20°C; 15-22µmol/m²/s; 1 M **Habitat:** Freshwater (Moat water) **Characteristics:**

- Heterothallic; Mating type (female); Crosses with NIES-456 **Other strain no.:** I-14 (f)
References: 567, 691
- 717** **History:** < Nozaki, Hisayoshi < UTEX **Other collection strain no.:** UTEX 1193 **Locality:** Indiana/U.S.A. **States:** Unialgal; Clonal; Axenic **Culture conditions:** AF-6; 20 °C ; 15-22µmol/m²/s; 2 M **Habitat:** Freshwater (Pond soil) **Characteristics:** Heterothallic **Gene data:** atpB (AB047071); rbcL (D88803) **References:** 567, 662, 717, 1208
- 718** **History:** < Nozaki, Hisayoshi < UTEX **Other collection strain no.:** UTEX 1195 **Locality:** Indiana/U.S.A. **States:** Unialgal; Clonal; Axenic **Culture conditions:** VT; 20°C; 15-22µmol/m²/s; 2 M **Habitat:** Freshwater (Pond soil) **Characteristics:** Heterothallic **Gene data:** atpB (AB047072); rbcL (D88810) **References:** 567, 717
- 719** **History:** < Nozaki, Hisayoshi < UTEX **Other collection strain no.:** UTEX 1199 **Locality:** Indiana/U.S.A. **States:** Unialgal; Clonal; Axenic **Culture conditions:** VT; 20°C; 15-22µmol/m²/s; 2 M **Habitat:** Freshwater (Pond soil) **Characteristics:** Heterothallic **Gene data:** atpB (AB047073); rbcL (D88804) **References:** 567, 717
- 720** **History:** < Nozaki, Hisayoshi < UTEX **Other collection strain no.:** UTEX 1205 **Locality:** Indiana/U.S.A. **States:** Unialgal; Clonal; Axenic **Culture conditions:** VT; 20°C; 15-22µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Characteristics:** Heterothallic **Gene data:** atpB (AB014010); psaA (AB044200); psaA (AB044201); psaB (AB044436); psaB (AB044437); psbC (AB044486); rbcL (D88805) **References:** 567, 717, 733, 738
- Eudorina elegans* Ehrenberg var. *synoica* Goldstein
- 458** **History:** < Nozaki, Hisayoshi **Locality:** Yokohama, Midori-ku/Kanagawa/Japan (1980-01-**) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Axenic **Culture conditions:** VT; 20 °C ; 15-22µmol/m²/s; 1 M **Habitat:** Freshwater (Paddy soil) **Characteristics:** Homothallic; Monoecious **Gene data:** rbcL (D88807) **Other strain no.:** 04427-1 **References:** 567, 697, 717
- 568** **History:** < Nozaki, Hisayoshi **Locality:** Kathmandu/Nepal (1986-09-22) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Axenic **Culture conditions:** CA; 20°C; 15-27µmol/m²/s; 1 M **Habitat:** Freshwater (Paddy soil) **Characteristics:** Homothallic; Monoecious **Gene data:** atpB (AB014011); rbcL (D88808) **Other strain no.:** 7914-E-6 **References:** 567, 698, 717, 738
- Eudorina illinoisensis* (Kofoid) Pascher
Syn. *Pleodorina illinoisensis* Kofoid
- 459** **History:** < Nozaki, Hisayoshi **Locality:** Kawasaki, Saiwai-ku/Kanagawa/Japan (1984-01-**) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Axenic **Culture conditions:** VT; 20 °C ; 15-22µmol/m²/s; 1 M **Habitat:** Freshwater (Paddy soil) **Characteristics:** Heterothallic; Mating type (female); Crosses with NIES-460 **Other strain no.:** 5607-E-14 (f) **References:** 567, 694, 728
- 460** **History:** < Nozaki, Hisayoshi **Locality:** Kawasaki, Saiwai-ku/Kanagawa/Japan (1984-01-**) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Axenic **Culture conditions:** VT; 20 °C ; 15-22µmol/m²/s; 1 M **Habitat:** Freshwater (Paddy soil) **Characteristics:** Heterothallic; Mating type (male); Crosses with NIES-459 **Gene data:** atpB (AB014013); psaA (AB044198); psaB (AB044434); psbC (AB044484); rbcL (D63433) **Other strain no.:** 5630-E-3 (m) **References:** 567, 694, 714, 715, 733, 738
- 723** **History:** < Nozaki, Hisayoshi < UTEX **Other collection strain no.:** UTEX 808 **Locality:** Missouri/U.S.A. **States:** Unialgal; Clonal; Axenic **Culture conditions:** AF-6; 20 °C ; 15-22µmol/m²/s; 2 M **Habitat:** Freshwater (Soil) **Characteristics:** Heterothallic **Gene data:** atpB (AB047069); rbcL (D88809) **References:** 567, 717, 1208
- 2259** **History:** < IAM (2007) < Nozaki, Hisayoshi **Other collection strain no.:** IAM C-596 **Locality:** Kawasaki/Kanagawa/Japan (1994-04-09) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi (1994-05-**) **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** AF-6; 20°C; 8-15µmol/m²/s; 3 M **Habitat:** Freshwater (Paddy soil) **Characteristics:** Heterothallic;

Mating type (female) **Other strain no.:** 94-409-E-10

- 2260** **History:** < IAM (2007) < Nozaki, Hisayoshi **Other collection strain no.:** IAM C-597 **Locality:** Kawasaki/Kanagawa/Japan (1994-04-09) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi (1994-05-**) **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** AF-6; 20°C; 8-15µmol/m²/s; 3 M **Habitat:** Freshwater (Paddy soil) **Characteristics:** Heterothallic; Mating type(male) **Other strain no.:** 94-409-E-11

Eudorina minodii (Chodat) Nozaki et Krienitz

- 856** **History:** < Nozaki, Hisayoshi **Locality:** Lake Altglobsow/Brandenburg/Germany (1997-07-27) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 15-22µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Characteristics:** Homothallic; Dioecious; Anisogamy **Gene data:** atpB (AB047068); rbcL (AB047074); rbcL (AB047075); rbcL (AB047076) **Other strain no.:** 970728-E-8 **Reference:** 722

Eudorina peripheralis (Goldstein) T.K. Yamada

Syn. *Eudorina unicocca* G.M. Smith var. *peripheralis* Goldstein

- 726** **History:** < Nozaki, Hisayoshi < UTEX **Other collection strain no.:** UTEX 1218 **Locality:** British Columbia/Canada **Identified by:** Nozaki, Hisayoshi; Yamada, Toshihiro (Reidentify) **States:** Unialgal; Clonal; Axenic **Culture conditions:** AF-6; 20°C; 15-22µmol/m²/s; 2 M **Habitat:** Freshwater (Road side ditch) **Characteristics:** Heterothallic **Gene data:** atpB (AB047070); rbcL (D86830) **References:** 567, 716, 1208, 1209

Eudorina unicocca G.M. Smith

- 724** **History:** < Nozaki, Hisayoshi < UTEX **Other collection strain no.:** UTEX 737 **Locality:** Indiana/U.S.A. **Identified by:** Nozaki, Hisayoshi; Yamada, Toshihiro (Reidentify) **Formerly identified as:** *Eudorina unicocca* G.M. Smith var. *unicocca* **States:** Unialgal; Clonal; Axenic **Culture conditions:** VT; 20°C; 15-22µmol/m²/s; 2 M **Habitat:** Freshwater **Characteristics:** Heterothallic **Gene data:** atpB (AB014008); psaA (AB044204); psaA (AB044205); psaA (AB044206); psaB (AB044439); psbC (AB044489); psbC (AB044490); rbcL (D86829) **References:** 567, 716, 733, 738, 1208, 1209
- 725** **History:** < Nozaki, Hisayoshi < UTEX **Other collection strain no.:** UTEX 1215 **Locality:** Ohio/U.S.A. **Identified by:** Nozaki, Hisayoshi; Yamada, Toshihiro (Reidentify) **Formerly identified as:** *Eudorina unicocca* G.M. Smith var. *unicocca* **States:** Unialgal; Clonal; Axenic **Culture conditions:** AF-6; 20 °C ; 15-22µmol/m²/s; 2 M **Habitat:** Freshwater (Soil) **Characteristics:** Heterothallic **Gene data:** atpB (AB014007); psaA (AB044207); psaA (AB044208); psaA (AB044209); psaB (AB044440); psbC (AB044491); psbC (AB044492); rbcL (D63434) **References:** 567, 715, 733, 738, 1208, 1209
- 1855** **History:** < Nozaki, Hisayoshi **Locality:** Lake Sagami/Kanagawa/Japan (1999-06-01) **Isolator:** Nozaki, Hisayoshi **Identified by:** Yamada, Toshihiro (2007-01-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Resting spore forming **Other strain no.:** 990601-IE-5
- 1856** **History:** < Nozaki, Hisayoshi **Locality:** Lake Sagami/Kanagawa/Japan (1999-06-01) **Isolator:** Nozaki, Hisayoshi **Identified by:** Yamada, Toshihiro (2007-01-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Resting spore forming **Other strain no.:** 990601-IE-6
- 1857** **History:** < Nozaki, Hisayoshi **Locality:** Lake Tsukui/Kanagawa/Japan (2005-07-20) **Isolator:** Yamada, Toshihiro **Identified by:** Yamada, Toshihiro (2007-01-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Resting spore forming **Other strain no.:** TKI-C-1
- 1858** **History:** < Nozaki, Hisayoshi **Locality:** Lake Tsukui/Kanagawa/Japan (2005-07-20) **Isolator:** Yamada, Toshihiro **Identified by:** Yamada, Toshihiro (2007-01-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Resting spore forming **Other strain no.:** TKI-C-2 **References:** 613, 1208, 1209

EUGLENA : Euglenophyceae*Euglena clara* Skuja

253 **History:** < Suda, Shoichiro **Locality:** Higashiyata River/Ibaraki/Japan (1983-07-02) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 15-22µmol/m²/s; 1 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (River sediment) **Other strain no.:** USI-21 **Reference:** 137

Euglena gracilis Klebs

47 **History:** < IAM (1983) **Other collection strain no.:** IAM E-3 **Locality:** Japan **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** HUT (semi-solid); 20°C; 4-10µmol/m²/s; 1 M (25°C; 70-80µmol/m²/s) **Characteristics:** Material for Vitamin B₁₂ bioassay **References:** 235, 319, 460, 1067, 1125

48 **History:** < IAM (1983) **Other collection strain no.:** IAM E-6; UTEX 753 **Locality:** Japan **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** HUT (semi-solid); 20°C; 4-10µmol/m²/s; 1 M (25°C; 70-80µmol/m²/s) **Characteristics:** Material for Vitamin B₁₂ bioassay **Gene data:** OPRT-OMPDC (AB185845); PAC1 (AB126955); PAC2 (AB126956) **Other strain no.:** Z strain **References:** 78, 79, 80, 81, 82, 167, 168, 169, 235, 248, 265, 319, 448, 482, 489, 496, 500, 506, 507, 564, 589, 817, 818, 819, 820, 824, 825, 826, 828, 829, 830, 831, 945, 999, 1000, 1039, 1071, 1081, 1083, 1091, 1100, 1245, 1246, 1247, 1263, 1273

Euglena gracilis Klebs var. *bacillaris* Pringsheim

49 **History:** < IAM (1983) **Other collection strain no.:** IAM E-2 (=E-10) **Locality:** Japan **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** HUT; 20°C; 4-10µmol/m²/s; 2 M (25°C; 70-80µmol/m²/s) **References:** 235, 293, 319, 682, 1125

Euglena mutabilis Schmitz

286 **History:** < Suda, Shoichiro **Locality:** Takatori River/Ibaraki/Japan (1984-12-11) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Axenic **Culture conditions:** AF-6; 20°C; 15-22µmol/m²/s; 1 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Sediment) **Characteristics:** Bioindicator **Reference:** 143

Euglena sp.

2345 **History:** < Nozaki, Hisayoshi **Locality:** Lake Nojiri (depth 3.5m)/Nagano/Japan (1992-05-14) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 10°C; 15-20µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Other strain no.:** 92-517-E-1

Euglena viridis Ehrenberg

2149 **History:** < IAM (2007) < UTEX (1996) **Other collection strain no.:** IAM E-11 (=E-9); UTEX 85; CCAP 1224/17A **Isolator:** Pringsheim, E. G. **States:** Unialgal; Clonal; Axenic[2012 Mar] **Culture conditions:** HUT (semi-solid); 20°C; 40-50µmol/m²/s; 20 D

EUNOTIA : Bacillariophyceae*Eunotia pectinalis* (Kützing) Rabenhorst var. *minor* (Kützing) Rabenhorst

461 **History:** < Kasai, Fumie **Locality:** Mt.Tsukuba, Hatorisawa/Ibaraki/Japan (1987-04-17) **Isolator:** Kasai, Fumie **Identified by:** Takamura, Noriko **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** CSi; 15°C; 15-22µmol/m²/s; 4 M **Habitat:** Freshwater (River water) **Other strain no.:** (1)-16 **Reference:** 1018

EUTREPTIELLA : Euglenophyceae*Eutreptiella gymnastica* Throndsen

381 **History:** < KAGAWA **Locality:** Yashima Bay/Kagawa/Japan (1982-10-14) **Isolator:** Yoshimatsu, Sadaaki **Identified by:** Yoshimatsu, Sadaaki **States:** Unialgal; Clonal; Axenic[2012 Feb] **Culture**

conditions: f/2; ESM; 20°C; 32-40µmol/m²/s; 1 M **Habitat:** Marine **Characteristics:** Red tide
Gene data: CO1 (AB000136); PAC1 (AB126953); PAC2 (AB126954) **Other strain no.:**
 KGW-63-1 **References:** 143, 262, 448, 1014

Eutreptiella sp.

- 2305** **History:** < Suda, Shoichiro **Locality:** Onagawa Bay/Miyagi/Japan (1984-08-28) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM2; 20°C; 15-22µmol/m²/s; 20 D **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Other strain no.:** 8280G27-10
- 2325** **History:** < Suda, Shoichiro **Locality:** Harima-nada/Japan (1988-08-**) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** 813H-4

FIBROCAPSA : Raphidophyceae

Fibrocapsa japonica Toriumi et Takano

- 136** **History:** < KAGAWA **Locality:** Tsuda Bay/Kagawa/Japan (1978-07-19) **Isolator:** Yuki, Katsuhisa **Identified by:** Yuki, Katsuhisa **States:** Unialgal; Clonal; Axenic **Culture conditions:** f/2; 20°C; 32-40µmol/m²/s; 1 M **Habitat:** Marine **Characteristics:** Red tide **Other strain no.:** KGW-20-2 **References:** 245, 495, 1115 **Remarks:** Fragile species to transportation stresses
- 462** **History:** < Sawaguchi, Tomohiro **Locality:** Hasaki/Ibaraki/Japan (1987-05-09) **Isolator:** Sawaguchi, Tomohiro **Identified by:** Sawaguchi, Tomohiro **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** ESM; 20 °C ; 40-50µmol/m²/s; 1 M **Habitat:** Marine (Sand) **Characteristics:** Red tide **Other strain no.:** HASS-8 **Reference:** 9 **Remarks:** Fragile species to transportation stresses
- 560** **History:** < Honjo, Tsuneo **Locality:** Mikawa Bay/Aichi/Japan **Isolator:** Toriumi, Saburo **Identified by:** Honjo, Tsuneo **States:** Unialgal; Non-clonal; Axenic[2013 Jan] **Culture conditions:** ESM; 20°C; 32-40µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Remarks:** Fragile species to transportation stresses
- 605** **History:** < Iwasaki, Hideo **Locality:** Seto Inland Sea/Yamaguchi/Japan (1970-08-**) **Isolator:** Iwasaki, Hideo **Identified by:** Takano, Hideaki **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** f/2; 20 °C ; 40-50µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Reference:** 115 **Remarks:** Fragile species to transportation stresses
- 1303** **History:** < Kawachi, Masanobu **Locality:** East China Sea (2003-08-01) **Isolator:** Kawachi, Masanobu **Identified by:** Kawachi, Masanobu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 32-40µmol/m²/s; 14 D **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Other strain no.:** YK03-75 **Reference:** 137 **Remarks:** Fragile species to transportation stresses
- 1829** **History:** < TKB **Locality:** Isonoura Beach/Wakayama/Japan (2005-07-**) **Isolator:** Nakayama, Takeshi **Identified by:** Nakayama, Takeshi (2006-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 20°C; 32-40µmol/m²/s; 1 M **Habitat:** Marine (Sand) **Characteristics:** Red tide **Other strain no.:** TKB-301 **Remarks:** Fragile species to transportation stresses

Fibrocapsa sp.

- 1378** **History:** < TKB **Locality:** Tokyo Bay/Kanagawa/Japan (2003-09-30) **Isolator:** Kai, Atsushi **Identified by:** Kai, Atsushi **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** f/2; 20°C; 32-40µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Other strain no.:** TKB-067 (AK-09) **Remarks:** Fragile species to transportation stresses

FISCHERELLA : Cyanophyceae

Fischerella major Gomont

- 592** **History:** < Hagiwara, Tomiji **Locality:** Yukawa Hot Spring/Iwate/Japan (1990-09-09) **Isolator:** Hagiwara, Tomiji **Identified by:** Hagiwara, Tomiji **States:** Unialgal; Clonal; Non-axenic **Culture**

conditions: CB; 20°C; 4-10µmol/m²/s; 2 M (25°C; 70-80µmol/m²/s) **Habitat:** Hot spring (Water)
Characteristics: Benthic **Other strain no.:** Yu-50 **References:** 192, 221, 567, 1219

FLECTOMONAS : Sarcomonadea

Flectomonas lenta Howe, Bass, Vickerman, Chao et Cavalier-Smith

2507 **History:** < Howe, Alexis T. **Locality:** Wytham Wood/U.K. (2006-**-**) **Isolator:** Howe, Alexis T.
Identified by: Howe, Alexis T. (2006-**-**) **Culture conditions:** AF-6 + Wheat; 20°C;
0µmol/m²/s; 2-3 M **Habitat:** Terrestrial (Soil) **Characteristics:** Heterotrophic; Authentic strain;
Resting spore forming **Other strain no.:** WA28

FLORENCIELLA : Dictyochophyceae

Florenciella parvula Eikrem

2684 **History:** < RCC (2010) **Other collection strain no.:** RCC 446; CCMP 2471 **Locality:** English
Channel/Brittany Coast/France (2000-04-12) **Isolator:** Le Gall, F.; Le Gall, F. (Re-isolation)
States: Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 15°C; 10-18µmol/m²/s; 1 M
Habitat: Marine (Seawater) **Characteristics:** Authentic strain **Other strain no.:** RA000412-1-1

FRAGILARIA : Bacillariophyceae

Fragilaria capucina Desmazières

391 **History:** < Sawaguchi, Tomohiro **Locality:** Lake Kasumigaura/Ibaraki/Japan (1985-04-25)
Isolator: Sawaguchi, Tomohiro **Identified by:** Idei, Masahiko **States:** Unialgal; Clonal;
Non-axenic **Culture conditions:** CSi; 15°C; 20-30µmol/m²/s; 1 M **Habitat:** Freshwater (Lake
water) **Other strain no.:** KEB-24

GEPHYROCAPSA : Prymnesiophyceae

Gephyrocapsa oceanica Kamptner

353 **History:** < Sawaguchi, Tomohiro **Locality:** Tsushima Isl./Nagasaki/Japan (1986-03-13) **Isolator:**
Sawaguchi, Tomohiro **Identified by:** Inouye, Isao **States:** Unialgal; Clonal; Axenic **Culture**
conditions: ESM; 20°C; 15-22µmol/m²/s; 20 D **Habitat:** Marine (Seawater) **Gene data:** CO1
(AB000118) **Other strain no.:** TMCO-2 **References:** 142, 187, 434, 676

838 **History:** < Kawachi, Masanobu **Locality:** Mutsu Bay/Aomori/Japan (1990-11-**) **Isolator:**
Kawachi, Masanobu **Identified by:** Kawachi, Masanobu **States:** Unialgal; Clonal; Non-axenic;
Coccolith(+)[2013 Jan] **Culture conditions:** mIMR; MNK; 20°C; 20-30µmol/m²/s; 20 D **Habitat:**
Marine (Seawater) **Characteristics:** Red tide **Other strain no.:** GO-01 **References:** 62, 910, 958,
961 **Remarks:** Unstable

1000 **History:** < Kawachi, Masanobu **Other collection strain no.:** CCMP 2054 **Locality:** Miyake Isl.,
Chotaro-ike Pond/Tokyo/Japan (1999-11-23) **Isolator:** Kawachi, Masanobu **Identified by:**
Kawachi, Masanobu **States:** Unialgal; Clonal; Non-axenic; Coccolith(+)[2013 Jan] **Culture**
conditions: MNK; 20°C; 20-30µmol/m²/s; 14 D **Habitat:** Marine (Seawater) **Characteristics:**
Red tide

1315 **History:** < Kawachi, Masanobu **Locality:** Hachijo Isl., Yaene Harbor/Tokyo/Japan (2002-01-22)
Isolator: Noël, Mary-Hélène **Identified by:** Noël, Mary-Hélène **States:** Unialgal; Clonal;
Non-axenic; Coccolith(+/-)[2013 Jan] **Culture conditions:** MNK; 20°C; 22-32µmol/m²/s; 14-20
D **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Other strain no.:** MH 38

1316 **History:** < Kawachi, Masanobu **Locality:** East China Sea (2003-08-06) **Isolator:** Noël,
Mary-Hélène **Identified by:** Noël, Mary-Hélène **States:** Unialgal; Clonal; Non-axenic;
Coccolith(+/-)[2013 Jan] **Culture conditions:** MNK; 20°C; 22-32µmol/m²/s; 14-20 D **Habitat:**
Marine (Seawater) **Characteristics:** Red tide **Other strain no.:** MH 63

1317 **History:** < Kawachi, Masanobu **Locality:** East China Sea (2003-08-06) **Isolator:** Noël,
Mary-Hélène **Identified by:** Noël, Mary-Hélène **States:** Unialgal; Clonal; Non-axenic;

- Coccolith(+)[2013 Jan] **Culture conditions:** MNK; 20°C; 22-32µmol/m²/s; 14-20 D **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Other strain no.:** MH 64
- 1318** **History:** < Kawachi, Masanobu **Locality:** East China Sea (2003-08-06) **Isolator:** Noël, Mary-Hélène **Identified by:** Noël, Mary-Hélène **States:** Unialgal; Clonal; Non-axenic; Coccolith(+)[2013 Jan] **Culture conditions:** MNK; 20°C; 22-32µmol/m²/s; 14-20 D **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Other strain no.:** MH 73
- 1319** **History:** < Kawachi, Masanobu **Locality:** East China Sea (2003-07-29) **Isolator:** Kawachi, Masanobu **Identified by:** Kawachi, Masanobu **States:** Unialgal; Clonal; Non-axenic; Coccolith(+/-)[2013 Jan] **Culture conditions:** MNK; 20°C; 22-32µmol/m²/s; 14 D **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Other strain no.:** YK3-7
- 1328** **History:** < TKB **Locality:** Hachijo Isl., Yaene Harbor/Tokyo/Japan (2002-12-13) **Isolator:** Yoshida, Masaki **Identified by:** Yoshida, Masaki (2003-**-**) **States:** Unialgal; Clonal; Non-axenic; Coccolith(+/-)[2013 Jan] **Culture conditions:** MNK; 20°C; 25-40µmol/m²/s; 14 D **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Other strain no.:** TKB-001 (ym-01)
- 1329** **History:** < TKB **Locality:** Seto Inland Sea/Okayama/Japan (2002-08-**) **Isolator:** Yoshida, Masaki **Identified by:** Yoshida, Masaki (2002-**-**) **States:** Unialgal; Clonal; Non-axenic; Coccolith(+)[2013 Jan] **Culture conditions:** MNK; 20°C; 25-40µmol/m²/s; 14 D **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Other strain no.:** TKB-061 (ym-06)
- 2699** **History:** < RCC (2010) **Other collection strain no.:** RCC 1314 **Locality:** Atlantic (French Coast)/France (1998-06-01) **Isolator:** Probert, I. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** IMK; 15°C; 10-18µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** AC279
- 2700** **History:** < RCC (2010) **Other collection strain no.:** RCC 1315 **Locality:** Atlantic (French Coast)/France (1998-06-01) **Isolator:** Probert, I. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 15°C; 10-18µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** ARC1(N)

GIRAUDYOPSIS : Chrysomerophyceae

Giraudyopsis sp.

- 1862** **History:** < TKB **Locality:** Awaji Isl./Hyogo/Japan (2005-12-**) **Isolator:** Kai, Atsushi **Identified by:** Kai, Atsushi (2006-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** IMK; 20°C; 15-22µmol/m²/s; 2 M **Habitat:** Marine (Seawater) **Other strain no.:** TKB-334

GLAUCOCYSTIS : Glaucophyceae

Glaucocystis nostochinearum Itzigsohn

- 966** **History:** < Kasai, Fumie **Locality:** Renge-numa/Fukushima/Japan (1987-08-11) **Isolator:** Kasai, Fumie **Identified by:** Kasai, Fumie **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 20°C; 15-22µmol/m²/s; 2 M **Habitat:** Freshwater (Pond water) **Other strain no.:** F(6)-5
- 1369** **History:** < TKB **Locality:** Kanazawa, Kakuma-cho/Ishikawa/Japan (2003-07-01) **Isolator:** Kai, Atsushi **Identified by:** Kai, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C; 20°C; 15-22µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TKB-066 (AK-08)
- 1961** **History:** < TKB **Locality:** Kanazawa/Ishikawa/Japan (2003-07-01) **Isolator:** Kai, Atsushi **Identified by:** Kai, Atsushi (2003-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 15-22µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TKB-333
- 2141** **History:** < IAM (2007) < UTEX (1989) **Other collection strain no.:** IAM M-124; UTEX 64; SAG B 229-1; CCAP 229/1; CAUP H2801; CAUP O101 **Isolator:** Lewin, Ralph A. **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** CSi; 20°C; 13-18µmol/m²/s; 3 M

GLENODINIOPSIS : Dinophyceae*Glenodiniopsis uliginosa* (Schilling) Woloszynska

- 463** **History:** < Sawaguchi, Tomohiro **Locality:** Shizukuishi/Iwate/Japan (1984-09-10) **Isolator:** Sawaguchi, Tomohiro **Identified by:** Sawaguchi, Tomohiro **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** AF-6/2; 20°C; 40-50µmol/m²/s; 2 M **Habitat:** Freshwater (Pond water) **Other strain no.:** TM3D-6 **Reference:** 143 **Remarks:** Unstable; Fragile species to transportation stresses

GLOEOCAPSA : Cyanophyceae*Gloeocapsa decorticans* (A.Brown) P.Richter

- 931** **History:** < Otsuka, Shigeto **Locality:** Kanagawa/Japan (2000-04-21) **Isolator:** Otsuka, Shigeto **Identified by:** Otsuka, Shigeto **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CT; 25°C; 20-30µmol/m²/s; 1 M **Habitat:** Freshwater (Soil) **Characteristics:** Benthic **Other strain no.:** GLC2 **References:** 139, 383

GLOEOMONAS : Chlorophyceae*Gloeomonas lateperforata* (Skuja) Ettl

- 464** **History:** < Kasai, Fumie **Locality:** Tsukuba/Ibaraki/Japan (1982-11-15) **Isolator:** Kasai, Fumie **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 20°C; 22-32µmol/m²/s; 2 M **Habitat:** Freshwater (Pond water) **Gene data:** atpB (AB504761) **Other strain no.:** 1/4 **References:** 567, 736

GLOSSOMASTIX : Pinguiphyceae*Glossomastix chrysoplata* O'Kelly

- 1002** **History:** < Kawachi, Masanobu < CCMP **Other collection strain no.:** CCMP 1537 **Locality:** Phillip Bay/Victoria/Australia **Isolator:** O'Kelly, Charles J. **Identified by:** O'Kelly, Charles J. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MNK; 22°C; 20-30µmol/m²/s; 14 D **Habitat:** Marine **Characteristics:** Attached **Reference:** 137
- 1302** **History:** < Kogame, Kazuhiro **Locality:** Kumano/Mie/Japan (2001-03-27) **Isolator:** Kogame, Kazuhiro **Identified by:** Kogame, Kazuhiro **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 32-40µmol/m²/s; 14 D **Habitat:** Marine (Seaweed) **Characteristics:** Attached **Other strain no.:** GLOSSO

Glossomastix sp.

- 2503** **History:** < Inouye, Isao **Locality:** Shizuoka/Japan (2004-05-**) **Isolator:** Chikuni, Tomoko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** IMK; 20°C; 10-15µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** TKB-256
- 2504** **History:** < Inouye, Isao **Locality:** Itsuura Beach/Ibaraki/Japan (2005-**-**) **Isolator:** Chikuni, Tomoko **Identified by:** Chikuni, Tomoko (2005-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 10-15µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** TKB-257

GOMPHONEMA : Bacillariophyceae*Gomphonema angustatum* (Kützing) Rabenhorst var. *obtusatum* (Kützing) Grunow

- 620** **History:** < Kasai, Fumie **Locality:** Mt.Tsukuba, Hatorisawa/Ibaraki/Japan (1987-04-17) **Isolator:** Kasai, Fumie **Identified by:** Takamura, Noriko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CSi; 15°C; 15-22µmol/m²/s; 2 M **Habitat:** Freshwater (River sediment) **Other strain no.:** 1-36 **Reference:** 1018 **Remarks:** Poor growth

Gomphonema gracile Ehrenberg var. *gracile*

- 465** **History:** < Kasai, Fumie **Locality:** Watarase River System/Gunma/Japan (1987-08-15) **Isolator:**

Kasai, Fumie **Identified by:** Takamura, Noriko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CSi; 15°C; 15-22µmol/m²/s; 2 M **Habitat:** Freshwater (River water) **Other strain no.:** Ast-1-1 **Reference:** 1018

Gomphonema parvulum Kützing var. *parvulum*

466 **History:** < Kasai, Fumie **Locality:** Shirai River/Hokkaido/Japan (1987-07-02) **Isolator:** Kasai, Fumie **Identified by:** Takamura, Noriko **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** CSi; 10°C; 10-15µmol/m²/s; 2 M **Habitat:** Freshwater (River water) **Other strain no.:** Tst-1-18 **Reference:** 1018

467 **History:** < Kasai, Fumie **Locality:** Shirai River/Hokkaido/Japan (1987-07-02) **Isolator:** Kasai, Fumie **Identified by:** Takamura, Noriko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CSi; 10°C; 10-15µmol/m²/s; 2 M **Habitat:** Freshwater (River water) **Other strain no.:** Tst-4-3 **Reference:** 1018

GONATOZYGON : Charophyceae

Gonatozygon brebissonii De Bary

138 **History:** < IAM (1983) **Locality:** Lake Kasumigaura/Ibaraki/Japan (1974-11-**) **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 20°C; 8-15µmol/m²/s; 4 M (20°C; 15-27µmol/m²/s) **Habitat:** Freshwater **Other strain no.:** KAS-4-43 **Reference:** 567

139 **History:** < TAC **Locality:** Lake Shoji/Yamanashi/Japan (1981-10-27) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 20°C; 8-15µmol/m²/s; 4 M (20°C; 15-27µmol/m²/s) **Habitat:** Freshwater **Other strain no.:** TAC 56-1 (TAN-56-1) **Reference:** 567

Gonatozygon monotaenium De Bary

247 **History:** < Kasai, Fumie **Locality:** Tsukiyono/Gunma/Japan (1984-06-01) **Isolator:** Kasai, Fumie **Identified by:** Kasai, Fumie **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 20°C; 8-15µmol/m²/s; 3 M (20°C; 15-27µmol/m²/s) **Habitat:** Freshwater (Paddy water) **Characteristics:** Homothallic **Other strain no.:** 84-25-109

287 **History:** < TAC **Locality:** Lake Yamanaka/Yamanashi/Japan (1981-10-26) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 20°C; 8-15µmol/m²/s; 2 M (20°C; 15-27µmol/m²/s) **Habitat:** Freshwater **Other strain no.:** TAC 53-3 (TAN-53-3) **Reference:** 567

GONIOMONAS : Goniomonadea

Goniomonas amphinema Larsen et Patterson

1371 **History:** < TKB **Locality:** Hachijo Isl./Tokyo/Japan (2002-12-13) **Isolator:** Yubuki, Naoji **Identified by:** Yubuki, Naoji **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2 + Wheat; 15°C; 0µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Characteristics:** Heterotrophic **Other strain no.:** TKB-022 (NY0129)

Goniomonas pacifica Larsen et Patterson

1372 **History:** < TKB **Locality:** Hachijo Isl./Tokyo/Japan (2002-12-13) **Isolator:** Yoshida, Masaki **Identified by:** Yubuki, Naoji (2004-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2 + Wheat; 15°C; 0µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Characteristics:** Heterotrophic **Other strain no.:** TKB-003 (ym-03)

Goniomonas sp.

1374 **History:** < TKB **Locality:** Tateyama, Sakata/Chiba/Japan (2003-01-22) **Isolator:** Yubuki, Naoji **Identified by:** Yubuki, Naoji **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2 + Wheat; 15°C; 0µmol/m²/s; 1 M **Habitat:** Marine (Water) **Characteristics:** Heterotrophic **Other strain no.:** TKB-024 (NY0135)

Goniomonas truncata (Fresenius) Stein

1373 **History:** < TKB **Locality:** Mito/Ibaraki/Japan (2002-05-15) **Isolator:** Yubuki, Naoji **Identified by:** Yubuki, Naoji **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** URO + Wheat; 15°C; 0µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Heterotrophic **Other strain no.:** TKB-015 (NY0120)

GONIUM : Chlorophyceae

Gonium maiaprilis Hayama, Nakada, Hamaji et Nozaki

2455 **History:** < Hayama, Mahoko **Locality:** Fukuoka/Japan (2004-03-28) **Isolator:** Hayama, Mahoko **Identified by:** Hayama, Mahoko; Nozaki, Hisayoshi (2009-04-06) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 18-26µmol/m²/s; 14 D **Habitat:** Freshwater (Soil) **Characteristics:** Phototaxis; Heterothallic; Isogamy; Mating type (+); Resting spore forming **Other strain no.:** Asa041901 **References:** 186, 938

2456 **History:** < Hayama, Mahoko **Locality:** Fukuoka/Japan (2004-03-28) **Isolator:** Hayama, Mahoko **Identified by:** Hayama, Mahoko; Nozaki, Hisayoshi (2009-04-06) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 18-26µmol/m²/s; 14 D **Habitat:** Freshwater (Soil) **Characteristics:** Phototaxis; Heterothallic; Isogamy; Mating type (-); Resting spore forming **Other strain no.:** Asa041902 **Reference:** 186

2457 **History:** < Hayama, Mahoko **Locality:** Fukuoka/Japan (2004-03-28) **Isolator:** Hayama, Mahoko **Identified by:** Hayama, Mahoko; Nozaki, Hisayoshi (2009-04-06) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 18-26µmol/m²/s; 14 D **Habitat:** Freshwater (Soil) **Characteristics:** Phototaxis; Authentic strain; Heterothallic; Isogamy; Mating type (-); Resting spore forming **Other strain no.:** Asa041903 **References:** 186, 938

2458 **History:** < Hayama, Mahoko **Isolator:** Hayama, Mahoko **Identified by:** Hayama, Mahoko; Nozaki, Hisayoshi (2009-04-06) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 18-26µmol/m²/s; 14 D **Habitat:** Freshwater (Zygote of NIES-2455 x 2457) **Characteristics:** Phototaxis; Heterothallic; Isogamy; Mating type (+); Resting spore forming **Other strain no.:** AsaF1A1 **Reference:** 186

2459 **History:** < Hayama, Mahoko **Isolator:** Hayama, Mahoko **Identified by:** Hayama, Mahoko; Nozaki, Hisayoshi (2009-04-06) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 18-26µmol/m²/s; 14 D **Habitat:** Freshwater (Zygote of NIES-2455 x 2457) **Characteristics:** Phototaxis; Heterothallic; Isogamy; Mating type (-); Resting spore forming **Other strain no.:** AsaF1A2 **Reference:** 186

2460 **History:** < Hayama, Mahoko **Isolator:** Hayama, Mahoko **Identified by:** Hayama, Mahoko; Nozaki, Hisayoshi (2009-04-06) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 18-26µmol/m²/s; 14 D **Habitat:** Freshwater (Zygote of NIES-2455 x 2457) **Characteristics:** Phototaxis; Heterothallic; Isogamy; Mating type (+); Resting spore forming **Other strain no.:** AsaF1A3 **Reference:** 186

2461 **History:** < Hayama, Mahoko **Isolator:** Hayama, Mahoko **Identified by:** Hayama, Mahoko; Nozaki, Hisayoshi (2009-04-06) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 18-26µmol/m²/s; 14 D **Habitat:** Freshwater (Zygote of NIES-2455 x 2457) **Characteristics:** Phototaxis; Heterothallic; Isogamy; Mating type (-); Resting spore forming **Other strain no.:** AsaF1A4 **Reference:** 186

Gonium multicoccum Pocock

737 **History:** < Nozaki, Hisayoshi **Other collection strain no.:** UTEX 2580 **States:** Unialgal; Clonal; Axenic[2012 Mar] **Culture conditions:** VT; 20°C; 32-40µmol/m²/s; 1 M **Characteristics:** F1 clone of UTEX 2579 **Gene data:** atpB (AB014020); psaA (AB044239); psaA (AB044240); psaB (AB044461); psbC (AB044481); rbcL (D63435) **Other strain no.:** 90-530-F1-5 **References:** 715, 727, 733, 738

885 **History:** < Nozaki, Hisayoshi < UTEX **Other collection strain no.:** UTEX 783 **Locality:** Lemoncove/California/U.S.A. **Isolator:** Stein, J. R. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-27µmol/m²/s; 1 M **Habitat:** (Soil or Mud) **References:** 702, 727

- 1038** **History:** < Nozaki, Hisayoshi **Locality:** Texas/U.S.A. **Isolator:** Starr, R. C. **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20 °C ; 15-27 $\mu\text{mol}/\text{m}^2/\text{s}$; 2 M **Gene data:** ITS2 (AB246191); rbcL (AB246187) **Other strain no.:** GQ-M-Tx-1 **Reference:** 1210
- 1039** **History:** < Nozaki, Hisayoshi **Locality:** Texas/U.S.A. **Isolator:** Starr, R. C. **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20 °C ; 15-27 $\mu\text{mol}/\text{m}^2/\text{s}$; 2 M **Other strain no.:** GQ-M-Tx-2
- 1707** **History:** < Nozaki, Hisayoshi **Locality:** Chikuzen/Fukuoka/Japan (2004-03-**) **Isolator:** Yamada, Toshihiro **Identified by:** Yamada, Toshihiro (2004-06-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 23°C; 180-200 $\mu\text{mol}/\text{m}^2/\text{s}$; 1 M **Habitat:** Freshwater (Paddy soil) **Characteristics:** Resting spore forming; Homothallic; Isogamy **Other strain no.:** Asa.Goni.6 **Reference:** 1210
- 1708** **History:** < Nozaki, Hisayoshi **Locality:** Chikuzen/Fukuoka/Japan (2004-03-**) **Isolator:** Yamada, Toshihiro **Identified by:** Yamada, Toshihiro (2004-06-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 23°C; 180-200 $\mu\text{mol}/\text{m}^2/\text{s}$; 1 M **Habitat:** Freshwater (Paddy soil) **Characteristics:** Resting spore forming; Homothallic; Isogamy **Gene data:** ITS2 (AB246192); rbcL (AB246188) **Other strain no.:** Asa.Goni.84 **References:** 613, 1210
- 1709** **History:** < Nozaki, Hisayoshi **Locality:** Chikuzen/Fukuoka/Japan (2004-03-**) **Isolator:** Yamada, Toshihiro **Identified by:** Yamada, Toshihiro (2004-06-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 23°C; 180-200 $\mu\text{mol}/\text{m}^2/\text{s}$; 1 M **Habitat:** Freshwater (Paddy soil) **Characteristics:** Resting spore forming; Homothallic; Isogamy **Other strain no.:** AsCl-1 **Reference:** 1210

Gonium octonarium Pocock

- 851** **History:** < Nozaki, Hisayoshi **Isolator:** Starr, R. C. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 15-27 $\mu\text{mol}/\text{m}^2/\text{s}$; 2 M **Gene data:** atpB (AB014018); psaA (AB044241); psaB (AB044462); psbC (AB044520) **Other strain no.:** GO-LC-1+ **References:** 733, 738, 740
- 852** **History:** < Nozaki, Hisayoshi **Isolator:** Starr, R. C. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 15-27 $\mu\text{mol}/\text{m}^2/\text{s}$; 2 M **Other strain no.:** GO-LC-3- **Reference:** 738

Gonium pectorale O.F. Müller

- 1710** **History:** < Nozaki, Hisayoshi **Locality:** Kin/Okinawa/Japan (2000-03-**) **Isolator:** Nozaki, Hisayoshi; Kaneko, Daisuke **Identified by:** Nozaki, Hisayoshi (2001-10-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 23 °C ; 180-200 $\mu\text{mol}/\text{m}^2/\text{s}$; 1 M **Habitat:** Freshwater (Paddy soil) **Characteristics:** Heterothallic; Dioecious; Isogamy; Mating type(-); Crosses with NIES-1711 **Other strain no.:** Kaneko3 **References:** 136, 474, 566, 662
- 1711** **History:** < Nozaki, Hisayoshi **Locality:** Kin/Okinawa/Japan (2000-03-**) **Isolator:** Nozaki, Hisayoshi; Kaneko, Daisuke **Identified by:** Nozaki, Hisayoshi (2001-10-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 23 °C ; 180-200 $\mu\text{mol}/\text{m}^2/\text{s}$; 1 M **Habitat:** Freshwater (Paddy soil) **Characteristics:** Heterothallic; Dioecious; Isogamy; Mating type(+); Crosses with NIES-1710 **Gene data:** rbcL (AB246190) **Other strain no.:** Kaneko4 **References:** 136, 566, 1210
- 1712** **History:** < Nozaki, Hisayoshi **Locality:** Kitahiroshima/Hokkaido/Japan (2004-03-**) **Isolator:** Yamada, Toshihiro **Identified by:** Yamada, Toshihiro (2004-05-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 23°C; 180-200 $\mu\text{mol}/\text{m}^2/\text{s}$; 1 M **Habitat:** Freshwater (Paddy soil) **Characteristics:** Heterothallic; Dioecious; Isogamy; Mating type(+); Crosses with NIES-1713 **Other strain no.:** Kita.Goni.1
- 1713** **History:** < Nozaki, Hisayoshi **Locality:** Kitahiroshima/Hokkaido/Japan (2004-03-**) **Isolator:** Yamada, Toshihiro **Identified by:** Yamada, Toshihiro (2004-05-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 23°C; 180-200 $\mu\text{mol}/\text{m}^2/\text{s}$; 1 M **Habitat:** Freshwater (Paddy soil) **Characteristics:** Heterothallic; Dioecious; Isogamy; Mating type(-); Crosses with NIES-1712 **Gene data:** ITS1-5.8S-ITS2 (AB520751); rbcL (AB246189) **Other strain no.:** Kita.Goni.3 **Reference:** 1210

- 2261** **History:** < IAM (2007) < Nozaki, Hisayoshi **Other collection strain no.:** IAM C-598 **Locality:** Kawasaki/Kanagawa/Japan (1994-04-09) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi (1994-05.***) **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** AF-6; 20°C; 8-15µmol/m²/s; 3 M **Habitat:** Freshwater (Paddy soil) **Characteristics:** Heterothallic; Mating type(+) **Other strain no.:** 94-409-G-4
- 2262** **History:** < IAM (2007) < Nozaki, Hisayoshi **Other collection strain no.:** IAM C-599 **Locality:** Kawasaki/Kanagawa/Japan (1994-04-09) **Isolator:** Nozaki, Hisayohsi **Identified by:** Nozaki, Hisayoshi (1994-05.***) **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** AF-6; 20°C; 8-15µmol/m²/s; 3 M **Habitat:** Freshwater (Paddy soil) **Characteristics:** Heterothallic; Mating type(-) **Other strain no.:** 94-409-G-6

Gonium pectorale O.F. Müller var. *pectorale*

- 468** **History:** < Nozaki, Hisayoshi **Locality:** Yokohama, Kohoku-ku/Kanagawa/Japan (1979-04-06) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** VT; 20°C; 15-22µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Heterothallic; Mating type(-); Crosses with NIES-469 **Other strain no.:** 9406-10 **References:** 396, 567, 662, 693, 702, 723
- 469** **History:** < Nozaki, Hisayoshi **Locality:** Yokohama, Kohoku-ku/Kanagawa/Japan (1979-04-06) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Axenic **Culture conditions:** VT; 20°C; 15-22µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Heterothallic; Mating type(+); Crosses with NIES-468 **Other strain no.:** 9406-12 **References:** 567, 693
- 569** **History:** < Nozaki, Hisayoshi **Locality:** Kourakuen/Okayama/Japan (1988-10-12) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** VTAC; 20°C; 22-27µmol/m²/s; 1 M **Habitat:** Freshwater (Paddy soil) **Characteristics:** Heterothallic; Isogamy; Mating type(+); Crosses with NIES-570 **Gene data:** atpB (AB014016); atpB (AB014017); psaA (AB044242); psaB (AB044463); psbC (AB044521); rbcL (D63437) **Other strain no.:** 88-1113-G-1 **References:** 374, 567, 715, 733, 738, 740
- 570** **History:** < Nozaki, Hisayoshi **Locality:** Kourakuen/Okayama/Japan (1988-10-12) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** VTAC; 20°C; 22-27µmol/m²/s; 1 M **Habitat:** Freshwater (Paddy soil) **Characteristics:** Heterothallic; Isogamy; Mating type(-); Crosses with NIES-569 **Other strain no.:** 88-1113-G-2 **Reference:** 567
- 645** **History:** < Nozaki, Hisayoshi **Locality:** Near Goshokake Hot Spring/Akita/Japan (1985-07-10) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-27µmol/m²/s; 1 M **Habitat:** Freshwater (Pond sediment) **Characteristics:** Heterothallic; Isogamy; Mating type(+) **Other strain no.:** 5912-6 (+) **Reference:** 567
- 646** **History:** < Nozaki, Hisayoshi **Locality:** Near Goshokake Hot Spring/Akita/Japan (1985-07-10) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-27µmol/m²/s; 1 M **Habitat:** Freshwater (Pond sediment) **Characteristics:** Heterothallic; Isogamy; Mating type(-) **Other strain no.:** 5912-6 (-) **Reference:** 567

Gonium quadratum Pringsheim ex Nozaki

- 647** **History:** < Nozaki, Hisayoshi **Locality:** Japan **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20 °C ; 22-27µmol/m²/s; 1 M **Habitat:** Freshwater **Characteristics:** Heterothallic; Isogamy; Mating type(-); F1 clone of NIES-652 x 653; Sister clone to NIES-648, 649 and 650 from one zygote **Other strain no.:** 90-809-F1-2-1 **Reference:** 567
- 648** **History:** < Nozaki, Hisayoshi **Locality:** Japan **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20 °C ; 22-27µmol/m²/s; 1 M **Habitat:** Freshwater **Characteristics:** Mixotrophic; Heterothallic; Isogamy; Mating type(+); F1 clone of NIES-652 x 653; Sister clone to NIES-647, 649 and 650 from one

- zygote **Other strain no.:** 90-809-F1-2-2 **Reference:** 567
- 649** **History:** < Nozaki, Hisayoshi **Locality:** Japan **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20 °C ; 22-27 μ mol/m²/s; 1 M **Habitat:** Freshwater **Characteristics:** Mixotrophic; Heterothallic; Isogamy; Mating type(+); F1 clone of NIES-652 x 653; Sister clone to NIES-647, 648 and 650 from one zygote **Other strain no.:** 90-809-F1-2-3 **Reference:** 567
- 650** **History:** < Nozaki, Hisayoshi **Locality:** Japan **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20 °C ; 22-27 μ mol/m²/s; 1 M **Habitat:** Freshwater **Characteristics:** Mixotrophic; Heterothallic; Isogamy; Mating type(-); F1 clone of NIES-652 x 653; Sister clone to NIES-647, 648 and 649 from one zygote **Other strain no.:** 90-809-F1-2-4 **Reference:** 567
- 651** **History:** < Nozaki, Hisayoshi < UTEX **Other collection strain no.:** UTEX 956 **Locality:** Klausen/Italy **Isolator:** Pringsheim, E. G. **Identified by:** Pringsheim, E. G. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-27 μ mol/m²/s; 1 M **Habitat:** Freshwater (Soil) **Characteristics:** Authentic strain **References:** 567, 702, 703
- 652** **History:** < Nozaki, Hisayoshi **Locality:** Itahari/Nepal (1989-10-**) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-27 μ mol/m²/s; 1 M **Habitat:** Freshwater (Paddy soil) **Characteristics:** Mixotrophic; Heterothallic; Isogamy; Mating type(-); Crosses with NIES-653 **Other strain no.:** 90-423-3 **References:** 567, 703
- 653** **History:** < Nozaki, Hisayoshi **Locality:** Itahari/Nepal (1989-10-**) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-27 μ mol/m²/s; 1 M **Habitat:** Freshwater (Paddy soil) **Characteristics:** Mixotrophic; Heterothallic; Isogamy; Mating type(+); Crosses with NIES-652 **Gene data:** atpB (AB014019); psaA (AB044243); psaB (AB044464); psbC (AB044522); psbC (AB044523); rbcL (D63438) **Other strain no.:** 90-423-2 **References:** 567, 703, 715, 723, 733, 738, 740
- Gonium viridistellatum* M.Watanabe
- 288** **History:** < Watanabe, Masayuki **Locality:** Okinawa/Japan (1973-06-**) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Axenic **Culture conditions:** CA; 20°C; 15-27 μ mol/m²/s; 1 M **Habitat:** Freshwater (Paddy soil) **Characteristics:** Heterothallic; Mating type(-); Crosses with NIES-289 and 290 **Other strain no.:** G4 **References:** 567, 700, 1136
- 289** **History:** < Watanabe, Masayuki **Locality:** Okinawa/Japan (1973-06-**) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Axenic **Culture conditions:** CA; 20°C; 15-27 μ mol/m²/s; 1 M **Habitat:** Freshwater (Paddy soil) **Characteristics:** Authentic strain; Heterothallic; Mating type(+); Crosses with NIES-288 **Gene data:** atpB (AB076118); atpB (AB076119); psaA (AB076140); psaA (AB076141); psaB (AB076156); psbC (AB076173); rbcL (AB076091); rbcL-462 intron (AB076091) **Other strain no.:** G3 **References:** 567, 700, 743, 1136
- 290** **History:** < Watanabe, Masayuki **Locality:** Okinawa/Japan (1973-06-**) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Axenic **Culture conditions:** CA; 20°C; 15-27 μ mol/m²/s; 1 M **Habitat:** Freshwater (Paddy soil) **Characteristics:** Authentic strain; Heterothallic; Mating type(+); Crosses with NIES-288 **Other strain no.:** G1 **References:** 567, 700, 1136
- 654** **History:** < Nozaki, Hisayoshi **Other collection strain no.:** UTEX 2519 **Locality:** Yokohama, Midori-ku/Kanagawa/Japan (1980-01-**) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** VT; 20°C; 22-27 μ mol/m²/s; 1 M **Habitat:** Freshwater (Paddy soil) **Characteristics:** Heterothallic; Isogamy; Mating type(+) **Gene data:** atpB (AB014021); psaA (AB044244); psaB (AB044465); psbC (AB044524); rbcL (D86831); rbcL-462 intron (AB076090) **Other strain no.:** KY-4 (+) **References:** 567, 700, 714, 716, 733, 738, 743
- 655** **History:** < Nozaki, Hisayoshi **Other collection strain no.:** UTEX 2520 **Locality:** Yokohama,

Midori-ku/Kanagawa/Japan (1980-01-**) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** VT; 20°C; 22-27µmol/m²/s; 1 M **Habitat:** Freshwater (Paddy soil) **Characteristics:** Heterothallic; Isogamy; Mating type(-) **Other strain no.:** KY-7 (-) **References:** 567, 700

- 857** **History:** < Nozaki, Hisayoshi **Locality:** Kathmandu, Gaunsi/Nepal (1986-09-**) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 15-22µmol/m²/s; 2 M **Habitat:** Freshwater (Paddy soil) **Gene data:** atpB (AB076117); psaA (AB076139); psaB (AB076155); psbC (AB076172); rbcL (AB076092); rbcL (AB076093); rbcL-462 intron (AB076092) **Other strain no.:** 88-511-9 **Reference:** 743

GONYOSTOMUM : Raphidophyceae

Gonyostomum latum Iwanoff

- 1808** **History:** < TKB **Locality:** Matsumi-ike Pond/Ibaraki/Japan (2005-08-30) **Isolator:** Yamaguchi, Haruyo **Identified by:** Yamaguchi, Haruyo (2005-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 20-30µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Other strain no.:** TKB-254 **Reference:** 1215 **Remarks:** Fragile species to transportation stresses

Gonyostomum semen (Ehrenberg) Diesing

- 1009** **History:** < Moriya, Mayumi **Locality:** Lake Ozenuma/Fukushima/Japan (2002-08-28) **Isolator:** Moriya, Mayumi **Identified by:** Moriya, Mayumi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AAF-6; 15°C; 15-22µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** M-87 **Remarks:** Fragile species to transportation stresses
- 1380** **History:** < TKB **Locality:** Mizunuma Dam/Ibaraki/Japan (2004-07-07) **Isolator:** Nakayama, Takeshi **Identified by:** Nakayama, Takeshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20 °C ; 32-40µmol/m²/s; 2 M **Habitat:** Freshwater (Reservoir water) **Characteristics:** Red tide **Other strain no.:** TKB-132 (nak26) **References:** 137, 1215 **Remarks:** Fragile species to transportation stresses

GRAESIELLA : Chlorophyceae

Graesiella emersonii (Shihira et Krauss) Nozaki et al.

Syn. Chlorella emersonii Shihira et Krauss; Chlorella fusca Shihira et Krauss var. vacuolata Shihira et Krauss; Graesiella vacuolata (Shihira et Krauss) Kalina et Puncochárová

- 226** **History:** < IAM (1983) **Other collection strain no.:** IAM C-28 **Locality:** Japan **Identified by:** Nozaki, Hisayoshi et al. (Reidentify) **Formerly identified as:** Chlorella pyrenoidosa Chick **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 4-10µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **References:** 202, 235, 496, 498, 499, 521, 567, 666, 721, 1022, 1125, 1187, 1266, 1267, 1268, 1269 **Remarks:** Cryopreserved
- 687** **History:** < Katagiri, Masayuki < CCAP **Other collection strain no.:** CCAP 211/8B; IAM C-104 **Locality:** Pennsylvania/U.S.A. (1923-**-**) **Isolator:** Emerson, R. **Identified by:** Nozaki, Hisayoshi et al. (Reidentify) **Formerly identified as:** Chlorella fusca Shihira et Krauss var. vacuolata Shihira et Krauss (in IAM) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C (agar); 20°C; 4-10µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Characteristics:** Authentic strain of Chlorella fusca Shihira et Krauss var. vacuolata Shihira et Krauss **Other strain no.:** C-104 **References:** 124, 176, 385, 437, 496, 498, 512, 548, 559, 560, 567, 721, 1101 **Remarks:** Cryopreserved
- 688** **History:** < Katagiri, Masayuki < CCAP **Other collection strain no.:** CCAP 211/8G **Locality:** Japan **Isolator:** Emerson, R. **Identified by:** Nozaki, Hisayoshi et al. (Reidentify) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C (agar); 20 °C ; 4-10µmol/m²/s; 3 M (25 °C ; 70-80µmol/m²/s) **Habitat:** Freshwater **Other strain no.:** 211/8G **References:** 567, 721 **Remarks:** Cryopreserved
- 689** **History:** < Katagiri, Masayuki < CCAP **Other collection strain no.:** CCAP 211/8H **Locality:**

- Japan **Isolator:** Emerson, R. **Identified by:** Nozaki, Hisayoshi et al. (Reidentify) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C (agar); 20 °C ; 4-10 μ mol/m²/s; 3 M (25 °C ; 70-80 μ mol/m²/s) **Habitat:** Freshwater **Other strain no.:** 211/8H **References:** 567, 721 **Remarks:** Cryopreserved
- 690** **History:** < Katagiri, Masayuki < CCAP **Other collection strain no.:** CCAP 211/11N **Locality:** Berlin/Germany **Isolator:** Emerson, R. **Identified by:** Nozaki, Hisayoshi et al. (Reidentify) **Formerly identified as:** *Chlorella emersonii* Shihira et Krauss (in CCAP) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C (agar); 20 °C ; 4-10 μ mol/m²/s; 3 M (25 °C ; 70-80 μ mol/m²/s) **Habitat:** Freshwater **Characteristics:** Authentic strain of *Chlorella emersonii* Shihira et Krauss **Gene data:** 18S rRNA (AJ242761) **Other strain no.:** 211/11N **References:** 567, 721 **Remarks:** Cryopreserved
- 2151** **History:** < IAM (2007) < BIU (UTEX; 1961) **Other collection strain no.:** IAM C-105; CCAP 211/8C; SAG 211-8c; UTEX 252; UTCC 89; NIBB 4001; NIBB 4002; NIBB 4003; NIBB 4004; NIBB 4005. NIBB 4006 **Locality:** Berlin-Dahlem/Germany **Isolator:** Emerson, R. **Identified by:** Kessler, E.; Confirmed at NIES by DNA sequencing (1993) **Formerly identified as:** *Chlorella pyrenoidosa* Chick **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20 °C ; 8-15 μ mol/m²/s; 3 M **Habitat:** Freshwater (Tap water) **Gene data:** 18S rRNA (AB488562) **References:** 38, 385, 498, 499, 885 **Remarks:** Cryopreserved

GUNGNIR : Chlorophyceae**Gungnir kasakii** (Nozaki) NakadaSyn. *Chlorogonium kasakii* Nozaki

- 761** **History:** < Nozaki, Hisayoshi < CCAP **Other collection strain no.:** CCAP 12/8 **Locality:** Priest Pot/England, Cambria/U.K. **Isolator:** Jaworski **Identified by:** Nozaki, Hisayoshi; Nakada, Takashi (Reidentify) **Formerly identified as:** *Chlorogonium* sp. (in CCAP) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20 °C ; 15-27 μ mol/m²/s; 2 M **Habitat:** Freshwater (Water) **Characteristics:** Authentic strain; Type specimen (NIES-50005, Epitype) **Gene data:** rbcL (AB010244) **References:** 610, 737
- 1359** **History:** < Nakada, Takashi **Locality:** Sakatagaike Pond/Chiba/Japan (2003-07-23) **Isolator:** Nakada, Takashi **Identified by:** Nakada, Takashi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 20 °C ; 22-32 μ mol/m²/s; 1 M **Habitat:** Freshwater (Pond sediment) **Characteristics:** Mixotrophic **Gene data:** psaB (AB451209); rbcL (AB206331) **Other strain no.:** SkCl-5 **References:** 606, 609, 610
- 1360** **History:** < Nakada, Takashi **Locality:** Kitahiroshima, Nakanosawa/Hokkaido/Japan (2004-03-27) **Isolator:** Nakada, Takashi **Identified by:** Nakada, Takashi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 20 °C ; 22-32 μ mol/m²/s; 1 M **Habitat:** Freshwater (Pond sediment) **Characteristics:** Mixotrophic **Gene data:** rbcL (AB206332) **Other strain no.:** KhCl-3 **References:** 606, 610

Gungnir neglectum (Pascher) NakadaSyn. *Chlamydomonas neglecta* Korshikov ex Pascher; *Chlorogonium neglectum* Pascher

- 439** **History:** < Suda, Shoichiro **Locality:** Tsukuba/Ibaraki/Japan (1984-05-08) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro; Nozaki, Hisayoshi; Nakada, Takashi (Reidentify) **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 20 °C ; 22-32 μ mol/m²/s; 2 M **Habitat:** Freshwater (Paddy soil) **Characteristics:** Authentic strain; Type specimen (NIES-50006, Epitype) **Gene data:** atpB (AB084326); psaB (AB084366); rbcL (AB010243) **Other strain no.:** T-4-19 **References:** 275, 567, 610, 737, 740
- 1869** **History:** < Nakada, Takashi **Locality:** Kyoto, Sakyo-ku/Kyoto/Japan (2005-03-29) **Isolator:** Nakada, Takashi **Identified by:** Nakada, Takashi (2007-06-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20 °C ; 22-32 μ mol/m²/s; 1 M **Habitat:** Freshwater (Paddy soil) **Characteristics:** Authentic strain; Type specimen (NIES-50008) **Gene data:** psaB (AB451210) **Other strain no.:** IkCl-701 **Reference:** 609

GYMNODINIUM : Dinophyceae*Gymnodinium catenatum* Graham

1834 **History:** < TKB **Locality:** Mie/Japan (2005-04-**) **Isolator:** Nakayama, Takeshi **Identified by:** Nakayama, Takeshi (2005-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 20°C; 40-50µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** TKB-264 **Remarks:** Fragile species to transportation stresses

Gymnodinium sp.

2002 **History:** < Noël, Mary-Hélène **Locality:** Seto Inland Sea/Japan (2005-05-12) **Isolator:** Noël, Mary-Hélène **Identified by:** Noël, Mary-Hélène (2005-12-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MNK; 20°C; 10-15µmol/m²/s; 20 D **Habitat:** Marine (Sediment) **Other strain no.:** MHW19 **Remarks:** Fragile species to transportation stresses

2003 **History:** < Noël, Mary-Hélène **Locality:** Seto Inland Sea/Japan (2005-05-12) **Isolator:** Noël, Mary-Hélène **Identified by:** Noël, Mary-Hélène (2005-12-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MNK; 20°C; 10-15µmol/m²/s; 20 D **Habitat:** Marine (Sediment) **Other strain no.:** MHW20 **Remarks:** Fragile species to transportation stresses

2004 **History:** < Noël, Mary-Hélène **Locality:** Seto Inland Sea/Japan (2005-05-12) **Isolator:** Noël, Mary-Hélène **Identified by:** Noël, Mary-Hélène (2005-12-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MNK; 20°C; 10-15µmol/m²/s; 20 D **Habitat:** Marine (Sediment) **Other strain no.:** MHW22 **Remarks:** Fragile species to transportation stresses

2007 **History:** < Noël, Mary-Hélène **Locality:** Soma Harbor/Fukushima/Japan (2005-06-17) **Isolator:** Noël, Mary-Hélène **Identified by:** Noël, Mary-Hélène (2005-12-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MNK; 20°C; 10-15µmol/m²/s; 20 D **Habitat:** Marine (Sediment) **Other strain no.:** MHW34 **Remarks:** Fragile species to transportation stresses

2326 **History:** < Sawaguchi, Tomohiro **Locality:** Tsushima Isl./Nagasaki/Japan (1986-03-13) **Isolator:** Sawaguchi, Tomohiro **Identified by:** Sawaguchi, Tomohiro **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 15°C; 35-50µmol/m²/s; 2 M **Habitat:** Freshwater (Reservoir water) **Other strain no.:** TKDD-11 **Remarks:** Fragile species to transportation stresses

GYRODINIUM : Dinophyceae*Gyrodinium instriatum* Freudenthal et Lee

2000 **History:** < Noël, Mary-Hélène **Locality:** Seto Inland Sea/Japan (2005-08-01) **Isolator:** Noël, Mary-Hélène **Identified by:** Noël, Mary-Hélène (2005-12-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MNK; 20°C; 10-15µmol/m²/s; 20 D **Habitat:** Marine (Seawater) **Other strain no.:** MHW11 **Remarks:** Fragile species to transportation stresses

HAEMATOCOCCUS : Chlorophyceae*Haematococcus lacustris* (Girod-Chantrons) Rostafinski

Syn. *Haematococcus pluvialis* Flotow

144 **History:** < IAM (1983) **Other collection strain no.:** IAM C-392 **Locality:** Sapporo/Hokkaido/Japan (1964-07-16) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C (agar); 20°C; 4-10µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Lake water) **Characteristics:** Homothallic; Isogamy **Gene data:** 14-3-3 protein (AY973204); atpB (AB084325); lycopene β-cyclase (AY182008); psaB (AB084365); rbcL (AB084336); rbcL (AB084337); β-carotene ketolase (AY603347) **Other strain no.:** MKF-8 **References:** 235, 288, 333, 334, 375, 376, 377, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 459, 462, 463, 567, 740, 854, 855, 981, 1068, 1069, 1070, 1159, 1221, 1264

2263 **History:** < IAM (2007) < Nakayama, Ooki **Other collection strain no.:** IAM C-339 **Locality:** Kofu/Yamanashi/Japan **Isolator:** Nakayama, Ooki **Identified by:** Nakayama, Ooki **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Other strain**

- no.: Nakayama 5032 **Remarks:** Cryopreserved
- 2264** **History:** < IAM (2007) < UTEX (1996) **Other collection strain no.:** IAM C-582 (=C-296/C-393); SAG 34-1b; UTEX 16; ATCC 30402; UTCC B 93; CCAP 34/1b **Isolator:** Pringsheim, E. G. **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Characteristics:** Astaxantin production **Reference:** 471 **Remarks:** Cryopreserved
- 2265** **History:** < IAM (2007) < UTEX (1996) **Other collection strain no.:** IAM C-583 (=C-394); UTEX 294; ATCC 30453; CCAP 34/1j **Isolator:** Lewin, Ralph A. **Identified by:** Lewin, Ralph A. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Other strain no.:** Lewin DD1/73 **Remarks:** Cryopreserved

HAFNIOMONAS : Chlorophyceae

Hafniomonas conica (Ettl) Nakada et Nozaki

Syn. *Pyramimonas reticulata* Korshikov var. *conica* Ettl; *Hafniomonas reticulata* Korshikov var. *conica* (Ettl) Ettl et Moestrup

- 1714** **History:** < Nozaki, Hisayoshi **Locality:** Mure/Nagano/Japan (2003-07-12) **Isolator:** Nakada, Takashi **Identified by:** Nakada, Takashi (2005-11-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AFAC; 23°C; 180-200µmol/m²/s; 1 M **Habitat:** Freshwater (Paddy soil) **Gene data:** 18S rRNA (AB248251); *psaB* (AB248257) **Other strain no.:** NgCl-3 **Reference:** 615

Hafniomonas laevis Nakada, Suda et Nozaki

- 257** **History:** < Suda, Shoichiro **Locality:** Tsukuba/Ibaraki/Japan (1983-10-30) **Isolator:** Suda, Shoichiro **Identified by:** Inouye, Isao; Nakada, et al. (Reidentify) **Formerly identified as:** *Hafniomonas montana* (Geitler) Ettl et Moestrup **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 20°C; 15-22µmol/m²/s; 1 M (20°C; 22-32µmol/m²/s) **Habitat:** Freshwater (Pool water) **Gene data:** *atpB* (AB101504); *psaB* (AB101515); *rbcL* (AB101509); *rbcL* (AB101510) **Other strain no.:** OUT-5 **References:** 567, 615, 664, 734, 987, 1159

Hafniomonas montana (Geitler) Ettl et Moestrup

- 656** **History:** < Suda, Shoichiro **Locality:** Tsukuba/Ibaraki/Japan (1986-04-30) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Axenic[2012 Nov] **Culture conditions:** C; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Pond sediment) **Gene data:** *atpB* (AB101505); *psaB* (AB101516); *rbcL* (AB101511); *rbcL* (AB101512) **Other strain no.:** 430M3-3 **References:** 567, 615, 664, 734, 1014

Hafniomonas reticulata (Korshikov) Ettl et Moestrup

Syn. *Pyramimonas reticulata* Korshikov

- 1715** **History:** < Nozaki, Hisayoshi **Locality:** Mitsukaido/Ibaraki/Japan (2003-08-11) **Isolator:** Nakada, Takashi **Identified by:** Nakada, Takashi (2005-11-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AFAC; 23°C; 180-200µmol/m²/s; 1 M **Habitat:** Freshwater (Paddy soil) **Characteristics:** Resting spore forming **Gene data:** 18S rRNA (AB248247); *psaB* (AB248253) **Other strain no.:** MkCl-10 **Reference:** 615
- 1716** **History:** < Nozaki, Hisayoshi **Locality:** Ebina/Kanagawa/Japan (2004-02-26) **Isolator:** Nakada, Takashi **Identified by:** Nakada, Takashi (2005-11-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AFAC; 23°C; 180-200µmol/m²/s; 1 M **Habitat:** Freshwater (Paddy soil) **Characteristics:** Resting spore forming **Gene data:** 18S rRNA (AB248250); *psaB* (AB248256) **Other strain no.:** EbCl-11 **Reference:** 615
- 1717** **History:** < Nozaki, Hisayoshi **Locality:** Kitahiroshima/Hokkaido/Japan (2004-03-27) **Isolator:** Nakada, Takashi **Identified by:** Nakada, Takashi (2005-11-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AFAC; 23°C; 180-200µmol/m²/s; 1 M **Habitat:** Freshwater (Paddy soil) **Characteristics:** Resting spore forming **Gene data:** 18S rRNA (AB248248); *psaB* (AB248254) **Other strain no.:** KhCl-1 **Reference:** 615
- 1718** **History:** < Nozaki, Hisayoshi **Locality:** Kawagoe/Saitama/Japan (2004-05-30) **Isolator:** Nakada, Takashi **Identified by:** Nakada, Takashi (2005-11-**) **States:** Unialgal; Clonal; Non-axenic

Culture conditions: AFAC; 23°C; 180-200µmol/m²/s; 1 M **Habitat:** Freshwater (Paddy soil)
Characteristics: Resting spore forming **Gene data:** 18S rRNA (AB248249); psaB (AB248255)
Other strain no.: KgCl-4-5 **Reference:** 615

Hafniomonas sp.

1841 History: < TKB **Locality:** Ryugasaki/Ibaraki/Japan (2005-09-29) **Isolator:** Chikuni, Tomoko
Identified by: Nakayama, Takeshi (2005-**-**) **States:** Unialgal; Non-clonal; Non-axenic
Culture conditions: AF-6; 25°C; 180-200µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water)
Other strain no.: TKB-275

Hafniomonas turbinea Nakada et Nozaki

1719 History: < Nozaki, Hisayoshi **Locality:** Naruto/Chiba/Japan (2003-08-15) **Isolator:** Nakada, Takashi
Identified by: Nakada, Takashi (2005-11-**) **States:** Unialgal; Clonal; Non-axenic
Culture conditions: AFAC; 23°C; 180-200µmol/m²/s; 1 M **Habitat:** Freshwater (Paddy soil)
Characteristics: Mixotrophic **Other strain no.:** NrCl-4

1720 History: < Nozaki, Hisayoshi **Locality:** Naruto/Chiba/Japan (2003-08-15) **Isolator:** Nakada, Takashi
Identified by: Nakada, Takashi (2005-11-**) **States:** Unialgal; Clonal; Non-axenic
Culture conditions: AFAC; 23°C; 180-200µmol/m²/s; 1 M **Habitat:** Freshwater (Paddy soil)
Characteristics: Mixotrophic; Authentic strain **Gene data:** 18S rRNA (AB248252); psaB (AB248258) **Other strain no.:** NrCl-5 **Reference:** 615

1721 History: < Nozaki, Hisayoshi **Locality:** Naruto/Chiba/Japan (2003-08-15) **Isolator:** Nakada, Takashi
Identified by: Nakada, Takashi (2005-11-**) **States:** Unialgal; Clonal; Non-axenic
Culture conditions: AFAC; 23°C; 180-200µmol/m²/s; 1 M **Habitat:** Freshwater (Paddy soil)
Characteristics: Mixotrophic **Other strain no.:** NrCl-8

HALOCHLOROCOCCUM : Ulvophyceae

Halochlorococcum sp.

1838 History: < TKB **Locality:** Tokyo/Japan (2005-01-**) **Isolator:** Nakayama, Takeshi **Identified by:** Nakayama, Takeshi (2006-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 20°C; 20-30µmol/m²/s; 2 M **Habitat:** (Seawater) **Other strain no.:** TKB-269

1839 History: < TKB **Locality:** Yumenoshima/Tokyo/Japan (2005-01-**) **Isolator:** Nakayama, Takeshi
Identified by: Nakayama, Takeshi (2006-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 20°C; 20-30µmol/m²/s; 2 M **Habitat:** (Seawater) **Other strain no.:** TKB-270

HAMAKKO : Chlorophyceae

Hamakko caudatus Nakada

2293 History: < Nakada, Takashi **Locality:** Kanagawa/Japan (2003-05-12) **Isolator:** Nakada, Takashi
Identified by: Nakada, Takashi (2007-12-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; MG; 20°C; 32-40µmol/m²/s; 1 M **Habitat:** Freshwater (Soil) **Characteristics:** Authentic strain **Gene data:** 18S rRNA (AB451188); psaB (AB451212); rbcL (AB451193) **Other strain no.:** KzCl-4-1 **Reference:** 609

HANTZSCHIA : Bacillariophyceae

Hantzschia amphioxys (Ehrenberg) Grunow var. *compacta* Hustedt

587 History: < Hagiwara, Tomiji **Locality:** Tsukuba/Ibaraki/Japan (1990-04-19) **Isolator:** Hagiwara, Tomiji
Identified by: Hagiwara, Tomiji **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CSi; 15°C; 35-50µmol/m²/s; 1 M **Habitat:** Terrestrial (Concrete wall) **Other strain no.:** Wn-24

HARAMONAS : Raphidophyceae

Haramonas dimorpha Horiguchi

716 History: < Horiguchi, Takeo **Locality:** Daintree River/Australia (1991-09-21) **Isolator:** Horiguchi,

Takeo **Identified by:** Horiguchi, Takeo **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; ESM; 20°C; 40-50µmol/m²/s; 1 M **Habitat:** Brackish water (Sediment) **Characteristics:** Benthic; Authentic strain **Gene data:** 18S rRNA (AB365025); CO1 (AB334516); GapC1 (AB459523); GapC2 (AB459524); ITS1-5.8S-ITS2 (AB334370); petD (AB280618); psaA (AB367952); psbB (AB280591); psbC (AB280597); psbD (AB280602); rbcL (AB280608); rbcL (AB334443); tufA (AB367953) **References:** 65, 217, 245, 1036, 1214 **Remarks:** Fragile species to transportation stresses

Haramonas pauciplastida Yamaguchi, Hoppenrath, Takishita et Horiguchi

1870 **History:** < Yamaguchi, Haruyo **Locality:** Vancouver Isl., Pacher Beach/Canada (2005-05-**) **Isolator:** Hoppenrath, Mona **Identified by:** Yamaguchi, Haruyo (2007-08-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 15-22µmol/m²/s; 1 M **Habitat:** Marine (Sand) **Characteristics:** Benthic; Authentic strain **Reference:** 1214 **Remarks:** Fragile species to transportation stresses

Haramonas sp.

1701 **History:** < Honda, Daiske **Locality:** Yashima Isl./Kagawa/Japan (2001-04-17) **Isolator:** Fukaya, Sachiko **Identified by:** Fukaya, Sachiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MNK; 20°C; 32-40µmol/m²/s; 14 D **Habitat:** Marine (Sand) **Characteristics:** Red tide; Benthic **Other strain no.:** SEK-115 **Remarks:** Fragile species to transportation stresses

HEMIDINIUM : Dinophyceae

Hemidinium nasutum Stein

471 **History:** < Sawaguchi, Tomohiro **Locality:** Tsuchiura/Ibaraki/Japan (1987-08-27) **Isolator:** Sawaguchi, Tomohiro **Identified by:** Sawaguchi, Tomohiro **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6/2; 20°C; 40-50µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Other strain no.:** 87SPD-1 **Remarks:** Fragile species to transportation stresses

HEMIFLAGELLOCHLORIS : Chlorophyceae

Hemiflagellochloris kazakhstanica S.Watanabe, Tsujimura, Misono, Nakamura et Inoue

1722 **History:** < Watanabe, Shin **Locality:** Lower Ili River Basin/Kazakhstan (1993-09-19) **Identified by:** Watanabe, Shin (2002-07-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C (agar); 20°C; 4-10µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Terrestrial **Characteristics:** Authentic strain **Other strain no.:** BAKg15

HETEROCAPSA : Dinophyceae

Heterocapsa horiguchii Iwataki, Takayama et Matsuoka

614 **History:** < Sawaguchi, Tomohiro **Locality:** Kashiwazaki/Niigata/Japan (1986-08-04) **Isolator:** Sawaguchi, Tomohiro **Identified by:** Sawaguchi, Tomohiro **Formerly identified as:** Cachonina niei Loeblich III **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 40-50µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** KSTH-29 **Reference:** 321 **Remarks:** Fragile species to transportation stresses

Heterocapsa niei (Loeblich III) Morrill et Loeblich III
Syn. Cachonina niei Loeblich III

420 **History:** < Sawaguchi, Tomohiro **Locality:** Iriomote Isl./Okinawa/Japan (1986-01-23) **Isolator:** Sawaguchi, Tomohiro **Identified by:** Sawaguchi, Tomohiro **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** ESM; 20°C; 40-50µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** IID-1 **Reference:** 321 **Remarks:** Fragile species to transportation stresses

Heterocapsa ovata Iwataki et Fukuyo

472 **History:** < Sawaguchi, Tomohiro **Locality:** Kashiwazaki/Niigata/Japan (1986-08-04) **Isolator:** Sawaguchi, Tomohiro **Identified by:** Sawaguchi, Tomohiro **Formerly identified as:** Heterocapsa pygmaea Loeblich III, Schmidt et Sherley **States:** Unialgal; Clonal; Non-axenic **Culture**

conditions: ESM; 20°C; 40-50µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** KSTH-23 **References:** 197, 320, 321 **Remarks:** Fragile species to transportation stresses

Heterocapsa pseudotriquetra Iwataki, Hansen et Fukuyo

473 History: < Sawaguchi, Tomohiro **Locality:** Tsushima Isl./Nagasaki/Japan (1986-03-13) **Isolator:** Sawaguchi, Tomohiro **Identified by:** Sawaguchi, Tomohiro **Formerly identified as:** *Heterocapsa pygmaea* Lobelich III, Schmidt et Sherley **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 40-50µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** TMUD-2 **References:** 197, 321 **Remarks:** Fragile species to transportation stresses

Heterocapsa rotundata (Lohmann) Hansen

Syn. *Katodinium rotundatum* (Lohmann) Loeblich III

356 History: < Sawaguchi, Tomohiro **Locality:** Hachinohe Harbor/Aomori/Japan (1985-01-06) **Isolator:** Sawaguchi, Tomohiro **Identified by:** Sawaguchi, Tomohiro **States:** Unialgal; Clonal; Axenic **Culture conditions:** f/2; ESM; 10°C; 6-12µmol/m²/s; 1 M (10°C; 10-15µmol/m²/s) **Habitat:** Marine (Seawater) **Other strain no.:** HHD-1 **Remarks:** Unstable; Fragile species to transportation stresses

Heterocapsa sp.

1403 History: < TKB **Locality:** Tsukuba Univ. Marine Research Center/Shizuoka/Japan (2003-04-03) **Isolator:** Kai, Atsushi **Identified by:** Kai, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 20°C; 40-50µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Other strain no.:** TKB-060 (AK-04) **Remarks:** Fragile species to transportation stresses

2343 History: < KAGAWA < Yoshimatsu, Sadaaki **Locality:** Ago Bay/Mie/Japan (1992-12-**) **Isolator:** Yoshimatsu, Sadaaki **Identified by:** Yoshimatsu, Sadaaki **States:** Clonal **Culture conditions:** ESM; 20°C; 40-50µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Other strain no.:** Mie-92 **Remarks:** Fragile species to transportation stresses

2344 History: < KAGAWA < Yoshimatsu, Sadaaki **Locality:** Uranouchi Bay/Kochi/Japan (1988-09-**) **Isolator:** Yoshimatsu, Sadaaki **Identified by:** Yoshimatsu, Sadaaki **States:** Clonal **Culture conditions:** ESM; 20°C; 40-50µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Other strain no.:** Uranouchi **Remarks:** Fragile species to transportation stresses

Heterocapsa triquetra Stein

7 History: < Watanabe, Makoto M. **Locality:** Osaka Bay/Osaka/Japan (1981-04-**) **Isolator:** Yamochi, Susumu **Identified by:** Yamochi, Susumu **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** f/2; ESM; 20°C; 32-40µmol/m²/s; 1 M **Habitat:** Marine **Characteristics:** Red tide **Other strain no.:** OHet **References:** 197, 335, 434, 465, 466, 676, 677 **Remarks:** Fragile species to transportation stresses

235 History: < KAGAWA **Locality:** Harima-Nada/Japan (1982-03-10) **Isolator:** Yoshimatsu, Sadaaki **Identified by:** Yoshimatsu, Sadaaki **States:** Unialgal; Clonal; Axenic[2012 Feb] **Culture conditions:** f/2; 20°C; 32-40µmol/m²/s; 1 M **Habitat:** Marine **Characteristics:** Red tide **Other strain no.:** KGW-57 **References:** 197, 1115 **Remarks:** Fragile species to transportation stresses

HETEROCHLAMYDOMONAS : Chlorophyceae

Heterochlamydomonas lobata Langford et Cox

2581 History: < IAM (2007) < BIU (UTEX; 1967) **Other collection strain no.:** IAM C-268; SAG 38.72; UTEX 728 **Locality:** Canada **Isolator:** Lewin, Ralph A. **Identified by:** Ettl, H.; Schlösser, U.G. **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C (agar); 20 °C ; 8-15µmol/m²/s; 3 M **Other strain no.:** Lewin ZZ.1,D/4

Heterochlamydomonas sp.

157 History: < Watanabe, Shin **Locality:** Mt. Shiroumadake/Nagano/Japan (1980-08-**) **Isolator:** Watanabe, Shin **Identified by:** Watanabe, Shin **Formerly identified as:** *Chlamydomonas monticola* S.Watanabe **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C (agar); 20°C; 4-10µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Terrestrial (Soil) **Other strain no.:**

KUC80-4 **References:** 567, 838, 1186

HETEROSIGMA : Raphidophyceae

Heterosigma akashiwo (Hada) Hada ex Y.Hara et Chihara

- 5** **History:** < Iwasaki, Hideo **Locality:** Gokasho Bay/Mie/Japan (1966-**-**) **Isolator:** Iwasaki, Hideo **Identified by:** Hara, Yoshiaki **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** f/2; 20°C; 32-40µmol/m²/s; 1 M **Habitat:** Marine **Characteristics:** Red tide **Gene data:** 16S rRNA (AB181953); 16S-tRNA-Ile-tRNA-Ala-23S (AB181957); 28S rRNA (AB217644); CO1 (AB334506); rbcL (AB334433); rbcL, rbcS, cfxQ, psbA (AB176660) **Other strain no.:** GHE **References:** 65, 318, 878 **Remarks:** Fragile species to transportation stresses
- 6** **History:** < Watanabe, Makoto M. **Locality:** Osaka Bay/Osaka/Japan (1979-08-**) **Isolator:** Watanabe, Makoto M. **Identified by:** Watanabe, Makoto M. **States:** Unialgal; Clonal; Axenic **Culture conditions:** f/2; 20°C; 32-40µmol/m²/s; 1 M **Habitat:** Marine **Characteristics:** Red tide **Gene data:** 16S rRNA (AB181954); 16S-tRNA-Ile-tRNA-Ala-23S (AB181958); 18S-ITS1-5.8S-ITS2-28S (AF157381); CO1 (AB334507); rbcL (AB334434) **Other strain no.:** OHE-1 **References:** 65, 115, 152, 173, 389, 390, 391, 426, 427, 428, 430, 433, 434, 441, 562, 563, 568, 592, 629, 676, 679, 750, 800, 907, 969, 970, 993, 1118, 1119, 1120, 1139, 1162, 1164, 1165, 1166, 1167, 1168, 1175, 1176, 1177, 1178, 1179, 1180, 1183, 1184, 1213, 1235, 1243 **Remarks:** Fragile species to transportation stresses
- 9** **History:** < Watanabe, Makoto M. **Locality:** Harima-Nada/Japan (1983-02-**) **Isolator:** Watanabe, Makoto M. **Identified by:** Watanabe, Makoto M. **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** f/2; 20 °C ; 32-40µmol/m²/s; 1 M **Habitat:** Marine (Sediment) **Characteristics:** Red tide **Gene data:** 18S-ITS1-5.8S-ITS2-28S (AF163817); CO1 (AB334508); rbcL (AB334435) **Other strain no.:** H-28 **References:** 65, 137 **Remarks:** Fragile species to transportation stresses
- 10** **History:** < Watanabe, Makoto M. **Locality:** Harima-Nada/Japan (1983-02-**) **Isolator:** Watanabe, Makoto M. **Identified by:** Watanabe, Makoto M. **States:** Unialgal; Clonal; Axenic[2012 Feb] **Culture conditions:** f/2; 20 °C ; 32-40µmol/m²/s; 1 M **Habitat:** Marine (Sediment) **Characteristics:** Red tide **Gene data:** CO1 (AB334436); rbcL (AB334436) **Other strain no.:** H-40 **Reference:** 65 **Remarks:** Fragile species to transportation stresses
- 145** **History:** < KAGAWA **Locality:** Kagoshima/Japan (1978-05-21) **Isolator:** Yoshimatsu, Sadaaki **Identified by:** Yoshimatsu, Sadaaki **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** f/2; 20°C; 32-40µmol/m²/s; 1 M **Habitat:** Marine **Characteristics:** Red tide **Gene data:** 28S rRNA (AB217645); CO1 (AB334510); rbcL (AB334437) **Other strain no.:** KGW-11-5 **References:** 65, 335, 1115 **Remarks:** Fragile species to transportation stresses
- 146** **History:** < KAGAWA **Locality:** Shido Bay/Kagawa/Japan (1978-06-20) **Isolator:** Yuki, Katsuhisa **Identified by:** Yuki, Katsuhisa **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** f/2; 20°C; 32-40µmol/m²/s; 1 M **Habitat:** Marine **Characteristics:** Red tide **Gene data:** CO1 (AB334511); rbcL (AB334438) **Other strain no.:** KGW-21-2 **Reference:** 65 **Remarks:** Fragile species to transportation stresses
- 293** **History:** < Suda, Shoichiro **Locality:** Onagawa Bay/Miyagi/Japan (1984-08-28) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** f/2; 20°C; 32-40µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Gene data:** 18S-ITS1-5.8S-ITS2-28S (DQ470658); chloroplast genome (NC_010772); chloroplast genome (EU168190); CO1 (AB334512); rbcL (AB334439) **Other strain no.:** 8280G21-1 **References:** 48, 58, 65, 386, 1021 **Remarks:** Fragile species to transportation stresses
- 561** **History:** < Honjo, Tsuneo **Locality:** Mikawa Bay/Aichi/Japan **Isolator:** Toriumi, Saburo **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** f/2; 20°C; 32-40µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Gene data:** CO1 (AB334513); ITS1-5.8S-ITS2 (AB334369); rbcL (AB334440) **References:** 65, 867, 868, 1074 **Remarks:** Fragile species to transportation stresses
- 1830** **History:** < TKB **Locality:** Miyajima Isl./Hiroshima/Japan (2004-12-10) **Isolator:** Nakayama,

Takeshi **Identified by:** Nakayama, Takeshi (2005-**-**) **States:** Unialgal; Clonal; Non-axenic
Culture conditions: f/2; 20 °C ; 32-40 $\mu\text{mol}/\text{m}^2/\text{s}$; 1 M **Habitat:** Marine (Seawater)
Characteristics: Red tide **Other strain no.:** TKB-302 **Remarks:** Fragile species to transportation stresses

HEXAMITA : Trepomonadea

Hexamita sp.

1440 **History:** < TKB **Locality:** Hyotaro-ike Pond/Ibaraki/Japan (2003-05-26) **Isolator:** Yubuki, Naoji
Identified by: Yubuki, Naoji **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** UYTS +
 Rice; 15°C; 0 $\mu\text{mol}/\text{m}^2/\text{s}$; 20 D **Habitat:** Freshwater (Pond water) **Characteristics:** Offensive taste
 and odor; Heterotrophic **Other strain no.:** TKB-057 (NY0140) **Reference:** 137

HYALOLITHUS : Prymnesiophyceae

Hyalolithus neolepis Yoshida, Noël, Nakayama, Naganuma et Inouye

1393 **History:** < TKB **Locality:** Shiribeshi Seamount/Hokkaido/Japan (2001-07-19) **Isolator:** Yoshida,
 Masaki **Identified by:** Yoshida, Masaki (2001-**-**) **States:** Unialgal; Clonal; Non-axenic
Culture conditions: MNK; 18 °C ; 40-50 $\mu\text{mol}/\text{m}^2/\text{s}$; 1 M **Habitat:** Marine (Seawater)
Characteristics: Authentic strain **Other strain no.:** TKB-005 (ym-05) **Reference:** 1250

HYALOTHECA : Charophyceae

Hyalotheca dissiliens Brébisson ex Ralfs

147 **History:** < IAM (1983) **Other collection strain no.:** IAM C-510 **Locality:**
 Nagatoro/Saitama/Japan (1969-11-13) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura,
 Terunobu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C; 20°C; 8-15 $\mu\text{mol}/\text{m}^2/\text{s}$; 3 M
 (20°C; 15-27 $\mu\text{mol}/\text{m}^2/\text{s}$) **Habitat:** Freshwater (Pond sediment) **Characteristics:** Heterothallic;
 Crosses with NIES-148 **Other strain no.:** S-9-18 **Reference:** 567

148 **History:** < IAM (1983) **Other collection strain no.:** IAM C-511 **Locality:**
 Nagatoro/Saitama/Japan (1969-11-13) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura,
 Terunobu **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 20°C; 8-15 $\mu\text{mol}/\text{m}^2/\text{s}$; 3 M
 (20°C; 15-27 $\mu\text{mol}/\text{m}^2/\text{s}$) **Habitat:** Freshwater (Pond sediment) **Characteristics:** Heterothallic;
 Crosses with NIES-147 **Other strain no.:** S-9-22 **Reference:** 567

150 **History:** < IAM (1983) **Other collection strain no.:** IAM C-513 **Locality:** Lake
 Kasumigaura/Ibaraki/Japan (1975-12-16) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura,
 Terunobu **States:** Unialgal; Clonal; Axenic **Culture conditions:** VT; 20°C; 8-15 $\mu\text{mol}/\text{m}^2/\text{s}$; 1 M
Habitat: Freshwater (Lake water) **Characteristics:** Heterothallic **Other strain no.:** KAS-7-8
Reference: 567

Hyalotheca dissiliens Brébisson ex Ralfs f. *tridentula* (Nordstedt) Boldt

294 **History:** < Kasai, Fumie **Locality:** Tsukuba/Ibaraki/Japan (1982-**-**) **Isolator:** Kasai, Fumie
Identified by: Kasai, Fumie **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** VT; 20°C;
 8-15 $\mu\text{mol}/\text{m}^2/\text{s}$; 3 M (20°C; 15-27 $\mu\text{mol}/\text{m}^2/\text{s}$) **Habitat:** Freshwater (Pond water) **Characteristics:**
 Homothallic **Other strain no.:** H-1 **Reference:** 567

HYDROCOCCUS : Cyanophyceae

Hydrococcus rivularis Kützing

593 **History:** < Hagiwara, Tomiji **Locality:** Yukawa Hot Spring/Iwate/Japan (1990-09-09) **Isolator:**
 Hagiwara, Tomiji **Identified by:** Hagiwara, Tomiji **States:** Unialgal; Clonal; Non-axenic **Culture**
conditions: CB; 20°C; 4-10 $\mu\text{mol}/\text{m}^2/\text{s}$; 4 M (25°C; 70-80 $\mu\text{mol}/\text{m}^2/\text{s}$) **Habitat:** Hot spring (Water)
Characteristics: Benthic **Other strain no.:** Yu-52 **References:** 221, 567

HYDRODICTYON : Chlorophyceae*Hydrodictyon reticulatum* (Lagerheim) Lagerheim

295 **History:** < IAM (1983) **Other collection strain no.:** IAM C-335 **Locality:** Osaka/Japan (1968-11-10) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C (agar); 20 °C ; 4-10 μ mol/m²/s; 3 M (25 °C ; 70-80 μ mol/m²/s) **Habitat:** Freshwater (Paddy soil) **Characteristics:** Homothallic **Other strain no.:** O-2 **References:** 235, 567

HYMENOMONAS : Prymnesiophyceae*Hymenomonas coronata* Mills

1016 **History:** < Moriya, Mayumi **Locality:** Hirara, Shimajiri/Okinawa/Japan (2002-03-17) **Isolator:** Moriya, Mayumi **Identified by:** Noël, Mary-Hélène **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 15°C; 15-22 μ mol/m²/s; 1 M **Habitat:** Brackish water (Water) **Other strain no.:** M-27 **Reference:** 142

IMANTONIA : Prymnesiophyceae*Imantonia rotunda* Reynolds emend. J.C. Green et Pienaar

1001 **History:** < Kawachi, Masanobu **Locality:** Chiba Harbor/Chiba/Japan (1990-10-**) **Isolator:** Kawachi, Masanobu **Identified by:** Kawachi, Masanobu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MNK; 20 °C ; 20-30 μ mol/m²/s; 14 D **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Other strain no.:** Iman2

1394 **History:** < TKB **Locality:** Onahama Harbor/Fukushima/Japan (2004-07-07) **Isolator:** Nakayama, Takeshi **Identified by:** Nakayama, Takeshi **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** f/2; 20°C; 40-50 μ mol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** TKB-128 (nak22)

INTERFILUM : Charophyceae*Interfilum paradoxum* Chodat et Topali

2180 **History:** < IAM (2007) < BIU (UTEX) **Other collection strain no.:** IAM C-161; CCAP 338/1; SAG 338-1; ATCC 30445; UTEX 177 **Locality:** U.K. **Isolator:** Pringsheim, E. G. **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** Pro (agar); 20°C; 8-15 μ mol/m²/s; 3 M **Habitat:** (Soil)

ISOCHRYSIS : Prymnesiophyceae*Isochrysis galbana* Parke

2590 **History:** < RCC (2009) **Other collection strain no.:** RCC 178 **Locality:** English Channel/Brittany Coast/France **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 22-32 μ mol/m²/s; 14 D **Habitat:** Marine (Seawater) **Other strain no.:** Caen

KARENIA : Dinophyceae*Karenia mikimotoi* (Miyake et Kominami ex Oda) Hansen et Moestrup

Syn. *Gymnodinium mikimotoi* Miyake et Kominami ex Oda; *Gymnodinium nagasakiense* Takayama et Adachi

2411 **History:** < Iwataki, Mitsunori **Locality:** Katagami Bay/Nagasaki/Japan (2004-06-04) **Isolator:** Iwataki, Mitsunori **Identified by:** Iwataki, Mitsunori (2004-06-04) **States:** Unialgal **Culture conditions:** MNK; 20°C; 32-40 μ mol/m²/s; 1 M **Habitat:** Marine **Remarks:** Fragile species to transportation stresses

KARLODINIUM : Dinophyceae

Karlodinium veneficum (Ballantine) Larsen

1966 **History:** < TKB **Locality:** Kobe, Suma-ku/Hyogo/Japan (2005-12-10) **Isolator:** Nakayama, Takeshi **Identified by:** Yamaguchi, Haruyo (2006-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** IMK; 20°C; 10-15µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** TKB-327 **Remarks:** Fragile species to transportation stresses

KATHABLEPHARIS : Kathablepharidea*Kathablepharis japonica* Okamoto et Inouye

1334 **History:** < TKB **Locality:** Tokyo Bay/Japan (2004-01-20) **Isolator:** Okamoto, Noriko **Identified by:** Okamoto, Noriko **States:** Mixed; Clonal; Non-axenic **Culture conditions:** mIMR (NIES-1333 should be cultured in advance as a prey); 20°C; 15-22µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Characteristics:** Predator; Phagotrophic; Feeds on Chrysochromulina sp. (NIES-1333) **Gene data:** 18S rRNA (AB193602) **Other strain no.:** TKB-090 (nrc066) **Reference:** 799

KATODINIUM : Dinophyceae*Katodinium* sp.

2008 **History:** < Noël, Mary-Hélène **Locality:** New Castle/South Pacific Ocean (2005-06-21) **Isolator:** Noël, Mary-Hélène **Identified by:** Noël, Mary-Hélène (2005-12-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MNK; 20°C; 10-15µmol/m²/s; 20 D **Habitat:** Marine (Seawater) **Other strain no.:** MHW17 **Remarks:** Fragile species to transportation stresses

2009 **History:** < Noël, Mary-Hélène **Locality:** Seto Inland Sea/Japan (2005-05-12) **Isolator:** Noël, Mary-Hélène **Identified by:** Noël, Mary-Hélène (2005-12-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MNK; 20°C; 10-15µmol/m²/s; 20 D **Habitat:** Marine (Sediment) **Other strain no.:** MHW18 **Remarks:** Fragile species to transportation stresses

KENTROSPHAERA : Ulvophyceae*Kentrosphaera* sp.

154 **History:** < Watanabe, Shin **Locality:** Sasebo/Nagasaki/Japan (1975-08-12) **Isolator:** Watanabe, Shin **Identified by:** Watanabe, Shin **Formerly identified as:** Characium maximum S.Watanabe **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** C (agar); 20°C; 4-10µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Terrestrial (Soil) **Other strain no.:** 6-EBO-2 **References:** 567, 1186 **Remarks:** Cryopreserved

KLEBSORMIDIUM : Charophyceae*Klebsormidium flaccidum* (Kützing) Silva, Mattox et Blackwell

2285 **History:** < IAM (2007) < BIU (UTEX; 1965) **Other collection strain no.:** IAM C-117; UTEX 321; SAG 335-1a; CCAP 335/1a **Isolator:** Pringsheim, E. G. **Formerly identified as:** Hormidium barlowi **States:** Unialgal; Clonal; Axenic[2012 Feb] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Reference:** 88

2286 **History:** < IAM (2007) **Other collection strain no.:** IAM C-164 **Locality:** U.S.A. **Isolator:** Pringsheim, E. G. **Formerly identified as:** Hormidium flaccidum (Kützing) A.Braun **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M

2408 **History:** < Nagao, Manabu **Locality:** Hokkaido University/Hokkaido/Japan (2000-10-08) **Isolator:** Nagao, Manabu **Identified by:** Nagao, Manabu (2001-02-01) **States:** Unialgal **Culture conditions:** C; 20°C; 22-32µmol/m²/s; 2 M **Habitat:** Terrestrial (Soil) **Characteristics:** Cryophilic; Resting spore forming **References:** 597, 598, 599

LAGERHEIMIA : Trebouxiophyceae*Lagerheimia ciliata* (Lagerheim) Chodat

382 **History:** < Kasai, Fumie **Locality:** Lake Kasumigaura/Ibaraki/Japan (1983-08-23) **Isolator:** Kasai, Fumie **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 20°C; 4-10µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Lake water) **Other strain no.:** F37-1 **Reference:** 567 **Remarks:** Cryopreserved

LAGYNION : Chrysophyceae

Lagynion subglobosum Starmach

1827 **History:** < TKB **Locality:** Hyotaro-ike Pond/Ibaraki/Japan (2004-06-24) **Isolator:** Nakayama, Takeshi **Identified by:** Nakayama, Takeshi (2004-**-**) **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 20-30µmol/m²/s; 2 M **Habitat:** Freshwater (Pond water) **Other strain no.:** TKB-133

LAMPROTHAMNIUM : Charophyceae

Lamprothamnium succinctum (A.Braun) R.D. Wood

1606 **History:** < Sakayama, Hidetoshi **Locality:** Jaga-ike Pond/Tokushima/Japan (2004-06-14) **Identified by:** Sakayama, Hidetoshi (2004-06-14) **States:** Clonal; Non-axenic **Culture conditions:** mSWC-2; SWCN-2; 1/3HerbstASW; 20°C; 16-20µmol/m²/s; 6 M **Habitat:** Brackish water **Characteristics:** Monoecious; CR+EN **Other strain no.:** CH-100

LEPIDODINIUM : Dinophyceae

Lepidodinium chlorophorum (Elbrachter et Schnepf) Hansen, Botes et de Salas

Syn. *Gymnodinium chlorophorum* Elbrachter et Schnepf

1868 **History:** < Kawachi, Masanobu **Locality:** East China Sea (2004-07-28) **Isolator:** Noël, Mary-Hélène **Identified by:** Kawachi, Masanobu (2007-08-20) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MNK; 20°C; 18-26µmol/m²/s; 20 D **Habitat:** Marine (Seawater) **Characteristics:** Green chloroplast **Gene data:** 18S rRNA (AB686254) **Other strain no.:** MH210 **Reference:** 505 **Remarks:** Fragile species to transportation stresses

LEPTOLYNGBYA : Cyanophyceae

Leptolyngbya sp.

30 **History:** < IAM (1983) **Other collection strain no.:** IAM M-40 **Locality:** Akita/Japan **Isolator:** Ishikawa, Masako **Identified by:** Fukushima, Hiroshi; Watanabe, Makoto M. (Reidentify); Homma, Takamitsu (Re-reidentify) **Formerly identified as:** *Phormidium tenue* (C.Agardh ex Gomont) Anagnostidis et Komárek **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** MDM (agar); 20°C; 4-10µmol/m²/s; 4 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Paddy field) **Gene data:** 16S rRNA (AB042857) **References:** 235, 567, 796, 955 **Remarks:** Cryopreserved

2103 **History:** < IAM (2007) < Katoh, Hiroshi **Other collection strain no.:** IAM M-288 **Locality:** Himeji/Hyogo/Japan (2002-**-**) **Isolator:** Katoh, Hiroshi **Identified by:** Katoh, Hiroshi **States:** Unialgal; Clonal; Axenic[2012 Feb] **Culture conditions:** BG-11 (agar); 20°C; 13-18µmol/m²/s; 3 M **Habitat:** Terrestrial **Characteristics:** Drought tolerance **Other strain no.:** HK-03

2104 **History:** < IAM (2007) < Katoh, Hiroshi **Other collection strain no.:** IAM M-289 **Locality:** Himeji/Hyogo/Japan (2002-**-**) **Isolator:** Katoh, Hiroshi **Identified by:** Katoh, Hiroshi **States:** Unialgal; Clonal; Axenic[2012 Feb] **Culture conditions:** BG-11 (agar); 20°C; 13-18µmol/m²/s; 3 M **Habitat:** Terrestrial **Characteristics:** Drought tolerance **Other strain no.:** HK-04

LEUCOCRYPTOS : Kathablepharidea

Leucocryptos marina (Braarud) Butcher

1335 **History:** < TKB **Locality:** Tokyo Bay/Japan (2003-10-16) **Isolator:** Okamoto, Noriko **Identified by:** Okamoto, Noriko **States:** Mixed; Non-clonal; Non-axenic **Culture conditions:** f/2

(NIES-1333 should be cultured in advance as a prey); 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Characteristics:** Phagotrophic; Heterotrophic; Feeds on Chrysochromulina sp. (NIES-1333) **Gene data:** 18S rRNA (AB194980); β-tubulin (AB194977); β-tubulin (AB194978) **Other strain no.:** TKB-081 (nrc057) **References:** 392, 799

LIMNOTHRIX : Cyanophyceae

Limnothrix redekei (Van Goor) Meffert
Syn. *Oscillatoria redekei* Van Goor

847 **History:** < Suda, Shoichiro < NIVA **Other collection strain no.:** NIVA CYA 277/1 **Locality:** Lake Mälaren/Sweden (1990-**-**) **Isolator:** Skulberg, R. **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Axenic **Culture conditions:** CT; 22°C; 70-90µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko) **Gene data:** 16S rRNA (AB045929) **References:** 221, 991 **Remarks:** Cryopreserved

LITHODESMIUM : Bacillariophyceae

Lithodesmium variable Takano

588 **History:** < Ono, Sachiko **Locality:** Hitachi/Ibaraki/Japan (1990-09-26) **Isolator:** Ono, Sachiko **Identified by:** Ono, Sachiko **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** f/2; 15°C; 10-18µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Other strain no.:** St-12

LOBOCHLAMYS : Chlorophyceae

Lobochlamys culleus (Ettl) Pröschold, Marin, Schlösser et Melkonian

2209 **History:** < IAM (2007) < UTEX (1996) **Other collection strain no.:** IAM C-552 (=C-231); SAG 18.72; UTEX 1057; CGC CC-1743 **Locality:** near Maxville/Florida/U.S.A. **Isolator:** Smith, G. M. **Formerly identified as:** *Chlamydomonas culleus* Ettl; *Chlamydomonas frankii* Pascher **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Characteristics:** Heterothallic; Mating type(+); Crosses with NIES-2210 (IAM C-553) **Other strain no.:** *Chlamydomonas culleus*

2210 **History:** < IAM (2007) < UTEX (1996) **Other collection strain no.:** IAM C-553 (=C-232); SAG 19.72; UTEX 1058; CGC CC-1744 **Locality:** near Maxville/Florida/U.S.A. **Isolator:** Smith, G. M. **Formerly identified as:** *Chlamydomonas culleus* Ettl; *Chlamydomonas frankii* Pascher **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Characteristics:** Heterothallic; Mating type(-); Crosses with NIES-2209 (IAM C-552)

Lobochlamys segnis (Ettl) Pröschold, Marin, Schlösser et Melkonian

2214 **History:** < IAM (2007) < BIU (UTEX; 1967) **Other collection strain no.:** IAM C-230; CCAP 11/69; SAG 17.72; UTEX 1349 **Isolator:** Ettl, H. **Formerly identified as:** *Chlamydomonas fimbriata* Ettl **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Reference:** 735

2240 **History:** < IAM (2007) < BIU (UTEX; 1967) **Other collection strain no.:** IAM C-254; ATCC 30631; CCAP 11/13; SAG 11-13; UTEX 222 **Locality:** West Humble, Dorking/U.K. **Isolator:** Pringsheim, E. G. **Formerly identified as:** *Chlamydomonas segnis* Ettl; *Chlamydomonas intermedia* Chodat **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Habitat:** Freshwater (Pond water)

LOBOMONAS : Chlorophyceae

Lobomonas monstrosa Korshikov

474 **History:** < Suda, Shoichiro **Locality:** Iwaki/Fukushima/Japan (1984-08-26) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 20°C; 22-32µmol/m²/s; 2 M **Habitat:** Freshwater (Pond water) **Gene data:** atpB (AB044533);

psaA (AB044421); psaB (AB044472); psbC (AB044530); rbcL (AB044171) **Other strain no.:** FL
References: 567, 733, 740

Lobomonas piriformis Pringsheim

2266 History: < IAM (2007) < UTEX (1996) **Other collection strain no.:** IAM C-584 (=C-297); ATCC 30403; SAG 45-1; UTEX 17; CCAP 45/1 **Locality:** shore of River Elbe/Czechoslovakia
Isolator: Pringsheim, E. G. **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M

LOTHARELLA : Chlorarachniophyceae

Lotharella reticulosa Ohta

2584 History: < RCC (2009) **Other collection strain no.:** RCC 375 **Locality:** Mediterranean Sea (1999-09-26) **Isolator:** Partensky, F.; Le Gall, F. (Re-isolation) **Identified by:** Confirmed at RCC by DNA sequencing **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** PROSOPE 97-1 **Reference:** 832

LUTEOCERASUS : Dictyochophyceae

Luteocerasus tetraplastida nom. nud.

1871 History: < TKB **Locality:** Sesoko/Okinawa/Japan **Identified by:** Nakayama, Takeshi (2007-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** IMK; 20 °C ; 15-22µmol/m²/s; 1-2 M **Habitat:** Marine (Seawater) **Characteristics:** Authentic strain **Other strain no.:** TKB-258

MALLOMONAS : Chrysophyceae

Mallomonas sp.

1376 History: < TKB **Locality:** Isonoura Beach/Wakayama/Japan (2004-01-25) **Isolator:** Okamoto, Noriko **Identified by:** Okamoto, Noriko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 18°C; 40-50µmol/m²/s; 1 M **Habitat:** Marine (Sand and seawater) **Other strain no.:** TKB-089 (nrc065)

MAMIELLA : Prasinophyceae

Mamiella sp.

2310 History: < Suda, Shoichiro **Locality:** Toi Bay/Shizuoka/Japan (1988-07-23) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 8-15µmol/m²/s; 20 D **Habitat:** Marine (Seawater) **Other strain no.:** 814To-3

2329 History: < Sawaguchi, Tomohiro **Locality:** Hachinohe Harbor/Aomori/Japan (1986-08-**) **Identified by:** Sawaguchi, Tomohiro **States:** Unialgal **Culture conditions:** ESM; 15 °C ; 15-22µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** Hamam

MANTONIELLA : Prasinophyceae

Mantoniella squamata (Manton et Parke) Desikachary

1409 History: < TKB **Locality:** Tokyo/Japan (2004-10-28) **Isolator:** Nakayama, Takeshi **Identified by:** Nakayama, Takeshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 20 °C ; 20-30µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** TKB-190 (nak79)

MARSUPIOMONAS : Pedinophyceae

Marsupiomonas sp.

1410 **History:** < TKB **Locality:** Wakayama/Japan (2002-07-**) **Isolator:** Okamoto, Noriko **Identified by:** Okamoto, Noriko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 20°C; 20-30µmol/m²/s; 14 D **Habitat:** Marine (Seawater) **Characteristics:** Benthic **Gene data:** 16S rRNA (AB234295) **Other strain no.:** TKB-040 (nrc001-014)

1824 **History:** < TKB **Locality:** Isonoura Beach/Wakayama/Japan (2005-03-30) **Isolator:** Okamoto, Noriko **Identified by:** Okamoto, Noriko (2005-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 20°C; 20-30µmol/m²/s; 1 M **Habitat:** Marine (Sand) **Other strain no.:** TKB-243

MERISMOPEDIA : Cyanophyceae

Merismopedia tenuissima Lemmermann

230 **History:** < Kasai, Fumie **Locality:** Tsukuba/Ibaraki/Japan (1984-05-07) **Isolator:** Kasai, Fumie **Identified by:** Watanabe, Makoto M. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C; 20°C; 15-22µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Other strain no.:** F98-2 **References:** 139, 192, 360, 567, 1219, 1272 **Remarks:** Cryopreserved

MEROTRICHA : Raphidophyceae

Merotricha bacillata Mereschowsky

1809 **History:** < TKB **Locality:** Shishizuka-ohike Pond/Ibaraki/Japan (2005-08-29) **Isolator:** Yamaguchi, Haruyo **Identified by:** Yamaguchi, Haruyo (2005-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** URO-H, AAF-6; 20°C; 25-40µmol/m²/s; 20 D **Habitat:** Freshwater (Pond water) **Other strain no.:** TKB-253 **Reference:** 1215 **Remarks:** Fragile species to transportation stresses

MESOPEDINELLA : Dictyochophyceae

Mesopedinella arctica Daugbjerg

2687 **History:** < RCC (2010) **Other collection strain no.:** RCC 382 **Locality:** Atlantic (Maroccan Upwelling) (1999-09-12) **Isolator:** Garczarek, L.; Le Gall, F. (Re-isolation) **Identified by:** Eikrem, W. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** PROSOPE_2

MESOSTIGMA : Mesostigmatophyceae

Mesostigma viride Lauterborn

296 **History:** < Suda, Shoichiro **Locality:** Mitsukaido/Ibaraki/Japan (1985-07-03) **Isolator:** Suda, Shoichiro **Identified by:** Inouye, Isao **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C; 20°C; 40-50µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Gene data:** chloroplast genome (NC_002186); Mitochondrial DNA (AF353999); Plastid DNA (AF166114); Root cap protein 1-8 mRNAs (DQ287936-DQ287943) **Other strain no.:** KY-14 **References:** 138, 295, 473, 668, 1104, 1107, 1261

475 **History:** < Suda, Shoichiro **Locality:** Mitsukaido/Ibaraki/Japan (1986-01-17) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 20°C; 22-32µmol/m²/s; 20 D **Habitat:** Freshwater (Pond sediment) **Characteristics:** Heterothallic; Mating type(+) **Other strain no.:** KY-Mes-2 **Reference:** 1261

476 **History:** < Suda, Shoichiro **Locality:** Mitsukaido/Ibaraki/Japan (1986-01-17) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Axenic **Culture conditions:** CT; 20°C; 22-32µmol/m²/s; 20 D **Habitat:** Freshwater (Pond sediment) **Characteristics:** Heterothallic; Mating type(-) **Other strain no.:** KY-Mes-1 **References:** 40, 129, 508, 971, 1261

477 **History:** < Suda, Shoichiro **Locality:** Mitsukaido/Ibaraki/Japan (1986-01-17) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Axenic **Culture conditions:** AF-6; 20°C; 22-32µmol/m²/s; 20 D **Habitat:** Freshwater (Pond sediment) **Characteristics:**

Heterothallic; Mating type(-) **Other strain no.:** KY-Mes-3 **References:** 508, 1261

- 995** **History:** < Miyamura, Shin-ichi **Locality:** Hojo-ohike Pond/Ibaraki/Japan (1995-11-01) **Isolator:** Watanabe, Satoru **Identified by:** Watanabe, Satoru **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C; 20 °C; 40-50µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Phototaxis; Cells larger than normal strains **Other strain no.:** Hojo1

MESOTAENIUM : Charophyceae

Mesotaenium caldariorum (Lagerheim) Hansgirg

- 2287** **History:** < IAM (2007) < UTEX (1996) **Other collection strain no.:** IAM C-585 (=C-309); ATCC 30595; CCAP 648/1; SAG 648-1; UTEX 41; CAUP K101 **Locality:** Brunn/Czechoslovakia **Isolator:** Czurda **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Habitat:** (Wet brick) **Characteristics:** Antibacterial activity **Reference:** 44

Mesotaenium kramstae Lemmermann

- 657** **History:** < IAM (1983) < BIU (UTEX) **Other collection strain no.:** IAM C-330; UTEX LB 1024 **Locality:** Austin/Texas/U.S.A. **Isolator:** Starr, R. C. **Identified by:** Grönblad, R. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C (agar); 20 °C; 4-10µmol/m²/s; 3 M (25 °C; 70-80µmol/m²/s) **Habitat:** Terrestrial (Air) **Characteristics:** Heterothallic; Mating type(+); Crosses with NIES-658 **Reference:** 567
- 658** **History:** < IAM (1983) < BIU (UTEX) **Other collection strain no.:** IAM C-331; UTEX LB 1025 **Locality:** Austin/Texas/U.S.A. **Isolator:** Starr, R. C. **Identified by:** Grönblad, R. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C; 20°C; 4-10µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Terrestrial (Air) **Characteristics:** Heterothallic; Mating type(-); Crosses with NIES-657 **Reference:** 567

MICRACTINIUM : Trebouxiophyceae

Micractinium bornhemiensis (Conrad) Korshikov

Syn. *Errerella bornhemiensis* Conrad

- 455** **History:** < IAM (1983) **Other collection strain no.:** IAM C-341 (=C-581) **Locality:** Between Ghorepani and Billethadi/Nepal (1965-12-02) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20 °C; 4-10µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Pond sediment) **Other strain no.:** N-76-1 **References:** 235, 567 **Remarks:** Cryopreserved

Micractinium pusillum Fresenius

- 151** **History:** < Kasai, Fumie **Locality:** Lake Kasumigaura/Ibaraki/Japan (1983-07-22) **Isolator:** Kasai, Fumie **Identified by:** Kasai, Fumie **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 4-10µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Lake water) **Gene data:** 18S-ITS1-5.8S-ITS2-28S (JX889642) **Other strain no.:** F-19-4 **References:** 360, 567, 1159 **Remarks:** Cryopreserved

MICRASTERIAS : Charophyceae

Micrasterias anomala Turner

- 774** **History:** < Kasai, Fumie **Locality:** near Cairns/Queensland/Australia (1988-09-01) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 22 °C; 55-70µmol/m²/s; 3 M (25 °C; 70-80µmol/m²/s) **Habitat:** Freshwater (Lake water) **Characteristics:** Homothallic **Other strain no.:** 88-95-12
- 776** **History:** < Kasai, Fumie **Locality:** near Melaka/Malaysia (1985-08-20) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 22°C; 55-70µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Paddy soil) **Characteristics:** Heterothallic **Other strain no.:** 85-30-38

Micrasterias crux-melitensis Ralfs

- 152** **History:** < IAM (1983) **Other collection strain no.:** IAM C-427 **Locality:** Kathmandu/Nepal (1968-05-18) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** VT; 20°C; 8-15µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Sediment) **Characteristics:** Homothallic **Other strain no.:** N-90-27 **References:** 235, 567

Micrasterias foliacea Bailey ex Ralfs

- 777** **History:** < Kasai, Fumie **Locality:** 2 km southwest of Melaka/Malaysia (1985-08-19) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 22°C; 55-70µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Paddy soil) **Characteristics:** Heterothallic; Crosses with NIES-778 **Other strain no.:** M2-1
- 778** **History:** < Kasai, Fumie **Locality:** 2 km southwest of Melaka/Malaysia (1985-08-19) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 22°C; 55-70µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Paddy soil) **Characteristics:** Heterothallic; Crosses with NIES-777 **Other strain no.:** M2-2

Micrasterias foliacea Bailey ex Ralfs var. *foliacea*

- 297** **History:** < Kasai, Fumie **Locality:** Higashihiroshima/Hiroshima/Japan (1983-10-19) **Isolator:** Kasai, Fumie **Identified by:** Kasai, Fumie **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 20°C; 8-15µmol/m²/s; 3 M (25°C; 60-70µmol/m²/s) **Habitat:** Freshwater (Pond water) **Other strain no.:** 83-24-24 **Reference:** 567

Micrasterias mahabuleshwariensis Hobson

- 779** **History:** < Kasai, Fumie **Locality:** 2 km southwest of Melaka/Malaysia (1985-08-19) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 22°C; 55-70µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Paddy soil) **Characteristics:** Heterothallic; Crosses with NIES-780 **Other strain no.:** M2-6
- 780** **History:** < Kasai, Fumie **Locality:** 2 km southwest of Melaka/Malaysia (1985-08-19) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 22°C; 55-70µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Paddy soil) **Characteristics:** Heterothallic; Crosses with NIES-779 **Other strain no.:** M2-7

Micrasterias thomasiana Archer var. *notata* (Nordstedt) Grönblad

- 781** **History:** < Kasai, Fumie **Locality:** 2 km east of Melaka/Malaysia (1985-08-19) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 22°C; 55-70µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Paddy soil) **Characteristics:** Heterothallic; Crosses with NIES-782 **Other strain no.:** 85-28-14
- 782** **History:** < Kasai, Fumie **Locality:** 2 km east of Melaka/Malaysia (1985-08-19) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 22°C; 55-70µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Paddy soil) **Characteristics:** Heterothallic; Crosses with NIES-781 **Other strain no.:** 85-28-57

Micrasterias truncata (Corda) Brébisson ex Ralfs var. *pusilla* G.S. West

- 783** **History:** < Kasai, Fumie **Locality:** Sydney, Centennial Park/Australia (1988-09-03) **Isolator:** Kasai, Fumie **Identified by:** Kasai, Fumie **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 22°C; 55-70µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Pond water) **Characteristics:** Heterothallic; Crosses with NIES-784 **Other strain no.:** 88-7-2
- 784** **History:** < Kasai, Fumie **Locality:** near Cairns/Queensland/Australia (1988-09-01) **Isolator:** Kasai, Fumie **Identified by:** Kasai, Fumie **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 22°C; 55-70µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Pond

water) **Characteristics:** Heterothallic; Crosses with NIES-783 **Other strain no.:** 88-8-5

MICROCYSTIS : Cyanophyceae

Microcystis aeruginosa (Kützing) Lemmermann

Syn. *Microcystis ichthyoblabe* Kützing; *Microcystis novacekii* (Komárek) Compère; *Microcystis viridis* (A.Brown) Lemmermann; *Microcystis wesenbergii* Komárek

- 44** **History:** < IAM (1983) **Other collection strain no.:** IAM M-176 (=M-228) **Locality:** Lake Kasumigaura/Ibaraki/Japan (1974-08-**) **Isolator:** Watanabe, Makoto M. **Identified by:** Watanabe, Makoto M. **Formerly identified as:** *Microcystis aeruginosa* (Kützing) Lemmermann f. *aeruginosa* **States:** Unialgal; Clonal; Axenic **Culture conditions:** CB; 25°C; 20-30µmol/m²/s; 20 D **Habitat:** Freshwater **Characteristics:** Cyanobacterial water bloom (aoko); ST 1 (Tanabe et al. 2007) **Gene data:** 16S rRNA (AB015361); 16S-23S-ITS (AB015361); *ftsZ* (AB324850); *glnA* (AB324929); *gltX* (AB325008); *gyrB* (AB325087); *pgi* (AB325166); *recA* (AB325245); *tpi* (AB325324) **References:** 21, 50, 73, 145, 204, 235, 242, 322, 327, 350, 351, 360, 383, 477, 567, 593, 594, 595, 602, 671, 836, 973, 1009, 1010, 1053, 1056, 1059, 1060, 1066, 1121, 1159, 1171, 1231, 1257 **Remarks:** Cryopreserved
- 87** **History:** < Watanabe, Makoto M. **Locality:** Lake Kasumigaura/Ibaraki/Japan (1982-09-**) **Isolator:** Watanabe, Michiko H. **Identified by:** Watanabe, Michiko H. **Formerly identified as:** *Microcystis aeruginosa* (Kützing) Lemmermann f. *aeruginosa* **States:** Unialgal; Clonal; Axenic **Culture conditions:** MA; 25°C; 20-30µmol/m²/s; 20 D **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 2 (Tanabe et al. 2007) **Gene data:** 16S rRNA (D89031); *ftsZ* (AB324851); *glnA* (AB324930); *gltX* (AB325009); *gyrB* (AB325088); *pgi* (AB325167); *recA* (AB325246); *tpi* (AB325325) **Other strain no.:** K-MA-11 **References:** 275, 327, 439, 440, 441, 442, 444, 458, 477, 567, 621, 622, 623, 624, 625, 626, 627, 671, 811, 1056, 1059, 1060, 1076, 1159, 1257, 1258, 1272 **Remarks:** Cryopreserved
- 88** **History:** < Watanabe, Makoto M. **Locality:** Lake Kawaguchi/Yamanashi/Japan (1981-06-**) **Isolator:** Watanabe, Michiko H. **Identified by:** Watanabe, Michiko H. **Formerly identified as:** *Microcystis aeruginosa* (Kützing) Lemmermann f. *aeruginosa* **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 25°C; 20-30µmol/m²/s; 20 D **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 3 (Tanabe et al. 2007) **Gene data:** 16S rRNA (AB023255); *ftsZ* (AB324852); *glnA* (AB324931); *gltX* (AB325010); *gyrB* (AB325089); *mcyA* (AB110103); *mcyD* (AB110114); *mcyG* (AB110125); *mcyJ* (AB110136); *pgi* (AB325168); *recA* (AB325247); *tpi* (AB325326) **Other strain no.:** KW-MA1-3 **References:** 269, 270, 272, 322, 323, 325, 326, 327, 382, 401, 439, 440, 441, 442, 973, 1056, 1058, 1059, 1060, 1086, 1087, 1159, 1220, 1258, 1272 **Remarks:** Toxic; Cryopreserved
- 89** **History:** < Watanabe, Makoto M. **Locality:** Lake Kawaguchi/Yamanashi/Japan (1981-06-**) **Isolator:** Watanabe, Michiko H. **Identified by:** Watanabe, Michiko H. **Formerly identified as:** *Microcystis aeruginosa* (Kützing) Lemmermann f. *aeruginosa* **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 25°C; 20-30µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 4 (Tanabe et al. 2007) **Gene data:** 16S rRNA (U03403); *ftsZ* (AB324853); *glnA* (AB324932); *gltX* (AB325011); *gyrB* (AB325090); *mcyA* (AB110104); *mcyD* (AB110115); *mcyG* (AB110126); *mcyJ* (AB110137); *pgi* (AB325169); *recA* (AB325248); *tpi* (AB325327) **Other strain no.:** KW-MA2-5 **References:** 42, 134, 278, 439, 440, 441, 442, 444, 477, 567, 670, 671, 1056, 1058, 1059, 1060, 1159, 1172, 1258, 1272 **Remarks:** Toxic; Cryopreserved
- 90** **History:** < Watanabe, Makoto M. **Locality:** Lake Kawaguchi/Yamanashi/Japan (1981-06-**) **Isolator:** Watanabe, Michiko H. **Identified by:** Watanabe, Michiko H. **Formerly identified as:** *Microcystis aeruginosa* (Kützing) Lemmermann f. *aeruginosa* **States:** Unialgal; Clonal; Axenic **Culture conditions:** MA; 25°C; 20-30µmol/m²/s; 20 D **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 5 (Tanabe et al. 2007) **Gene data:** 16S rRNA (AB023256); *ftsZ* (AB324854); *glnA* (AB324933); *gltX* (AB325012); *gyrB* (AB325091); *mcyA* (AB110105); *mcyD* (AB110116); *mcyG* (AB110127); *mcyJ* (AB110138); *pgi* (AB325170); *recA* (AB325249); *tpi* (AB325328) **Other strain no.:** KW-MB-2 **References:** 271, 276, 439, 440, 441, 442, 457, 567, 1056, 1058, 1059, 1060, 1159, 1171, 1257, 1258, 1272

- Remarks:** Toxic; Cryopreserved
- 91** **History:** < Watanabe, Makoto M. **Locality:** Lake Kasumigaura/Ibaraki/Japan (1982-09-**) **Isolator:** Watanabe, Michiko H. **Identified by:** Watanabe, Michiko H. **Formerly identified as:** *Microcystis aeruginosa* (Kützing) Lemmermann f. *aeruginosa* **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 25°C; 20-30µmol/m²/s; 20 D **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 77 (Tanabe et al. 2007) **Gene data:** 16S rRNA (AB023257); *ftsZ* (AB324926); *glnA* (AB325005); *gltX* (AB325084); *gyrB* (AB325163); *pgi* (AB325242); *recA* (AB325321); *tpi* (AB325400) **Other strain no.:** K-MB-13 **References:** 439, 440, 441, 442, 457, 567, 1056, 1059, 1060, 1159, 1272 **Remarks:** Cryopreserved
- 98** **History:** < Watanabe, Makoto M. **Locality:** Lake Kasumigaura/Ibaraki/Japan (1982-09-**) **Isolator:** Watanabe, Michiko H. **Identified by:** Watanabe, Michiko H. **Formerly identified as:** *Microcystis aeruginosa* (Kützing) Lemmermann f. *flos-aquae* (Wittrock) Elenkin **States:** Unialgal; Clonal; Axenic **Culture conditions:** MA; 25°C; 20-30µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 6 (Tanabe et al. 2007) **Gene data:** 16S rRNA (D89032); 16S rRNA (U40337); *aerA-aerB* (AM773660); *cpcB*, *cpcA* (AF385384); *cpcB*, *cpcA* (AY568685); *ftsZ* (AB324855); *glnA* (AB324934); *gltX* (AB325013); *gyrB* (AB325092); *hypX*, *uma1* (AB254435); *pgi* (AB325171); *recA* (AB325250); *tpi* (AB325329) **Other strain no.:** K-MF-K-3 **References:** 17, 42, 249, 250, 278, 279, 325, 326, 402, 439, 440, 441, 442, 444, 457, 477, 567, 577, 671, 866, 1056, 1059, 1060, 1077, 1144, 1159, 1192, 1257, 1272 **Remarks:** Cryopreserved
- 99** **History:** < Watanabe, Makoto M. **Locality:** Lake Suwa/Nagano/Japan (1982-08-**) **Isolator:** Watanabe, Michiko H. **Identified by:** Watanabe, Michiko H. **Formerly identified as:** *Microcystis aeruginosa* (Kützing) Lemmermann f. *aeruginosa* **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 25°C; 20-30µmol/m²/s; 20 D **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 7 (Tanabe et al. 2007) **Gene data:** 16S rRNA (AB023258); *cpcB*, *cpcA* (AF385385); *ftsZ* (AB324856); *glnA* (AB324935); *gltX* (AB325014); *gyrB* (AB325093); *mdnB* (FN668543); *pgi* (AB325172); *recA* (AB325251); *tpi* (AB325330) **Other strain no.:** S-MA-S5 **References:** 268, 322, 327, 439, 440, 441, 442, 457, 567, 669, 1056, 1059, 1060, 1077, 1159, 1231, 1272 **Remarks:** Cryopreserved
- 100** **History:** < Watanabe, Makoto M. **Locality:** Lake Suwa/Nagano/Japan (1982-08-**) **Isolator:** Watanabe, Michiko H. **Identified by:** Watanabe, Michiko H. **Formerly identified as:** *Microcystis aeruginosa* (Kützing) Lemmermann f. *aeruginosa* **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 25°C; 20-30µmol/m²/s; 20 D **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 8 (Tanabe et al. 2007) **Gene data:** 16S rRNA (AB023259); *ftsZ* (AB324857); *glnA* (AB324936); *gltX* (AB325015); *gyrB* (AB325094); *pgi* (AB325173); *recA* (AB325252); *tpi* (AB325331) **Other strain no.:** S-MB-S7 **References:** 403, 439, 440, 441, 442, 567, 805, 807, 870, 1056, 1059, 1060, 1144, 1159, 1217, 1272 **Remarks:** Cryopreserved
- 101** **History:** < TAC **Locality:** Lake Suwa/Nagano/Japan (1982-10-**) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis aeruginosa* (Kützing) Lemmermann f. *aeruginosa* **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 25°C; 20-30µmol/m²/s; 20 D **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 9 (Tanabe et al. 2007) **Gene data:** 16S rRNA (AB023260); *ftsZ* (AB324858); *glnA* (AB324937); *gltX* (AB325016); *gyrB* (AB325095); *pgi* (AB325174); *recA* (AB325253); *tpi* (AB325332) **Other strain no.:** TAC 48 (S-TAN-48) **References:** 42, 91, 439, 440, 441, 442, 457, 567, 630, 1056, 1059, 1060, 1144, 1159, 1251, 1272 **Remarks:** Cryopreserved
- 102** **History:** < Watanabe, Makoto M. **Locality:** Lake Kasumigaura/Ibaraki/Japan (1982-09-**) **Isolator:** Watanabe, Michiko H. **Identified by:** Watanabe, Michiko H. **Formerly identified as:** *Microcystis viridis* (A.Brown) Lemmermann **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** MA; 25°C; 20-30µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 10 (Tanabe et al. 2007) **Gene data:** 16S rRNA (D89033); *ftsZ* (AB324859); *glnA* (AB324938); *gltX* (AB325017); *gyrB* (AB325096); *mcyA* (AB110106); *mcyD* (AB110117); *mcyG* (AB110128); *mcyJ* (AB110139); *pgi* (AB325175); *recA*

- (AB325254); tpi (AB325333) **Other strain no.:** K-MV-20 **References:** 42, 133, 151, 192, 258, 259, 263, 285, 294, 360, 384, 406, 439, 440, 441, 442, 444, 457, 458, 461, 477, 501, 567, 656, 669, 670, 671, 816, 870, 946, 994, 995, 1056, 1058, 1059, 1060, 1149, 1172, 1192, 1217, 1218, 1219, 1231, 1251, 1257, 1258, 1272 **Remarks:** Toxic
- 103** **History:** < TAC **Locality:** Lake Kasumigaura/Ibaraki/Japan (1978-12-**) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis viridis* (A.Brown) Lemmermann **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 25°C; 55-70µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 10 (Tanabe et al. 2007) **Gene data:** 16S rDNA (AB038530); 16S-23S ITS (AB015399); gyrB (AB014974); mcyA (AB110107); mcyD (AB110118); mcyG (AB110129); mcyJ (AB110140) **Other strain no.:** TAC 44 (K-TAN-44) **References:** 134, 151, 324, 326, 421, 567, 579, 1056, 1058, 1059, 1060, 1144, 1251 **Remarks:** Toxic; Cryopreserved
- 104** **History:** < Watanabe, Makoto M. **Locality:** Imperial Palace/Tokyo/Japan (1982-11-**) **Isolator:** Watanabe, Michiko H. **Identified by:** Watanabe, Michiko H. **Formerly identified as:** *Microcystis wesenbergii* Komárek **States:** Unialgal; Clonal; Axenic **Culture conditions:** CB; MA; 25°C; 55-70µmol/m²/s; 1 M **Habitat:** Freshwater (Moat water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 11 (Tanabe et al. 2007) **Gene data:** 16S rRNA (AB015387); 16S rRNA (AB023266); 16S rRNA (AJ133174); 16S-23S-ITS (AB015387); ftsZ (AB324860); glnA (AB324939); gltX (AB325018); gyrB (AB074771); gyrB (AB325097); pgi (AB325176); recA (AB325255); rpoC1 (AB074794); rpoD1 (AB074821); tpi (AB325334) **Other strain no.:** MW-H1 **References:** 439, 440, 441, 442, 444, 477, 567, 836, 937, 973, 1056, 1059, 1060, 1217, 1257, 1258, 1272 **Remarks:** Cryopreserved
- 105** **History:** < Watanabe, Makoto M. **Locality:** Lake Kasumigaura/Ibaraki/Japan (1982-09-**) **Isolator:** Watanabe, Michiko H. **Identified by:** Watanabe, Michiko H. **Formerly identified as:** *Microcystis wesenbergii* Komárek **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 25°C; 55-70µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 12 (Tanabe et al. 2007) **Gene data:** 16S rRNA (AB023267); ftsZ (AB324861); glnA (AB324940); gltX (AB325019); gyrB (AB325098); pgi (AB325177); recA (AB325256); tpi (AB325335) **Other strain no.:** K-MW-K4 **References:** 439, 440, 441, 442, 567, 1056, 1059, 1060, 1258, 1272 **Remarks:** Cryopreserved
- 106** **History:** < Watanabe, Makoto M. **Locality:** Lake Kasumigaura/Ibaraki/Japan (1982-09-**) **Isolator:** Watanabe, Michiko H. **Identified by:** Watanabe, Michiko H. **Formerly identified as:** *Microcystis wesenbergii* Komárek **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 25°C; 55-70µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Large cell size; ST 1 (Tanabe et al. 2007) **Gene data:** 16S rRNA (AB023268) **Other strain no.:** K-MW-19 **References:** 439, 440, 441, 442, 567, 870, 1056, 1059, 1060, 1258, 1272 **Remarks:** Cryopreserved
- 107** **History:** < Watanabe, Makoto M. **Locality:** Lake Kawaguchi/Yamanashi/Japan (1981-06-**) **Isolator:** Watanabe, Michiko H. **Identified by:** Watanabe, Michiko H. **Formerly identified as:** *Microcystis wesenbergii* Komárek **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; MA; 25 °C ; 55-70µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 13 (Tanabe et al. 2007) **Gene data:** 16S rRNA (U40333); ftsZ (AB324862); glnA (AB324941); gltX (AB325020); gyrB (AB325099); mcyA (AB110108); mcyD (AB110119); mcyG (AB110130); mcyJ (AB110141); pgi (AB325178); recA (AB325257); tpi (AB325336) **Other strain no.:** KW-MW-7 **References:** 134, 324, 325, 326, 352, 442, 443, 514, 515, 567, 669, 670, 671, 975, 1056, 1058, 1059, 1060, 1172 **Remarks:** Toxic; Cryopreserved
- 108** **History:** < Watanabe, Makoto M. **Locality:** Lake Suwa/Nagano/Japan (1982-08-**) **Isolator:** Watanabe, Michiko H. **Identified by:** Watanabe, Michiko H. **Formerly identified as:** *Microcystis wesenbergii* Komárek **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 25°C; 55-70µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 14 (Tanabe et al. 2007) **Gene data:** 16S rRNA (AB023269); ftsZ (AB324863); glnA (AB324942); gltX (AB325021); gyrB (AB325100); pgi (AB325179); recA (AB325258); tpi (AB325337) **Other strain no.:** S-MW-52 **References:** 439, 440, 441, 442, 567, 1056, 1059, 1060,

- 1258, 1272 **Remarks:** Cryopreserved
- 109** **History:** < Watanabe, Makoto M. **Locality:** Lake Yogo/Shiga/Japan (1982-07-**) **Isolator:** Watanabe, Michiko H. **Identified by:** Watanabe, Michiko H. **Formerly identified as:** *Microcystis wesenbergii* Komárek **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 25°C; 20-30µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 15 (Tanabe et al. 2007) **Gene data:** 16S rRNA (AB023270); *ftsZ* (AB324864); *glnA* (AB324943); *gltX* (AB325022); *gyrB* (AB325101); *pgi* (AB325180); *recA* (AB325259); *tpi* (AB325338) **Other strain no.:** Y-MW-24 **References:** 13, 14, 439, 440, 441, 442, 567, 760, 1056, 1059, 1060, 1203, 1204, 1258, 1272 **Remarks:** Cryopreserved
- 110** **History:** < TAC **Locality:** Lake Kasumigaura/Ibaraki/Japan (1978-08-**) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis wesenbergii* Komárek **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 25°C; 20-30µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 1 (Tanabe et al. 2007) **Gene data:** 16S rRNA (AB023271) **Other strain no.:** TAC 36 (K-TAN-36) **References:** 439, 440, 441, 442, 567, 1056, 1059, 1060, 1258, 1272 **Remarks:** Cryopreserved
- 111** **History:** < TAC **Locality:** Lake Kasumigaura/Ibaraki/Japan (1978-08-**) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis wesenbergii* Komárek **States:** Unialgal; Clonal; Axenic **Culture conditions:** MA; 25°C; 20-30µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 14 (Tanabe et al. 2007) **Gene data:** 16S rRNA (D89034); 16S rRNA (AB015388); 6S-23S-ITS (AB015388) **Other strain no.:** TAC 37 (K-TAN-37) **References:** 439, 440, 441, 442, 444, 477, 567, 670, 671, 836, 973, 1056, 1059, 1060, 1172, 1257, 1258, 1272 **Remarks:** Cryopreserved
- 112** **History:** < TAC **Locality:** Lake Suwa/Nagano/Japan (1982-10-**) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis wesenbergii* Komárek **States:** Unialgal; Clonal; Axenic **Culture conditions:** MA; 25°C; 20-30µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 16 (Tanabe et al. 2007) **Gene data:** 16S rRNA (U40334); 16S rRNA (AB023272); *ftsZ* (AB324865); *glnA* (AB324944); *gltX* (AB325023); *gyrB* (AB325102); *pgi* (AB325181); *recA* (AB325260); *tpi* (AB325339) **Other strain no.:** TAC 52 (S-TAN-52) **References:** 151, 439, 440, 441, 442, 443, 444, 457, 477, 567, 671, 1056, 1059, 1060, 1144, 1231, 1251, 1257, 1258, 1272 **Remarks:** Cryopreserved
- 298** **History:** < TAC **Other collection strain no.:** TAC 47 **Locality:** Lake Kasumigaura/Ibaraki/Japan (1982-09-16) **Isolator:** Watanabe, Masayuki **Formerly identified as:** *Microcystis aeruginosa* (Kützing) Lemmermann f. *aeruginosa* **States:** Unialgal; Clonal; Axenic **Culture conditions:** CB; 25°C; 20-30µmol/m²/s; 20 D **Habitat:** Freshwater **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 60 (Tanabe et al. 2007) **Gene data:** 16S rRNA (AB023261); *ftsZ* (AB324909); *glnA* (AB324988); *gltX* (AB325067); *gyrB* (AB325146); *mcyA* (AB092804); *pgi* (AB325225); *recA* (AB325304); *tpi* (AB325383) **Other strain no.:** TAC 47 (K-TAN-47) **References:** 11, 42, 91, 145, 151, 192, 215, 216, 258, 277, 278, 360, 439, 440, 441, 442, 444, 457, 458, 468, 469, 477, 567, 581, 671, 678, 806, 870, 1020, 1056, 1059, 1060, 1144, 1172, 1219, 1251, 1252, 1253, 1255, 1256, 1257, 1258, 1272 **Remarks:** Toxic; Unstable; Cryopreserved
- 299** **History:** < Takamura, Noriko **Locality:** Lake Kasumigaura/Ibaraki/Japan (1979-08-**) **Isolator:** Takamura, Noriko **Identified by:** Takamura, Noriko **Formerly identified as:** *Microcystis aeruginosa* (Kützing) Lemmermann f. *aeruginosa* **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 25°C; 20-30µmol/m²/s; 20 D **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 61 (Tanabe et al. 2007) **Gene data:** 16S rRNA (AB023262); *ftsZ* (AB324910); *glnA* (AB324989); *gltX* (AB325068); *gyrB* (AB325147); *pgi* (AB325226); *recA* (AB325305); *tpi* (AB325384) **Other strain no.:** KN1133 **References:** 145, 268, 273, 439, 440, 441, 442, 567, 1056, 1059, 1060, 1258, 1272 **Remarks:** Cryopreserved
- 478** **History:** < Yagi, Osami **Locality:** Lake Kasumigaura/Ibaraki/Japan (1977-09-**) **Isolator:** Yagi, Osami **Identified by:** Yagi, Osami **Formerly identified as:** *Microcystis aeruginosa* (Kützing) Lemmermann f. *flos-aquae* (Wittrock) Elenkin **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** MA; 20°C; 4-10µmol/m²/s; 3 M (25°C; 60-70µmol/m²/s) **Habitat:** Freshwater (Lake water) **Characteristics:** Toxic; ST 62 (Tanabe et al. 2007) **Gene data:** *ftsZ* (AB324911); *glnA*

- (AB324990); *gltX* (AB325069); *gyrB* (AB325148); *pgi* (AB325227); *recA* (AB325306); *tpi* (AB325385) **Other strain no.:** K-5 **References:** 274, 567, 1056, 1059, 1060, 1198, 1199, 1200 **Remarks:** Toxic; Cryopreserved
- 604** **History:** < Yagi, Osami **Locality:** Lake Kasumigaura/Ibaraki/Japan (1977-09-**) **Isolator:** Yagi, Osami **Identified by:** Yagi, Osami **Formerly identified as:** *Microcystis wesenbergii* Komárek **States:** Unialgal; Clonal; Axenic **Culture conditions:** MA; 20°C; 4-10µmol/m²/s; 3 M (25°C; 60-70µmol/m²/s) **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 17 (Tanabe et al. 2007) **Gene data:** 16S rRNA (AB023273); *ftsZ* (AB324866); *glnA* (AB324945); *gltX* (AB325024); *gyrB* (AB325103); *pgi* (AB325182); *recA* (AB325261); *tpi* (AB325340) **Other strain no.:** K-3A **References:** 135, 439, 440, 441, 442, 444, 454, 457, 477, 567, 618, 944, 1056, 1059, 1060, 1077, 1198, 1251, 1257, 1258, 1272 **Remarks:** Cryopreserved
- 843** **History:** < Otsuka, Shigeto **Other collection strain no.:** IAM M-247 **Locality:** Lake Kasumigaura/Ibaraki/Japan (1997-08-28) **Isolator:** Otsuka, Shigeto **Identified by:** Otsuka, Shigeto **States:** Unialgal; Clonal; Axenic **Culture conditions:** MA; 25°C; 20-30µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; Type strain; ST 18 (Tanabe et al. 2007) **Gene data:** 16S rRNA (AB035549); chromosome (NC_010296); *ftsZ* (AB324867); *glnA* (AB324946); *gltX* (AB325025); *gyrB* (AB325104); *pgi* (AB325183); *recA* (AB325262); Total genome sequence (AP009552); *tpi* (AB325341) **Other strain no.:** NC7 **References:** 51, 279, 349, 457, 833, 837, 939, 940, 983, 1056, 1059, 1060, 1077 **Remarks:** Toxic; Cryopreserved
- 901** **History:** < Otsuka, Shigeto **Locality:** Dundee/Scotland/U.K. (1997-08-**) **Isolator:** Otsuka, Shigeto **Identified by:** Otsuka, Shigeto **Formerly identified as:** *Microcystis novacekii* (Komárek) Compère **States:** Unialgal; Clonal; Axenic **Culture conditions:** MA; 25°C; 20-30µmol/m²/s; 1 M **Habitat:** (Freshwater) **Characteristics:** Cyanobacterial water bloom (aoko); Offensive taste and odor; ST 59 (Tanabe et al. 2007) **Gene data:** *ftsZ* (AB324908); *glnA* (AB324987); *gltX* (AB325066); *gyrB* (AB325145); *pgi* (AB325224); *recA* (AB325303); *tpi* (AB325382) **Other strain no.:** BC18 **References:** 833, 1056, 1059, 1060 **Remarks:** Cryopreserved
- 933** **History:** < PCC **Other collection strain no.:** PCC 7941 **Locality:** Little Rideau Lake/Ontario/Canada **Isolator:** Gorham, P. R.; Carmichael, W. W. **States:** Unialgal; Clonal; Axenic **Culture conditions:** CT; MA; 25 °C ; 20-30µmol/m²/s; 1 M **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 21 (Tanabe et al. 2007) **Other strain no.:** NRC-1 (SS-17) **Reference:** 1056 **Remarks:** Toxic; Cryopreserved
- 1025** **History:** < Sano, Tomoharu **Locality:** Sapporo, Chuo-ku/Hokkaido/Japan (2000-06-22) **Isolator:** Sano, Tomoharu **Identified by:** Otsuka, Shigeto **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 20-30µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic **Other strain no.:** Doutyou-1-3 **Remarks:** Toxic; Cryopreserved
- 1026** **History:** < Sano, Tomoharu **Locality:** Sapporo, Chuo-ku/Hokkaido/Japan (2000-06-22) **Isolator:** Sano, Tomoharu **Identified by:** Otsuka, Shigeto **Formerly identified as:** *Microcystis ichthyoblabe* Kützing **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 20-30µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic **Other strain no.:** Doutyou-1-4 **Remarks:** Toxic; Cryopreserved
- 1027** **History:** < Sano, Tomoharu **Locality:** Lake Kasumigaura, Takahama-iri/Ibaraki/Japan (2000-08-19) **Isolator:** Sano, Tomoharu **Identified by:** Sano, Tomoharu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 20-30µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic **Other strain no.:** Takahama-Ma-2 **Remarks:** Toxic; Cryopreserved
- 1028** **History:** < Sano, Tomoharu **Locality:** Lake Teganuma/Chiba/Japan (2000-09-10) **Isolator:** Sano, Tomoharu **Identified by:** Sano, Tomoharu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 20-30µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic **Other strain no.:** TEGA-Mv-1 **Remarks:** Toxic; Cryopreserved
- 1029** **History:** < Sano, Tomoharu **Locality:** Neuglobsow/Brandenburg/Germany (2000-08-15) **Isolator:**

- Sano, Tomoharu **Identified by:** Otsuka, Shigeto **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 20-30µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic **Other strain no.:** DU-MA-6-1 **Remarks:** Toxic; Cryopreserved
- 1043** **History:** < Sano, Tomoharu **Locality:** Neuglobsow/Brandenburg/Germany (2000-08-19) **Isolator:** Sano, Tomoharu **Identified by:** Sano, Tomoharu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 20-30µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic **Other strain no.:** DU-MA-4-1 **Remarks:** Toxic; Cryopreserved
- 1050** **History:** < TAC **Locality:** Lake Kasumigaura/Ibaraki/Japan (1978-01-24) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 34 (Tanabe et al. 2007) **Gene data:** ftsZ (AB324883); glnA (AB324962); gltX (AB325041); gyrB (AB325120); pgi (AB325199); recA (AB325278); tpi (AB325357) **Other strain no.:** TAC 4 **References:** 1056, 1059, 1060, 1140 **Remarks:** Cryopreserved
- 1051** **History:** < TAC **Locality:** Lake Kasumigaura/Ibaraki/Japan (1978-01-24) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 34 (Tanabe et al. 2007) **Other strain no.:** TAC 6 **References:** 1056, 1059, 1060, 1140 **Remarks:** Cryopreserved
- 1052** **History:** < TAC **Locality:** Lake Kasumigaura/Ibaraki/Japan (1978-02-21) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 24 (Tanabe et al. 2007) **Gene data:** ftsZ (AB324873); glnA (AB324952); gltX (AB325031); gyrB (AB325110); pgi (AB325189); recA (AB325268); tpi (AB325347) **Other strain no.:** TAC 15 **References:** 1056, 1059, 1060, 1140 **Remarks:** Cryopreserved
- 1053** **History:** < TAC **Locality:** Lake Kasumigaura/Ibaraki/Japan (1978-02-21) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis novacekii* (Komárek) Compère **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Microcystin not detected; ST 25 (Tanabe et al. 2007) **Gene data:** ftsZ (AB324874); glnA (AB324953); gltX (AB325032); gyrB (AB325111); pgi (AB325190); recA (AB325269); tpi (AB325348) **Other strain no.:** TAC 19 **References:** 840, 1056, 1059, 1060, 1140, 1143, 1144, 1146 **Remarks:** Cryopreserved
- 1054** **History:** < TAC **Locality:** Lake Kasumigaura/Ibaraki/Japan (1978-02-21) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Microcystin not detected; ST 24 (Tanabe et al. 2007) **Gene data:** 16S rRNA (AB012336); 16S rRNA (AB015374) **Other strain no.:** TAC 20 **References:** 835, 836, 840, 1056, 1059, 1060, 1140, 1143, 1144, 1146 **Remarks:** Cryopreserved
- 1055** **History:** < TAC **Locality:** Lake Kasumigaura/Ibaraki/Japan (1978-08-**) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis wesenbergii* Komárek **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; Reisolated from TAC 38; ST 26 (Tanabe et al. 2007) **Gene data:** 16S rRNA (AB012334); 16S rRNA (AB015389); 16S rRNA (AB023274); ftsZ (AB324875); glnA (AB324954); gltX (AB325033); gyrB (AB325112); pgi (AB325191); recA (AB325270); tpi (AB325349) **Other strain no.:** TAC 38-1 **References:** 370, 439, 440, 441, 835, 836, 840, 1056, 1059, 1060, 1144, 1251 **Remarks:** Toxic; Cryopreserved
- 1056** **History:** < TAC **Locality:** Lake Kasumigaura/Ibaraki/Japan (1978-08-**) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis wesenbergii*

- Komárek **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 1 (Tanabe et al. 2007) **Other strain no.:** TAC 39 **References:** 1056, 1059, 1060 **Remarks:** Cryopreserved
- 1057** **History:** < TAC **Locality:** Lake Kasumigaura/Ibaraki/Japan (1978-08-**) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis wesenbergii* Komárek **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 1 (Tanabe et al. 2007) **Other strain no.:** TAC 40 **References:** 870, 1056, 1059, 1060 **Remarks:** Cryopreserved
- 1058** **History:** < TAC **Locality:** Lake Kasumigaura/Ibaraki/Japan (1978-12-**) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis viridis* (A.Brown) Lemmermann **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; Reisolated from TAC 45; ST 26 (Tanabe et al. 2007) **Gene data:** 16S rRNA (AB015400); *mcyA* (HM064479) **Other strain no.:** TAC 45-1 **References:** 370, 457, 836, 1056, 1059, 1060, 1144, 1251 **Remarks:** Toxic; Cryopreserved
- 1059** **History:** < TAC **Locality:** Lake Kasumigaura/Ibaraki/Japan (1978-12-**) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis viridis* (A.Brown) Lemmermann **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 26 (Tanabe et al. 2007) **Other strain no.:** TAC 46 **References:** 840, 1056, 1059, 1060, 1142, 1143, 1144 **Remarks:** Toxic; Cryopreserved
- 1060** **History:** < TAC **Locality:** Lake Suwa/Nagano/Japan (1982-10-04) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18 °C ; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 9 (Tanabe et al. 2007) **Other strain no.:** TAC 50 **References:** 1056, 1059, 1060, 1146 **Remarks:** Cryopreserved
- 1061** **History:** < TAC **Locality:** Lake Suwa/Nagano/Japan (1982-10-04) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis ichthyoblabe* Kützing **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Microcystin not detected; ST 9 (Tanabe et al. 2007) **Gene data:** 16S rRNA (AB023281) **Other strain no.:** TAC 51 **References:** 370, 439, 440, 441, 681, 840, 870, 1056, 1059, 1060, 1086, 1140, 1143, 1146 **Remarks:** Cryopreserved
- 1062** **History:** < TAC **Locality:** Lake Suwa/Nagano/Japan (1982-10-04) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis wesenbergii* Komárek **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Reisolated from TAC 57; ST 14 (Tanabe et al. 2007) **Gene data:** 16S rRNA (AB015391); 16S rRNA (AB023276) **Other strain no.:** TAC 57-1 **References:** 1056, 1059, 1060, 1251 **Remarks:** Cryopreserved
- 1063** **History:** < TAC **Locality:** Lake Shirakaba/Nagano/Japan (1982-09-13) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 29 (Tanabe et al. 2007) **Other strain no.:** TAC 60 **References:** 370, 815, 840, 841, 842, 1056, 1059, 1060, 1140, 1143, 1146 **Remarks:** Toxic; Cryopreserved
- 1064** **History:** < TAC **Locality:** Lake Shirakaba/Nagano/Japan (1982-09-13) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 29 (Tanabe et al. 2007) **Other strain no.:** TAC 61 **References:** 370, 840, 1056, 1059, 1060, 1140, 1143, 1145, 1146 **Remarks:** Toxic; Cryopreserved

- 1065** **History:** < TAC **Locality:** Lake Kutsuzawa/Nagano/Japan (1982-09-12) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 4 (Tanabe et al. 2007) **Other strain no.:** TAC 62 **References:** 1056, 1059, 1060, 1140 **Remarks:** Toxic; Cryopreserved
- 1066** **History:** < TAC **Locality:** Lake Kutsuzawa/Nagano/Japan (1982-09-12) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 4 (Tanabe et al. 2007) **Other strain no.:** TAC 63 **References:** 840, 870, 1056, 1059, 1060, 1140, 1143, 1145, 1146 **Remarks:** Toxic; Cryopreserved
- 1067** **History:** < TAC **Locality:** Chikatou-ike Pond/Nagano/Japan (1982-09-12) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis wesenbergii* Komárek **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko); Microcystin not detected; Reisolated from TAC 65; ST 27 (Tanabe et al. 2007) **Gene data:** 16S rRNA (AB012337); 16S rRNA (AB015375); 16S rRNA (AB023285); *ftsZ* (AB324876); *glnA* (AB324955); *gltX* (AB325034); *gyrB* (AB325113); *pgi* (AB325192); *recA* (AB325271); *tpi* (AB325350) **Other strain no.:** TAC 65-2 **References:** 370, 457, 681, 835, 836, 840, 1056, 1059, 1060, 1140, 1143, 1144, 1146 **Remarks:** Cryopreserved
- 1068** **History:** < TAC **Locality:** Rokusuke-ike Pond/Nagano/Japan (1982-09-12) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis novacekii* (Komárek) Compère **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 24°C; 20-30µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko); Microcystin not detected; Reisolated from TAC 66; ST 27 (Tanabe et al. 2007) **Gene data:** 16S rRNA (AB015376); 16S rRNA (AB023286) **Other strain no.:** TAC 66-1 **References:** 370, 439, 440, 441, 681, 815, 836, 840, 1056, 1059, 1060, 1140, 1143, 1146
- 1069** **History:** < TAC **Locality:** Rokusuke-ike Pond/Nagano/Japan (1982-09-12) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 35 (Tanabe et al. 2007) **Gene data:** *ftsZ* (AB324884); *glnA* (AB324963); *gltX* (AB325042); *gyrB* (AB325121); *pgi* (AB325200); *recA* (AB325279); *tpi* (AB325358) **Other strain no.:** TAC 67 **References:** 1056, 1059, 1060 **Remarks:** Toxic; Cryopreserved
- 1070** **History:** < TAC **Locality:** Rokusuke-ike Pond/Nagano/Japan (1982-09-12) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis ichthyoblabe* Kützing **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; Reisolated from TAC 69; ST 36 (Tanabe et al. 2007) **Gene data:** *ftsZ* (AB324885); *glnA* (AB324964); *gltX* (AB325043); *gyrB* (AB325122); *pgi* (AB325201); *recA* (AB325280); *tpi* (AB325359) **Other strain no.:** TAC 69-1 **References:** 370, 457, 840, 1056, 1059, 1060, 1140, 1143, 1145, 1146, 1238, 1251 **Remarks:** Toxic; Cryopreserved
- 1071** **History:** < TAC **Locality:** Hakui, Ichinomiya-machi/Ishikawa/Japan (1982-09-10) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; Reisolated from TAC 70 **Other strain no.:** TAC 70-1 **References:** 370, 840, 1140, 1143, 1145, 1146 **Remarks:** Toxic; Cryopreserved
- 1072** **History:** < TAC **Locality:** Hakui, Ichinomiya-machi/Ishikawa/Japan (1982-09-10) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; Reisolated from TAC 71; ST 4 (Tanabe et al. 2007) **Gene data:** 16S rRNA (AB012332); 16S rRNA (AB015362) **Other strain no.:** TAC 71-1 **References:** 835, 836, 840, 1056, 1059, 1060, 1140, 1143, 1146 **Remarks:** Toxic; Cryopreserved
- 1073** **History:** < TAC **Locality:** Hakui, Ichinomiya-machi/Ishikawa/Japan (1982-09-10) **Isolator:**

- Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 72 **Remarks:** Cryopreserved
- 1074** **History:** < TAC **Locality:** Lake Yogo/Shiga/Japan (1984-09-09) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18 °C ; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Microcystin not detected; Reisolated from TAC 73 **Other strain no.:** TAC 73-1 **References:** 370, 840, 841, 842, 1140, 1143, 1146 **Remarks:** Cryopreserved
- 1075** **History:** < TAC **Locality:** Lake Yogo/Shiga/Japan (1984-09-09) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18 °C ; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 63 (Tanabe et al. 2007) **Gene data:** ftsZ (AB324912); glnA (AB324991); gltX (AB325070); gyrB (AB325149); pgi (AB325228); recA (AB325307); tpi (AB325386) **Other strain no.:** TAC 74-1 **References:** 1056, 1059, 1060, 1140 **Remarks:** Cryopreserved
- 1076** **History:** < TAC **Locality:** Lake Yogo/Shiga/Japan (1984-09-09) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18 °C ; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Microcystin not detected; Reisolated from TAC 75; ST 64 (Tanabe et al. 2007) **Gene data:** 16S rRNA (AB023287); ftsZ (AB324913); glnA (AB324992); gltX (AB325071); gyrB (AB325150); pgi (AB325229); recA (AB325308); tpi (AB325387) **Other strain no.:** TAC 75-1 **References:** 439, 440, 441, 681, 840, 1056, 1059, 1060, 1140, 1143, 1146 **Remarks:** Cryopreserved
- 1077** **History:** < TAC **Locality:** Lake Yogo/Shiga/Japan (1984-09-09) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20 °C ; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 37 (Tanabe et al. 2007) **Gene data:** ftsZ (AB324886); glnA (AB324965); gltX (AB325044); gyrB (AB325123); pgi (AB325202); recA (AB325281); tpi (AB325360) **Other strain no.:** TAC 76 **References:** 370, 681, 840, 1056, 1059, 1060, 1140, 1143, 1145, 1146 **Remarks:** Cryopreserved
- 1078** **History:** < TAC **Locality:** Lake Mikata/Fukui/Japan (1984-09-09) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18 °C ; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 79 **Remarks:** Cryopreserved
- 1079** **History:** < TAC **Locality:** Lake Suigetsu/Fukui/Japan (1984-09-08) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** Microcystis ichthyoblabe Kützing **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Microcystin not detected; Reisolated from TAC 80 **Other strain no.:** TAC 80-1 **References:** 370, 815, 840, 841, 842, 1140, 1143, 1146 **Remarks:** Cryopreserved
- 1080** **History:** < TAC **Locality:** Lake Suigetsu/Fukui/Japan (1984-09-08) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18 °C ; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Microcystin not detected; Reisolated from TAC 81 **Other strain no.:** TAC 81-1 **References:** 840, 870, 1086, 1140, 1146 **Remarks:** Cryopreserved
- 1081** **History:** < TAC **Locality:** Koyama-ike Pond/Tottori/Japan (1984-09-07) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko); Microcystin not detected; Reisolated from TAC 82 **Other strain no.:** TAC 82-1 **References:** 370, 840, 1086, 1140, 1143, 1146 **Remarks:** Cryopreserved
- 1082** **History:** < TAC **Locality:** Koyama-ike Pond/Tottori/Japan (1984-09-07) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Axenic[2012 Nov]

- Culture conditions:** MA; 24°C; 20-30µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water)
Characteristics: Cyanobacterial water bloom (aoko); Reisolated from TAC 83 **Other strain no.:** TAC 83-1 **Reference:** 1140
- 1083 History:** < TAC **Locality:** Ukiginu-ike Pond/Shimane/Japan (1984-09-06) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko); Microcystin not detected **Other strain no.:** TAC 84 **References:** 840, 1086, 1140, 1143, 1146 **Remarks:** Cryopreserved
- 1084 History:** < TAC **Locality:** Ukiginu-ike Pond/Shimane/Japan (1984-09-06) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis wesenbergii* Komárek **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko); Microcystin not detected **Other strain no.:** TAC 85 **References:** 370, 815, 840 **Remarks:** Cryopreserved
- 1085 History:** < TAC **Locality:** Koshi-ike Pond/Shimane/Japan (1984-09-06) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; Reisolated from TAC 86; ST 28 (Tanabe et al. 2007) **Gene data:** 16S rRNA (AB012333); 16S rRNA (AB015363); *ftsZ* (AB324877); *glnA* (AB324956); *gltX* (AB325035); *gyrB* (AB325114); *pgi* (AB325193); *recA* (AB325272); *tpi* (AB325351) **Other strain no.:** TAC 86-1 **References:** 835, 836, 840, 841, 842, 1056, 1059, 1060, 1140, 1143, 1146 **Remarks:** Toxic; Cryopreserved
- 1086 History:** < TAC **Locality:** Koshi-ike Pond/Shimane/Japan (1984-09-06) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; Reisolated from TAC 87 **Gene data:** 16S rRNA (AB015364) **Other strain no.:** TAC 87-1 **References:** 370, 457, 836, 840, 841, 842, 1140, 1143, 1145, 1146 **Remarks:** Toxic; Cryopreserved
- 1087 History:** < TAC **Locality:** Koshi-ike Pond/Shimane/Japan (1984-09-06) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 88 **Reference:** 1140 **Remarks:** Cryopreserved
- 1088 History:** < TAC **Locality:** Koshi-ike Pond/Shimane/Japan (1984-09-06) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 89 **Reference:** 1140 **Remarks:** Cryopreserved
- 1089 History:** < TAC **Locality:** Koshi-ike Pond/Shimane/Japan (1984-09-06) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 90 **Reference:** 1140 **Remarks:** Cryopreserved
- 1090 History:** < TAC **Locality:** Lake Barato/Hokkaido/Japan (1984-08-24) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis ichthyoblabe* Kützing **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Microcystin not detected; Reisolated from TAC 91; ST 2 (Tanabe et al. 2007) **Gene data:** 16S rRNA (AB012339); 16S rRNA (AB015367); 16S rRNA (AB023282) **Other strain no.:** TAC 91-1 **References:** 370, 439, 440, 441, 681, 815, 835, 836, 840, 841, 842, 1056, 1059, 1060, 1140, 1143, 1146 **Remarks:** Cryopreserved
- 1091 History:** < TAC **Locality:** Lake Barato/Hokkaido/Japan (1984-08-24) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis viridis*

- (A.Brown) Lemmermann **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; Reisolated from TAC 92; ST 26 (Tanabe et al. 2007) **Gene data:** 16S rRNA (AB015402); 16S rRNA (AB023278) **Other strain no.:** TAC 92-1 **References:** 370, 439, 440, 441, 681, 836, 840, 1056, 1059, 1060, 1142, 1143, 1144, 1238, 1251 **Remarks:** Toxic; Cryopreserved
- 1092** **History:** < TAC **Locality:** Lake Barato/Hokkaido/Japan (1984-08-24) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; Reisolated from TAC 93; ST 26 (Tanabe et al. 2007) **Gene data:** 16S rRNA (AB015403) **Other strain no.:** TAC 93-1 **References:** 836, 1056, 1059, 1060 **Remarks:** Toxic; Cryopreserved
- 1093** **History:** < TAC **Locality:** Lake Barato/Hokkaido/Japan (1984-08-24) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; Reisolated from TAC 95; ST 65 (Tanabe et al. 2007) **Gene data:** *ftsZ* (AB324914); *glnA* (AB324993); *gltX* (AB325072); *gyrB* (AB325151); *pgi* (AB325230); *recA* (AB325309); *tpi* (AB325388) **Other strain no.:** TAC 95-1 **References:** 370, 815, 840, 1056, 1059, 1060, 1140, 1143, 1145, 1146 **Remarks:** Toxic; Cryopreserved
- 1094** **History:** < TAC **Locality:** Lake Shirakaba/Nagano/Japan (1984-09-13) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 39 (Tanabe et al. 2007) **Gene data:** *ftsZ* (AB324888); *glnA* (AB324967); *gltX* (AB325046); *gyrB* (AB325125); *pgi* (AB325204); *recA* (AB325283); *tpi* (AB325362) **Other strain no.:** TAC 96 **References:** 1056, 1059, 1060 **Remarks:** Cryopreserved
- 1095** **History:** < TAC **Locality:** Lake Shirakaba/Nagano/Japan (1984-09-13) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 29 (Tanabe et al. 2007) **Gene data:** *ftsZ* (AB324878); *glnA* (AB324957); *gltX* (AB325036); *gyrB* (AB325115); *pgi* (AB325194); *recA* (AB325273); *tpi* (AB325352) **Other strain no.:** TAC 97 **References:** 370, 840, 1056, 1059, 1060, 1140, 1143, 1145, 1146 **Remarks:** Toxic; Cryopreserved
- 1096** **History:** < TAC **Locality:** Lake Shirakaba/Nagano/Japan (1984-09-13) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 39 (Tanabe et al. 2007) **Other strain no.:** TAC 98 **References:** 1056, 1059, 1060 **Remarks:** Cryopreserved
- 1097** **History:** < TAC **Locality:** Shigure Dam/Tokyo/Japan (1984-11-**) **Isolator:** Watanabe, Yasunori **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Reservoir water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 28 (Tanabe et al. 2007) **Other strain no.:** TAC 109 **References:** 370, 840, 1056, 1059, 1060, 1140, 1143, 1146 **Remarks:** Toxic; Cryopreserved
- 1098** **History:** < TAC **Locality:** Shigure Dam/Tokyo/Japan (1984-11-**) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Reservoir water) **Characteristics:** Cyanobacterial water bloom (aoko); Microcystin not detected; Reisolated from TAC 110; ST 38 (Tanabe et al. 2007) **Gene data:** *ftsZ* (AB324887); *glnA* (AB324966); *gltX* (AB325045); *gyrB* (AB325124); *pgi* (AB325203); *recA* (AB325282); *tpi* (AB325361) **Other strain no.:** TAC 110-1 **References:** 370, 457, 840, 1056, 1059, 1060, 1086, 1140, 1143, 1146 **Remarks:** Cryopreserved
- 1099** **History:** < TAC **Locality:** Noborio-ike Pond/Ehime/Japan (1988-10-21) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; Reisolated from TAC 113 **Other strain no.:** TAC

- 113-1 **References:** 815, 840, 1140, 1143, 1145, 1146 **Remarks:** Toxic; Cryopreserved
- 1100 History:** < TAC **Locality:** Kathmandu/Nepal (1988-11-17) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater **Characteristics:** Cyanobacterial water bloom (aoko); Reisolated from TAC 114; ST 30 (Tanabe et al. 2007) **Gene data:** ftsZ (AB324879); glnA (AB324958); gltX (AB325037); gyrB (AB325116); pgi (AB325195); recA (AB325274); tpi (AB325353) **Other strain no.:** TAC 114-1 **References:** 1056, 1059, 1060 **Remarks:** Cryopreserved
- 1101 History:** < TAC **Locality:** Kathmandu/Nepal (1988-11-17) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater **Characteristics:** Cyanobacterial water bloom (aoko); Reisolated from TAC 115; ST 40 (Tanabe et al. 2007) **Gene data:** ftsZ (AB324889); glnA (AB324968); gltX (AB325047); gyrB (AB325126); pgi (AB325205); recA (AB325284); tpi (AB325363) **Other strain no.:** TAC 115-1 **References:** 1056, 1059, 1060 **Remarks:** Cryopreserved
- 1102 History:** < TAC **Locality:** Lake Barato/Hokkaido/Japan (1989-08-02) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis viridis* (A.Brown) Lemmermann **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 66 (Tanabe et al. 2007) **Gene data:** ftsZ (AB324915); glnA (AB324994); gltX (AB325073); gyrB (AB325152); pgi (AB325231); recA (AB325310); tpi (AB325389) **Other strain no.:** TAC 122 **References:** 1056, 1059, 1060 **Remarks:** Toxic; Cryopreserved
- 1103 History:** < TAC **Locality:** Lake Barato/Hokkaido/Japan (1989-08-02) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis viridis* (A.Brown) Lemmermann **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 66 (Tanabe et al. 2007) **Other strain no.:** TAC 123 **References:** 1056, 1059, 1060 **Remarks:** Toxic; Cryopreserved
- 1104 History:** < TAC **Locality:** Lake Barato/Hokkaido/Japan (1989-08-02) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis viridis* (A.Brown) Lemmermann **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 67 (Tanabe et al. 2007) **Gene data:** ftsZ (AB324916); glnA (AB324995); gltX (AB325074); gyrB (AB325153); pgi (AB325232); recA (AB325311); tpi (AB325390) **Other strain no.:** TAC 124 **References:** 1056, 1059, 1060, 1086 **Remarks:** Cryopreserved
- 1105 History:** < TAC **Locality:** Lake Barato/Hokkaido/Japan (1989-08-02) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis ichthyoblabe* Kützing **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; Reisolated from TAC 125; ST 31 (Tanabe et al. 2007) **Gene data:** 16S rRNA (AB015368); 16S rRNA (AB023283); ftsZ (AB324880); glnA (AB324959); gltX (AB325038); gyrB (AB325117); pgi (AB325196); recA (AB325275); tpi (AB325354) **Other strain no.:** TAC 125-1 **References:** 439, 440, 441, 457, 681, 836, 1056, 1059, 1060, 1140, 1251 **Remarks:** Toxic; Cryopreserved
- 1106 History:** < TAC **Locality:** Shin-ike Pond/Nagano/Japan (1989-08-02) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis wesenbergii* Komárek **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 41 (Tanabe et al. 2007) **Gene data:** ftsZ (AB324890); glnA (AB324969); gltX (AB325048); gyrB (AB325127); pgi (AB325206); recA (AB325285); tpi (AB325364) **Other strain no.:** TAC 126 **References:** 1056, 1059, 1060 **Remarks:** Cryopreserved
- 1107 History:** < TAC **Locality:** Kamisawa-ike Pond/Nagano/Japan (1989-08-02) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:**

- Cyanobacterial water bloom (aoko); Microcystin not detected; ST 42 (Tanabe et al. 2007) **Gene data:** ftsZ (AB324891); glnA (AB324970); gltX (AB325049); gyrB (AB325128); pgi (AB325207); recA (AB325286); tpi (AB325365) **Other strain no.:** TAC 128 **References:** 1056, 1059, 1060, 1140, 1238 **Remarks:** Cryopreserved
- 1108** **History:** < TAC **Locality:** Kamisawa-ike Pond/Nagano/Japan (1989-08-02) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 43 (Tanabe et al. 2007) **Gene data:** ftsZ (AB324892); glnA (AB324971); gltX (AB325050); gyrB (AB325129); pgi (AB325208); recA (AB325287); tpi (AB325366) **Other strain no.:** TAC 129 **References:** 1056, 1059, 1060, 1140 **Remarks:** Toxic; Cryopreserved
- 1109** **History:** < TAC **Locality:** Dazaifu C.C./Fukuoka/Japan (1989-07-10) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 130 **Reference:** 1140 **Remarks:** Cryopreserved
- 1110** **History:** < TAC **Locality:** Dazaifu C.C./Fukuoka/Japan (1989-07-10) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 131 **Reference:** 1140 **Remarks:** Cryopreserved
- 1111** **History:** < TAC **Locality:** Dazaifu C.C./Fukuoka/Japan (1989-07-10) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis wesenbergii* Komárek **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 132 **Remarks:** Cryopreserved
- 1112** **History:** < TAC **Locality:** Dazaifu C.C./Fukuoka/Japan (1989-07-10) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis wesenbergii* Komárek **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 133 **Remarks:** Cryopreserved
- 1113** **History:** < TAC **Locality:** Lake Suwa/Nagano/Japan (1989-07-24) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18 °C ; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 51 (Tanabe et al. 2007) **Gene data:** ftsZ (AB324900); glnA (AB324979); gltX (AB325058); gyrB (AB325137); pgi (AB325216); recA (AB325295); tpi (AB325374) **Other strain no.:** TAC 134 **References:** 1056, 1059, 1060, 1140 **Remarks:** Cryopreserved
- 1114** **History:** < TAC **Locality:** Lake Suwa/Nagano/Japan (1989-07-24) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis viridis* (A.Brown) Lemmermann **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18 °C ; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 52 (Tanabe et al. 2007) **Gene data:** ftsZ (AB324901); glnA (AB324980); gltX (AB325059); gyrB (AB325138); pgi (AB325217); recA (AB325296); tpi (AB325375) **Other strain no.:** TAC 135 **References:** 1056, 1059, 1060 **Remarks:** Toxic; Cryopreserved
- 1115** **History:** < TAC **Locality:** Showa-tameike Pond/Fukuoka/Japan (1989-08-28) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko); Reisolated from TAC 136; ST 44 (Tanabe et al. 2007) **Gene data:** 16S rRNA (AB015369); ftsZ (AB324893); glnA (AB324972); gltX (AB325051); gyrB (AB325130); pgi (AB325209); recA (AB325288); tpi (AB325367) **Other strain no.:** TAC 136-1 **References:** 836, 1056, 1059, 1060, 1140 **Remarks:** Cryopreserved
- 1116** **History:** < TAC **Locality:** Showa-tameike Pond/Fukuoka/Japan (1989-08-28) **Isolator:** Watanabe,

- Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 24°C; 20-30µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 137 **Reference:** 1140
- 1117 History:** < TAC **Locality:** Showa-tameike Pond/Fukuoka/Japan (1989-08-28) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko); Reisolated from TAC 138 **Gene data:** 16S rRNA (AB015370) **Other strain no.:** TAC 138-1 **References:** 836, 1140 **Remarks:** Cryopreserved
- 1118 History:** < TAC **Locality:** Showa-tameike Pond/Fukuoka/Japan (1989-08-28) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis viridis* (A.Brown) Lemmermann **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 141 **Remarks:** Cryopreserved
- 1119 History:** < TAC **Locality:** Showa-tameike Pond/Fukuoka/Japan (1989-08-28) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis wesenbergii* Komárek **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 143 **Remarks:** Cryopreserved
- 1120 History:** < TAC **Locality:** Showa-tameike Pond/Fukuoka/Japan (1989-08-28) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis wesenbergii* Komárek **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 144 **Remarks:** Cryopreserved
- 1121 History:** < TAC **Locality:** Showa-tameike Pond/Fukuoka/Japan (1989-08-28) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis wesenbergii* Komárek **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 145 **Remarks:** Cryopreserved
- 1122 History:** < TAC **Locality:** Lake Ohnuma/Hokkaido/Japan (1989-09-05) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis ichthyoblabe* Kützing **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Reisolated from TAC 146; ST 45 (Tanabe et al. 2007) **Gene data:** 16S rRNA (AB023284); *ftsZ* (AB324894); *glnA* (AB324973); *gltX* (AB325052); *gyrB* (AB325131); *pgi* (AB325210); *recA* (AB325289); *tpi* (AB325368) **Other strain no.:** TAC 146-1 **References:** 439, 440, 441, 681, 1056, 1059, 1060, 1140 **Remarks:** Cryopreserved
- 1123 History:** < TAC **Locality:** Lake Ohnuma/Hokkaido/Japan (1989-09-05) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 24°C; 20-30µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 27 (Tanabe et al. 2007) **Other strain no.:** TAC 147 **References:** 1056, 1059, 1060
- 1124 History:** < TAC **Locality:** Lake Ohnuma/Hokkaido/Japan (1989-09-05) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 24°C; 20-30µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 27 (Tanabe et al. 2007) **Other strain no.:** TAC 148 **References:** 1056, 1059, 1060, 1140
- 1125 History:** < TAC **Locality:** Lake Ohnuma/Hokkaido/Japan (1989-09-05) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 27 (Tanabe et al. 2007) **Other strain no.:** TAC 149 **References:** 1056, 1059, 1060, 1140 **Remarks:** Cryopreserved
- 1126 History:** < TAC **Locality:** Lake Ohnuma/Hokkaido/Japan (1989-09-05) **Isolator:** Watanabe,

- Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 73 (Tanabe et al. 2007) **Other strain no.:** TAC 150 **References:** 1056, 1059, 1060, 1140 **Remarks:** Toxic; Cryopreserved
- 1127** **History:** < TAC **Locality:** Lake Ohnuma/Hokkaido/Japan (1989-09-05) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 73 (Tanabe et al. 2007) **Gene data:** ftsZ (AB324922); glnA (AB325001); gltX (AB325080); gyrB (AB325159); pgi (AB325238); recA (AB325317); tpi (AB325396) **Other strain no.:** TAC 151 **References:** 1056, 1059, 1060, 1140 **Remarks:** Toxic; Cryopreserved
- 1128** **History:** < TAC **Locality:** Lake Ohnuma/Hokkaido/Japan (1989-09-05) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis wesenbergii* Komárek **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 46 (Tanabe et al. 2007) **Other strain no.:** TAC 152 **References:** 1056, 1059, 1060 **Remarks:** Cryopreserved
- 1129** **History:** < TAC **Locality:** Lake Ohnuma/Hokkaido/Japan (1989-09-05) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis wesenbergii* Komárek **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 46 (Tanabe et al. 2007) **Gene data:** ftsZ (AB324895); glnA (AB324974); gltX (AB325053); gyrB (AB325132); pgi (AB325211); recA (AB325290); tpi (AB325369) **Other strain no.:** TAC 153 **References:** 1056, 1059, 1060 **Remarks:** Cryopreserved
- 1130** **History:** < TAC **Locality:** Lake Teganuma/Chiba/Japan (1989-09-13) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Reisolated from TAC 154; ST 75 (Tanabe et al. 2007) **Gene data:** ftsZ (AB324924); glnA (AB325003); gltX (AB325082); gyrB (AB325161); pgi (AB325240); recA (AB325319); tpi (AB325398) **Other strain no.:** TAC 154-1 **References:** 1056, 1059, 1060, 1140 **Remarks:** Cryopreserved
- 1131** **History:** < TAC **Locality:** Lake Teganuma/Chiba/Japan (1989-09-13) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 76 (Tanabe et al. 2007) **Other strain no.:** TAC 155 **References:** 1056, 1059, 1060 **Remarks:** Toxic; Cryopreserved
- 1132** **History:** < TAC **Locality:** Lake Teganuma/Chiba/Japan (1989-09-13) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Reisolated from TAC 156; ST 74 (Tanabe et al. 2007) **Gene data:** ftsZ (AB324923); glnA (AB325002); gltX (AB325081); gyrB (AB325160); pgi (AB325239); recA (AB325318); tpi (AB325397) **Other strain no.:** TAC 156-1 **References:** 1056, 1059, 1060, 1140 **Remarks:** Cryopreserved
- 1133** **History:** < TAC **Locality:** Lake Teganuma/Chiba/Japan (1989-09-13) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; Reisolated from TAC 157; ST 76 (Tanabe et al. 2007) **Gene data:** 16S rRNA (AB023263); ftsZ (AB324925); glnA (AB325004); gltX (AB325083); gyrB (AB325162); pgi (AB325241); recA (AB325320); tpi (AB325399) **Other strain no.:** TAC 157-2 **References:** 681, 1056, 1059, 1060, 1140 **Remarks:** Toxic; Cryopreserved
- 1134** **History:** < TAC **Locality:** Lake Teganuma/Chiba/Japan (1989-09-13) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:**

- Cyanobacterial water bloom (aoko); Reisolated from TAC 159; ST 48 (Tanabe et al. 2007) **Gene data:** *ftsZ* (AB324897); *glnA* (AB324976); *gltX* (AB325055); *gyrB* (AB325134); *pgi* (AB325213); *recA* (AB325292); *tpi* (AB325371) **Other strain no.:** TAC 159-1 **References:** 1056, 1059, 1060, 1140 **Remarks:** Cryopreserved
- 1135** **History:** < TAC **Locality:** Lake Teganuma/Chiba/Japan (1989-09-13) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Reisolated from TAC 160; ST 48 (Tanabe et al. 2007) **Other strain no.:** TAC 160-1 **References:** 1056, 1059, 1060 **Remarks:** Cryopreserved
- 1136** **History:** < TAC **Locality:** Lake Teganuma/Chiba/Japan (1989-09-13) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis viridis* (A.Brown) Lemmermann **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 26 (Tanabe et al. 2007) **Other strain no.:** TAC 162 **References:** 1056, 1059, 1060 **Remarks:** Toxic; Cryopreserved
- 1137** **History:** < TAC **Locality:** Lake Teganuma/Chiba/Japan (1989-09-13) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis wesenbergii* Komárek **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 1 (Tanabe et al. 2007) **Other strain no.:** TAC 163 **References:** 1056, 1059, 1060, 1086 **Remarks:** Cryopreserved
- 1138** **History:** < TAC **Locality:** Lake Teganuma/Chiba/Japan (1989-09-13) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis wesenbergii* Komárek **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Reisolated from TAC 164; ST 1 (Tanabe et al. 2007) **Other strain no.:** TAC 164-1 **References:** 1056, 1059, 1060 **Remarks:** Cryopreserved
- 1139** **History:** < TAC **Locality:** Lake Okutama/Tokyo/Japan (1989-09-17) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 55 (Tanabe et al. 2007) **Gene data:** *ftsZ* (AB324904); *glnA* (AB324983); *gltX* (AB325062); *gyrB* (AB325141); *pgi* (AB325220); *recA* (AB325299); *tpi* (AB325378) **Other strain no.:** TAC 165 **References:** 1056, 1059, 1060, 1140 **Remarks:** Cryopreserved
- 1140** **History:** < TAC **Locality:** Lake Okutama/Tokyo/Japan (1989-09-17) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 4 (Tanabe et al. 2007) **Other strain no.:** TAC 166 **References:** 371, 840, 1056, 1059, 1060, 1140, 1143, 1146 **Remarks:** Toxic; Cryopreserved
- 1141** **History:** < TAC **Locality:** Lake Okutama/Tokyo/Japan (1989-09-17) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 55 (Tanabe et al. 2007) **Other strain no.:** TAC 167 **References:** 371, 1056, 1059, 1060, 1140 **Remarks:** Toxic; Cryopreserved
- 1142** **History:** < TAC **Locality:** Lake Okutama/Tokyo/Japan (1989-09-17) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 56 (Tanabe et al. 2007) **Gene data:** 16S rRNA (AB023264); *ftsZ* (AB324905); *glnA* (AB324984); *gltX* (AB325063); *gyrB* (AB325142); *pgi* (AB325221); *recA* (AB325300); *tpi* (AB325379) **Other strain no.:** TAC 169 **References:** 439, 440, 441, 681, 1056, 1059, 1060, 1140, 1146 **Remarks:** Cryopreserved
- 1143** **History:** < TAC **Locality:** Lake Okutama/Tokyo/Japan (1989-09-17) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis novacekii*

- (Komárek) Compère **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; Reisolated from TAC 170; ST 57 (Tanabe et al. 2007) **Gene data:** 16S rRNA (AB012340); 16S rRNA (AB015365); *ftsZ* (AB324906); *glnA* (AB324985); *gltX* (AB325064); *gyrB* (AB325143); *pgi* (AB325222); *recA* (AB325301); *tpi* (AB325380) **Other strain no.:** TAC 170-1 **References:** 835, 836, 1056, 1059, 1060 **Remarks:** Toxic; Cryopreserved
- 1144** **History:** < TAC **Locality:** Lake Okutama/Tokyo/Japan (1989-09-17) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis wesenbergii* Komárek **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 58 (Tanabe et al. 2007) **Gene data:** *ftsZ* (AB324907); *glnA* (AB324986); *gltX* (AB325065); *gyrB* (AB325144); *pgi* (AB325223); *recA* (AB325302); *tpi* (AB325381) **Other strain no.:** TAC 171 **References:** 1056, 1059, 1060 **Remarks:** Cryopreserved
- 1145** **History:** < TAC **Locality:** Lake Okutama/Tokyo/Japan (1989-09-17) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis wesenbergii* Komárek **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 58 (Tanabe et al. 2007) **Other strain no.:** TAC 172 **References:** 371, 1056, 1059, 1060 **Remarks:** Cryopreserved
- 1146** **History:** < TAC **Locality:** Lake Shirakaba/Nagano/Japan (1989-08-23) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 39 (Tanabe et al. 2007) **Other strain no.:** TAC 173 **References:** 1056, 1059, 1060, 1140 **Remarks:** Cryopreserved
- 1147** **History:** < TAC **Locality:** Lake Shirakaba/Nagano/Japan (1989-08-23) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 39 (Tanabe et al. 2007) **Other strain no.:** TAC 174 **References:** 1056, 1059, 1060, 1140 **Remarks:** Cryopreserved
- 1148** **History:** < TAC **Locality:** Lake Shirakaba/Nagano/Japan (1989-08-23) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 29 (Tanabe et al. 2007) **Other strain no.:** TAC 175 **References:** 1056, 1059, 1060 **Remarks:** Toxic; Cryopreserved
- 1149** **History:** < TAC **Locality:** Lake Shirakaba/Nagano/Japan (1989-08-23) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 29 (Tanabe et al. 2007) **Other strain no.:** TAC 176 **References:** 1056, 1059, 1060, 1140 **Remarks:** Toxic; Cryopreserved
- 1150** **History:** < TAC **Locality:** Lake Shirakaba/Nagano/Japan (1989-08-23) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 49 (Tanabe et al. 2007) **Other strain no.:** TAC 177 **References:** 1056, 1059, 1060 **Remarks:** Toxic; Cryopreserved
- 1151** **History:** < TAC **Locality:** Lake Shirakaba/Nagano/Japan (1989-08-23) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 49 (Tanabe et al. 2007) **Gene data:** *ftsZ* (AB324898); *glnA* (AB324977); *gltX* (AB325056); *gyrB* (AB325135); *pgi* (AB325214); *recA* (AB325293); *tpi* (AB325372) **Other strain no.:** TAC 178 **References:** 1056, 1059, 1060 **Remarks:** Toxic; Cryopreserved
- 1152** **History:** < TAC **Locality:** Lake Okutama/Tokyo/Japan (1989-09-17) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture**

- conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 55 (Tanabe et al. 2007) **Other strain no.:** TAC 179 **References:** 371, 1056, 1059, 1060, 1140 **Remarks:** Toxic; Cryopreserved
- 1153** **History:** < TAC **Locality:** Lake Okutama/Tokyo/Japan (1989-09-17) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 55 (Tanabe et al. 2007) **Other strain no.:** TAC 180 **References:** 1056, 1059, 1060, 1140 **Remarks:** Toxic; Cryopreserved
- 1154** **History:** < TAC **Locality:** Lake Okutama/Tokyo/Japan (1989-09-17) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 181 **References:** 840, 841, 1140 **Remarks:** Cryopreserved
- 1155** **History:** < TAC **Locality:** Lake Teganuma/Chiba/Japan (1989-09-17) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 29 (Tanabe et al. 2007) **Other strain no.:** TAC 182 **References:** 1056, 1059, 1060, 1140 **Remarks:** Toxic; Cryopreserved
- 1156** **History:** < TAC **Locality:** Lake Shirakaba/Nagano/Japan (1989-09-17) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 29 (Tanabe et al. 2007) **Other strain no.:** TAC 183 **References:** 1056, 1059, 1060 **Remarks:** Toxic; Cryopreserved
- 1157** **History:** < TAC **Locality:** Lake Teganuma/Chiba/Japan (1989-09-17) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 48 (Tanabe et al. 2007) **Other strain no.:** TAC 185 **References:** 1056, 1059, 1060, 1140 **Remarks:** Cryopreserved
- 1158** **History:** < TAC **Locality:** Yame/Fukuoka/Japan (1989-09-17) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis wesenbergii* Komárek **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 186 **Remarks:** Cryopreserved
- 1159** **History:** < TAC **Locality:** Lake Okutama/Tokyo/Japan (1989-09-17) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 55 (Tanabe et al. 2007) **Other strain no.:** TAC 187 **References:** 371, 1056, 1059, 1060, 1140 **Remarks:** Toxic; Cryopreserved
- 1160** **History:** < TAC **Locality:** Lake Okutama/Tokyo/Japan (1989-09-17) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 55 (Tanabe et al. 2007) **Other strain no.:** TAC 188 **References:** 371, 1056, 1059, 1060, 1140 **Remarks:** Toxic; Cryopreserved
- 1161** **History:** < TAC **Locality:** Lake Okutama/Tokyo/Japan (1989-09-17) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 55 (Tanabe et al. 2007) **Other strain no.:** TAC 189 **References:** 371, 1056, 1059, 1060, 1140 **Remarks:** Toxic; Cryopreserved
- 1162** **History:** < TAC **Locality:** Lake Okutama/Tokyo/Japan (1989-09-17) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 55 (Tanabe et al. 2007) **Other strain no.:** TAC 190

- References:** 1056, 1059, 1060, 1140 **Remarks:** Toxic; Cryopreserved
- 1163** **History:** < TAC **Locality:** Lake Okutama/Tokyo/Japan (1989-09-17) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 55 (Tanabe et al. 2007) **Other strain no.:** TAC 191 **References:** 371, 1056, 1059, 1060, 1140 **Remarks:** Toxic; Cryopreserved
- 1164** **History:** < TAC **Locality:** Lake Okutama/Tokyo/Japan (1989-09-17) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 55 (Tanabe et al. 2007) **Gene data:** 16S rRNA (AB023265) **Other strain no.:** TAC 192 **References:** 439, 440, 441, 681, 1056, 1059, 1060, 1140 **Remarks:** Toxic; Cryopreserved
- 1165** **History:** < TAC **Locality:** Tsuruoka Park/Yamagata/Japan (1990-08-04) **Isolator:** Niiyama, Yuko **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18 °C ; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Moat water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 193 **Remarks:** Cryopreserved
- 1166** **History:** < TAC **Locality:** Tsuruoka Park/Yamagata/Japan (1990-08-04) **Isolator:** Niiyama, Yuko **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18 °C ; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Moat water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 194 **Remarks:** Cryopreserved
- 1167** **History:** < TAC **Locality:** Tsuruoka Park/Yamagata/Japan (1990-08-04) **Isolator:** Niiyama, Yuko **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis wesenbergii* Komárek **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Moat water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 195 **Remarks:** Cryopreserved
- 1168** **History:** < TAC **Locality:** Tsuruoka Park/Yamagata/Japan (1990-08-04) **Isolator:** Niiyama, Yuko **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis wesenbergii* Komárek **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Moat water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 196 **Remarks:** Cryopreserved
- 1169** **History:** < TAC **Locality:** Tsuruoka Park/Yamagata/Japan (1990-08-04) **Isolator:** Niiyama, Yuko **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18 °C ; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Moat water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 197 **Remarks:** Cryopreserved
- 1170** **History:** < TAC **Locality:** Lake Barato/Hokkaido/Japan (1990-08-27) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis wesenbergii* Komárek **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 50 (Tanabe et al. 2007) **Gene data:** *ftsZ* (AB324899); *glnA* (AB324978); *gltX* (AB325057); *gyrB* (AB325136); *pgi* (AB325215); *recA* (AB325294); *tpi* (AB325373) **Other strain no.:** TAC 198 **References:** 1056, 1059, 1060 **Remarks:** Cryopreserved
- 1171** **History:** < TAC **Locality:** Lake Barato/Hokkaido/Japan (1990-08-27) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis wesenbergii* Komárek **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 50 (Tanabe et al. 2007) **Other strain no.:** TAC 199 **References:** 1056, 1059, 1060 **Remarks:** Cryopreserved
- 1172** **History:** < TAC **Locality:** Lake Barato/Hokkaido/Japan (1990-08-27) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis wesenbergii* Komárek **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 50 (Tanabe et al. 2007) **Other strain no.:** TAC 200 **References:** 1056, 1059, 1060 **Remarks:**

- Cryopreserved
- 1173** **History:** < TAC **Locality:** Saburo-ike Pond/Kagawa/Japan (1990-09-17) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 4 (Tanabe et al. 2011) **Other strain no.:** TAC 311 **References:** 1060, 1140 **Remarks:** Cryopreserved
- 1174** **History:** < TAC **Locality:** Saburo-ike Pond/Kagawa/Japan (1990-09-17) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 188 (Tanabe et al. 2011) **Other strain no.:** TAC 312 **Reference:** 1060 **Remarks:** Cryopreserved
- 1175** **History:** < TAC **Locality:** Saburo-ike Pond/Kagawa/Japan (1990-09-17) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis wesenbergii* Komárek **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 189 (Tanabe et al. 2011) **Other strain no.:** TAC 313 **Reference:** 1060 **Remarks:** Cryopreserved
- 1176** **History:** < TAC **Locality:** Saburo-ike Pond/Kagawa/Japan (1990-09-17) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 135 (Tanabe et al. 2011) **Other strain no.:** TAC 314 **Reference:** 1060 **Remarks:** Cryopreserved
- 1177** **History:** < TAC **Locality:** Saburo-ike Pond/Kagawa/Japan (1990-09-17) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 190 (Tanabe et al. 2011) **Other strain no.:** TAC 315 **Reference:** 1060 **Remarks:** Cryopreserved
- 1178** **History:** < TAC **Locality:** Shin-ike Pond/Kagawa/Japan (1990-09-17) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 316 **Reference:** 1140 **Remarks:** Cryopreserved
- 1179** **History:** < TAC **Locality:** Shin-ike Pond/Kagawa/Japan (1990-09-17) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 191 (Tanabe et al. 2011) **Other strain no.:** TAC 317 **Reference:** 1060 **Remarks:** Cryopreserved
- 1180** **History:** < TAC **Locality:** Shin-ike Pond/Kagawa/Japan (1990-09-17) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis viridis* (A.Brown) Lemmermann **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 26 (Tanabe et al. 2011) **Other strain no.:** TAC 319 **Reference:** 1060 **Remarks:** Cryopreserved
- 1181** **History:** < TAC **Locality:** Shin-ike Pond/Kagawa/Japan (1990-09-17) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis wesenbergii* Komárek **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 192 (Tanabe et al. 2011) **Other strain no.:** TAC 320 **Reference:** 1060 **Remarks:** Cryopreserved
- 1182** **History:** < TAC **Locality:** Sakase-ike Pond/Kagawa/Japan (1990-09-17) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis ichthyoblabe* Kützing **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 321 **Reference:** 1140 **Remarks:** Cryopreserved

- 1183** **History:** < TAC **Locality:** Sakase-ike Pond/Kagawa/Japan (1990-09-17) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis ichthyoblabe* Kützing **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 193 (Tanabe et al. 2011) **Other strain no.:** TAC 322 **References:** 1060, 1140 **Remarks:** Cryopreserved
- 1184** **History:** < TAC **Locality:** Sakase-ike Pond/Kagawa/Japan (1990-09-17) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 193 (Tanabe et al. 2011) **Other strain no.:** TAC 323 **References:** 1060, 1140 **Remarks:** Cryopreserved
- 1185** **History:** < TAC **Locality:** Sakase-ike Pond/Kagawa/Japan (1990-09-17) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 194 (Tanabe et al. 2011) **Other strain no.:** TAC 325 **Reference:** 1060 **Remarks:** Cryopreserved
- 1186** **History:** < TAC **Locality:** Sakase-ike Pond/Kagawa/Japan (1990-09-17) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 194 (Tanabe et al. 2011) **Other strain no.:** TAC 326 **Reference:** 1060 **Remarks:** Cryopreserved
- 1187** **History:** < TAC **Locality:** Lake Heiso/Hyogo/Japan (1990-09-16) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18 °C ; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 327 **Reference:** 1140 **Remarks:** Cryopreserved
- 1188** **History:** < TAC **Locality:** Lake Heiso/Hyogo/Japan (1990-09-16) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18 °C ; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 328 **Remarks:** Cryopreserved
- 1189** **History:** < TAC **Locality:** Lake Heiso/Hyogo/Japan (1990-09-16) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18 °C ; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 329 **Reference:** 1140 **Remarks:** Cryopreserved
- 1190** **History:** < TAC **Locality:** Lake Heiso/Hyogo/Japan (1990-09-16) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18 °C ; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 330 **Remarks:** Cryopreserved
- 1191** **History:** < TAC **Locality:** Lake Heiso/Hyogo/Japan (1990-09-16) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18 °C ; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 331 **Remarks:** Cryopreserved
- 1192** **History:** < TAC **Locality:** Lake Heiso/Hyogo/Japan (1990-09-16) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18 °C ; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 332 **Remarks:** Cryopreserved
- 1193** **History:** < TAC **Locality:** Lake Heiso/Hyogo/Japan (1990-09-16) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis wesenbergii* Komárek **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 333 **Remarks:** Cryopreserved

- 1194** **History:** < TAC **Locality:** Lake Heiso/Hyogo/Japan (1990-09-16) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18 °C ; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 335 **Reference:** 1140 **Remarks:** Cryopreserved
- 1195** **History:** < TAC **Locality:** Lake Heiso/Hyogo/Japan (1990-09-16) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18 °C ; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 336 **Remarks:** Cryopreserved
- 1196** **History:** < TAC **Locality:** Lake Heiso/Hyogo/Japan (1990-09-16) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18 °C ; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 337 **Reference:** 1140 **Remarks:** Cryopreserved
- 1197** **History:** < TAC **Locality:** Lake Heiso/Hyogo/Japan (1990-09-16) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18 °C ; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 338 **Remarks:** Cryopreserved
- 1198** **History:** < TAC **Locality:** Futago-ike Pond/Hyogo/Japan (1990-09-16) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 339 **Reference:** 1140 **Remarks:** Cryopreserved
- 1199** **History:** < TAC **Locality:** Futago-ike Pond/Hyogo/Japan (1990-09-16) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 340 **Remarks:** Cryopreserved
- 1200** **History:** < TAC **Locality:** Shinjiaika-ike Pond/Shimane/Japan (1990-09-18) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 341 **Reference:** 1140 **Remarks:** Cryopreserved
- 1201** **History:** < TAC **Locality:** Shinjiaika-ike Pond/Shimane/Japan (1990-09-18) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 342 **Remarks:** Cryopreserved
- 1202** **History:** < TAC **Locality:** Shinjiaika-ike Pond/Shimane/Japan (1990-09-18) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis wesenbergii* Komárek **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 343 **Remarks:** Cryopreserved
- 1203** **History:** < TAC **Locality:** Shinjiaika-ike Pond/Shimane/Japan (1990-09-18) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 344 **Reference:** 1140 **Remarks:** Cryopreserved
- 1204** **History:** < TAC **Locality:** Shinjiaika-ike Pond/Shimane/Japan (1990-09-18) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 345 **Remarks:** Cryopreserved
- 1205** **History:** < TAC **Locality:** Johoku-ike Pond/Shimane/Japan (1990-09-18) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture**

- conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 346 **Reference:** 1140 **Remarks:** Cryopreserved
- 1206** **History:** < TAC **Locality:** Johoku-ike Pond/Shimane/Japan (1990-09-18) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 24°C; 20-30µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 347 **Reference:** 1140
- 1207** **History:** < TAC **Locality:** Johoku-ike Pond/Shimane/Japan (1990-09-18) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis wesenbergii* Komárek **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 348 **Remarks:** Cryopreserved
- 1208** **History:** < TAC **Locality:** Johoku-ike Pond/Shimane/Japan (1990-09-18) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis wesenbergii* Komárek **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 349 **Remarks:** Cryopreserved
- 1209** **History:** < TAC **Locality:** Lake Toro/Hokkaido/Japan (1990-09-28) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18 °C ; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 32 (Tanabe et al. 2007) **Gene data:** *ftsZ* (AB324881); *glnA* (AB324960); *gltX* (AB325039); *gyrB* (AB325118); *pgi* (AB325197); *recA* (AB325276); *tpi* (AB325355) **Other strain no.:** TAC 350 **References:** 1056, 1059, 1060, 1140 **Remarks:** Toxic; Cryopreserved
- 1210** **History:** < TAC **Locality:** Lake Toro/Hokkaido/Japan (1990-09-28) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18 °C ; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 351 **Remarks:** Cryopreserved
- 1211** **History:** < TAC **Locality:** Lake Tofutsu/Hokkaido/Japan (1990-09-28) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 24°C; 20-30µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 47 (Tanabe et al. 2007) **Gene data:** *ftsZ* (AB324896); *glnA* (AB324975); *gltX* (AB325054); *gyrB* (AB325133); *pgi* (AB325212); *recA* (AB325291); *tpi* (AB325370) **Other strain no.:** TAC 352 **References:** 1056, 1059, 1060
- 1212** **History:** < TAC **Locality:** Lake Tofutsu/Hokkaido/Japan (1990-09-28) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 353 **Reference:** 684 **Remarks:** Cryopreserved
- 1213** **History:** < TAC **Locality:** Kunma Dam/Okinawa/Japan (1990-10-26) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18 °C ; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Reservoir water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 68 (Tanabe et al. 2007) **Gene data:** *ftsZ* (AB324917); *glnA* (AB324996); *gltX* (AB325075); *gyrB* (AB325154); *pgi* (AB325233); *recA* (AB325312); *tpi* (AB325391) **Other strain no.:** TAC 355 **References:** 438, 684, 1056, 1059, 1060, 1140 **Remarks:** Toxic; Cryopreserved
- 1214** **History:** < TAC **Locality:** Kunma Dam/Okinawa/Japan (1990-10-26) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18 °C ; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Reservoir water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 69 (Tanabe et al. 2007) **Gene data:** *ftsZ* (AB324918); *glnA* (AB324997); *gltX* (AB325076); *gyrB* (AB325155); *pgi* (AB325234); *recA* (AB325313); *tpi* (AB325392) **Other strain no.:** TAC 356 **References:** 1056,

- 1059, 1060 **Remarks:** Toxic; Cryopreserved
- 1215** **History:** < TAC **Locality:** Kunma Dam/Okinawa/Japan (1990-10-26) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18 °C ; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Reservoir water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 70 (Tanabe et al. 2007) **Gene data:** ftsZ (AB324919); glnA (AB324998); gltX (AB325077); gyrB (AB325156); pgi (AB325235); recA (AB325314); tpi (AB325393) **Other strain no.:** TAC 357 **References:** 1056, 1059, 1060 **Remarks:** Toxic; Cryopreserved
- 1216** **History:** < TAC **Locality:** Kunma Dam/Okinawa/Japan (1990-10-26) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18 °C ; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Reservoir water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 71 (Tanabe et al. 2007) **Gene data:** ftsZ (AB324920); glnA (AB324999); gltX (AB325078); gyrB (AB325157); pgi (AB325236); recA (AB325315); tpi (AB325394) **Other strain no.:** TAC 358 **References:** 1056, 1059, 1060, 1140 **Remarks:** Cryopreserved
- 1217** **History:** < TAC **Locality:** Kunma Dam/Okinawa/Japan (1990-10-26) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18 °C ; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Reservoir water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 71 (Tanabe et al. 2007) **Other strain no.:** TAC 359 **References:** 1056, 1059, 1060 **Remarks:** Cryopreserved
- 1218** **History:** < TAC **Locality:** Kunma Dam/Okinawa/Japan (1990-10-26) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18 °C ; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Reservoir water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 71 (Tanabe et al. 2007) **Other strain no.:** TAC 360 **References:** 1056, 1059, 1060 **Remarks:** Cryopreserved
- 1219** **History:** < TAC **Locality:** Kunma Dam/Okinawa/Japan (1990-10-26) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18 °C ; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Reservoir water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 72 (Tanabe et al. 2007) **Gene data:** ftsZ (AB324921); glnA (AB325000); gltX (AB325079); gyrB (AB325158); pgi (AB325237); recA (AB325316); tpi (AB325395) **Other strain no.:** TAC 361 **References:** 1056, 1059, 1060, 1140 **Remarks:** Toxic; Cryopreserved
- 1220** **History:** < TAC **Locality:** Kunma Dam/Okinawa/Japan (1990-10-26) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18 °C ; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Reservoir water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 72 (Tanabe et al. 2007) **Other strain no.:** TAC 362 **References:** 1056, 1059, 1060 **Remarks:** Toxic; Cryopreserved
- 1221** **History:** < TAC **Locality:** Kunma Dam/Okinawa/Japan (1990-10-26) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18 °C ; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Reservoir water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 72 (Tanabe et al. 2007) **Other strain no.:** TAC 363 **References:** 1056, 1059, 1060 **Remarks:** Toxic; Cryopreserved
- 1222** **History:** < TAC **Locality:** Tatsugami Dam/Okinawa/Japan (1990-10-27) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18 °C ; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Reservoir water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 33 (Tanabe et al. 2007) **Gene data:** ftsZ (AB324882); glnA (AB324961); gltX (AB325040); gyrB (AB325119); pgi (AB325198); recA (AB325277); tpi (AB325356) **Other strain no.:** TAC 364 **References:** 1056, 1059, 1060, 1140 **Remarks:** Toxic; Cryopreserved
- 1223** **History:** < TAC **Locality:** Tatsugami Dam/Okinawa/Japan (1990-10-27) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18 °C ; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Reservoir water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 33 (Tanabe et al. 2007) **Other**

- strain no.: TAC 365 **References:** 1056, 1059, 1060 **Remarks:** Toxic; Cryopreserved
- 1224** **History:** < TAC **Locality:** Tatsugami Dam/Okinawa/Japan (1990-10-27) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18 °C ; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Reservoir water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 71 (Tanabe et al. 2007) **Other strain no.:** TAC 368 **References:** 1056, 1059, 1060 **Remarks:** Cryopreserved
- 1225** **History:** < TAC **Locality:** Tatsugami Dam/Okinawa/Japan (1990-10-27) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18 °C ; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Reservoir water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 72 (Tanabe et al. 2007) **Other strain no.:** TAC 369 **References:** 1056, 1059, 1060, 1140 **Remarks:** Toxic; Cryopreserved
- 1226** **History:** < TAC **Locality:** Tatsugami Dam/Okinawa/Japan (1990-10-27) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18 °C ; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Reservoir water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 72 (Tanabe et al. 2007) **Other strain no.:** TAC 370 **References:** 1056, 1059, 1060 **Remarks:** Toxic; Cryopreserved
- 1227** **History:** < TAC **Locality:** Fukuchi Dam/Okinawa/Japan (1990-10-27) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18 °C ; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Reservoir water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 72 (Tanabe et al. 2007) **Other strain no.:** TAC 371 **References:** 1056, 1059, 1060 **Remarks:** Toxic; Cryopreserved
- 1228** **History:** < TAC **Locality:** Fukuchi Dam/Okinawa/Japan (1990-10-27) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18 °C ; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Reservoir water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 72 (Tanabe et al. 2007) **Other strain no.:** TAC 372 **References:** 1056, 1059, 1060 **Remarks:** Toxic; Cryopreserved
- 1229** **History:** < TAC **Locality:** Fukuchi Dam/Okinawa/Japan (1990-10-27) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 24 °C ; 20-30µmol/m²/s; 1 M **Habitat:** Freshwater (Reservoir water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 72 (Tanabe et al. 2007) **Other strain no.:** TAC 373 **References:** 1056, 1059, 1060 **Remarks:** Toxic
- 1230** **History:** < TAC **Locality:** Ishigaki Dam/Okinawa/Japan (1990-10-28) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18 °C ; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Reservoir water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 78 (Tanabe et al. 2007) **Gene data:** *ftsZ* (AB324927); *glnA* (AB325006); *gltX* (AB325085); *gyrB* (AB325164); *pgi* (AB325243); *recA* (AB325322); *tpi* (AB325401) **Other strain no.:** TAC 374 **References:** 1056, 1059, 1060, 1140 **Remarks:** Toxic; Cryopreserved
- 1231** **History:** < TAC **Locality:** Ishigaki Dam/Okinawa/Japan (1990-10-28) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18 °C ; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Reservoir water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 78 (Tanabe et al. 2007) **Other strain no.:** TAC 375 **References:** 1056, 1059, 1060 **Remarks:** Toxic; Cryopreserved
- 1232** **History:** < TAC **Locality:** Ishigaki Dam/Okinawa/Japan (1990-10-28) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18 °C ; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Reservoir water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 71 (Tanabe et al. 2007) **Other strain no.:** TAC 376 **References:** 1056, 1059, 1060, 1140 **Remarks:** Cryopreserved
- 1233** **History:** < TAC **Locality:** Ishigaki Dam/Okinawa/Japan (1990-10-28) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18 °C ; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Reservoir water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 71 (Tanabe et al. 2007) **Other strain**

- no.: TAC 377 **References:** 1056, 1059, 1060 **Remarks:** Cryopreserved
- 1234** **History:** < TAC **Locality:** Ishigaki Dam/Okinawa/Japan (1990-10-28) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 24 °C ; 20-30µmol/m²/s; 1 M **Habitat:** Freshwater (Reservoir water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 72 (Tanabe et al. 2007) **Other strain no.:** TAC 378 **References:** 1056, 1059, 1060, 1140 **Remarks:** Toxic
- 1235** **History:** < TAC **Locality:** Ishigaki Dam/Okinawa/Japan (1990-10-28) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18 °C ; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Reservoir water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 72 (Tanabe et al. 2007) **Other strain no.:** TAC 379 **References:** 1056, 1059, 1060 **Remarks:** Toxic; Cryopreserved
- 1236** **History:** < TAC **Locality:** Ishigaki Dam/Okinawa/Japan (1990-10-28) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18 °C ; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Reservoir water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 72 (Tanabe et al. 2007) **Other strain no.:** TAC 380 **References:** 1056, 1059, 1060 **Remarks:** Toxic; Cryopreserved
- 1237** **History:** < TAC **Locality:** Tengan Dam/Okinawa/Japan (1990-10-27) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18 °C ; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Reservoir water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 68 (Tanabe et al. 2007) **Other strain no.:** TAC 381 **References:** 1056, 1059, 1060, 1140 **Remarks:** Toxic; Cryopreserved
- 1238** **History:** < TAC **Locality:** Tengan Dam/Okinawa/Japan (1990-10-27) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18 °C ; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Reservoir water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 33 (Tanabe et al. 2007) **Other strain no.:** TAC 382 **References:** 1056, 1059, 1060 **Remarks:** Toxic; Cryopreserved
- 1239** **History:** < TAC **Locality:** Tengan Dam/Okinawa/Japan (1990-10-27) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18 °C ; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Reservoir water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 79 (Tanabe et al. 2007) **Gene data:** ftsZ (AB324928); glnA (AB325007); gltX (AB325086); gyrB (AB325165); pgi (AB325244); recA (AB325323); tpi (AB325402) **Other strain no.:** TAC 383 **References:** 1056, 1059, 1060, 1140 **Remarks:** Cryopreserved
- 1240** **History:** < TAC **Locality:** Tengan Dam/Okinawa/Japan (1990-10-27) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18 °C ; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Reservoir water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 79 (Tanabe et al. 2007) **Other strain no.:** TAC 384 **References:** 1056, 1059, 1060 **Remarks:** Cryopreserved
- 1241** **History:** < TAC **Locality:** Tengan Dam/Okinawa/Japan (1990-10-27) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18 °C ; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Reservoir water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 72 (Tanabe et al. 2007) **Other strain no.:** TAC 385 **References:** 1056, 1059, 1060, 1140 **Remarks:** Toxic; Cryopreserved
- 1242** **History:** < TAC **Locality:** Tengan Dam/Okinawa/Japan (1990-10-27) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18 °C ; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Reservoir water) **Characteristics:** Cyanobacterial water bloom (aoko); Toxic; ST 72 (Tanabe et al. 2007) **Other strain no.:** TAC 386 **References:** 1056, 1059, 1060 **Remarks:** Toxic; Cryopreserved
- 1243** **History:** < TAC **Locality:** Maesato Dam/Okinawa/Japan (1990-10-28) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18 °C ; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Reservoir water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 79 (Tanabe et al. 2007) **Other strain**

- no.: TAC 387 **References:** 1056, 1059, 1060, 1140 **Remarks:** Cryopreserved
- 1244** **History:** < TAC **Locality:** Maesato Dam/Okinawa/Japan (1990-10-28) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18 °C ; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Reservoir water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 79 (Tanabe et al. 2007) **Other strain no.:** TAC 388 **References:** 1056, 1059, 1060 **Remarks:** Cryopreserved
- 1245** **History:** < TAC **Locality:** Maesato Dam/Okinawa/Japan (1990-10-28) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18 °C ; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Reservoir water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 79 (Tanabe et al. 2007) **Other strain no.:** TAC 389 **References:** 1056, 1059, 1060 **Remarks:** Cryopreserved
- 1246** **History:** < TAC **Locality:** Hyotan-ike Pond/Okinawa/Japan (1990-10-28) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 390 **Reference:** 1140 **Remarks:** Cryopreserved
- 1247** **History:** < TAC **Locality:** Hyotan-ike Pond/Okinawa/Japan (1990-10-28) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 24°C; 20-30µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 391
- 1248** **History:** < TAC **Locality:** Hyotan-ike Pond/Okinawa/Japan (1990-10-28) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 392 **Remarks:** Cryopreserved
- 1249** **History:** < TAC **Locality:** Hyotan-ike Pond/Okinawa/Japan (1990-10-28) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 393 **Remarks:** Cryopreserved
- 1250** **History:** < TAC **Locality:** Hyotan-ike Pond/Okinawa/Japan (1990-10-28) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 394 **Remarks:** Cryopreserved
- 1251** **History:** < TAC **Locality:** Lake Suwa/Nagano/Japan (1990-03-31) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis wesenbergii* Komárek **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 17 (Tanabe et al. 2007) **Other strain no.:** TAC 395 **References:** 1056, 1059, 1060 **Remarks:** Cryopreserved
- 1252** **History:** < TAC **Locality:** Lake Suwa/Nagano/Japan (1990-03-31) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis wesenbergii* Komárek **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 53 (Tanabe et al. 2007) **Gene data:** *ftsZ* (AB324902); *glnA* (AB324981); *gltX* (AB325060); *gyrB* (AB325139); *pgi* (AB325218); *recA* (AB325297); *tpi* (AB325376) **Other strain no.:** TAC 396 **References:** 1056, 1059, 1060 **Remarks:** Cryopreserved
- 1253** **History:** < TAC **Locality:** Lake Suwa/Nagano/Japan (1990-03-31) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis wesenbergii* Komárek **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 8 (Tanabe et al. 2007) **Other strain no.:** TAC 401 **References:** 1056, 1059, 1060 **Remarks:** Cryopreserved
- 1254** **History:** < TAC **Locality:** Lake Suwa/Nagano/Japan (1990-03-31) **Isolator:** Watanabe, Masayuki

- Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis wesenbergii* Komárek
States: Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M
Habitat: Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 8
(Tanabe et al. 2007) **Other strain no.:** TAC 402 **References:** 1056, 1059, 1060 **Remarks:**
Cryopreserved
- 1255** **History:** < TAC **Locality:** Lake Tsukui/Kanagawa/Japan (1990-08-28) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis wesenbergii* Komárek **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 405 **Remarks:** Cryopreserved
- 1256** **History:** < TAC **Locality:** Lake Tsukui/Kanagawa/Japan (1990-08-28) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **Formerly identified as:** *Microcystis wesenbergii* Komárek **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 406 **Remarks:** Cryopreserved
- 1257** **History:** < TAC **Locality:** Nakagusuku/Okinawa/Japan (1990-12-11) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 24°C; 20-30µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 407
- 1354** **History:** < TAC **Locality:** Chikatou-ike Pond/Nagano/Japan (1982-09-13) **Formerly identified as:** *Microcystis viridis* (A.Brown) Lemmermann **States:** Unialgal; Clonal; Axenic **Culture conditions:** MA; 18 °C ; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 64-1 **Remarks:** Cryopreserved
- 1355** **History:** < TAC **Locality:** Lake Mikata/Fukui/Japan (1984-09-09) **Formerly identified as:** *Microcystis viridis* (A.Brown) Lemmermann **States:** Unialgal; Clonal; Axenic **Culture conditions:** MA; 18 °C ; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 78-1 **Reference:** 1230 **Remarks:** Cryopreserved
- 1356** **History:** < TAC **Locality:** Lake Teganuma/Chiba/Japan (1989-09-13) **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Axenic **Culture conditions:** MA; 18°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 158-1 **Remarks:** Cryopreserved
- 2088** **History:** < Tanabe, Yuhiko **Locality:** Lake Inbanuma/Chiba/Japan (2007-07-04) **Isolator:** Tanabe, Yuhiko **Identified by:** Tanabe, Yuhiko (2007-08-19) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 23°C; 20-30µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 197 (Tanabe et al. 2011) **Gene data:** *ftsZ* (AB547721); *glnA* (AB547743); *pgi* (AB547841) **Other strain no.:** Is07Yo01 **Reference:** 1060 **Remarks:** Cryopreserved
- 2089** **History:** < Tanabe, Yuhiko **Locality:** Lake Kasumigaura/Ibaraki/Japan (2007-08-03) **Isolator:** Tanabe, Yuhiko **Identified by:** Tanabe, Yuhiko (2007-08-06) **States:** Unialgal; Clonal; Axenic **Culture conditions:** MA; 23 °C ; 20-30µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 122 (Tanabe et al. 2011) **Other strain no.:** Ks07TS11 **Reference:** 1060 **Remarks:** Cryopreserved
- 2090** **History:** < Tanabe, Yuhiko **Locality:** Lake Kasumigaura/Ibaraki/Japan (2007-08-03) **Isolator:** Tanabe, Yuhiko **Identified by:** Tanabe, Yuhiko (2007-08-07) **States:** Unialgal; Clonal; Axenic **Culture conditions:** MA; 23 °C ; 20-30µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 171 (Tanabe et al. 2011) **Other strain no.:** Ks07TS29 **Reference:** 1060 **Remarks:** Cryopreserved
- 2091** **History:** < Tanabe, Yuhiko **Locality:** Lake Kasumigaura/Ibaraki/Japan (2007-08-09) **Isolator:** Tanabe, Yuhiko **Identified by:** Tanabe, Yuhiko (2007-08-18) **States:** Unialgal; Clonal; Axenic **Culture conditions:** MA; 23 °C ; 20-30µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); ST 173 (Tanabe et al. 2011) **Gene data:**

- glnA (AB547735) **Other strain no.:** Ks07TS48 **Reference:** 1060 **Remarks:** Cryopreserved
- 2465** **History:** < Tanabe, Yuuhiko **Locality:** Lake Kasumigaura/Ibaraki/Japan (2004-09-01) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator, Toxic; ST 80 (Tanabe et al. 2009b) **Gene data:** ftsZ (AB465739); glnA (AB465740); gltX (AB465741); gyrB (AB465742); mcyD (AB444755); mcyG (AB444796); mcyJ (AB444837); pgi (AB465743); recA (AB465744); tpi (AB465745) **Other strain no.:** KA-3b **References:** 1054, 1059, 1060 **Remarks:** Cryopreserved
- 2466** **History:** < Tanabe, Yuuhiko **Locality:** Lake Kasumigaura/Ibaraki/Japan (2004-09-09) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator, Toxic; ST 82 (Tanabe et al. 2009b) **Gene data:** ftsZ (AB465753); glnA (AB465754); gltX (AB465755); gyrB (AB465756); mcyD (AB444757); mcyG (AB444798); mcyJ (AB444839); pgi (AB465757); recA (AB465758); tpi (AB465759) **Other strain no.:** KA-6 **References:** 1054, 1059, 1060 **Remarks:** Cryopreserved
- 2467** **History:** < Tanabe, Yuuhiko **Locality:** Lake Suwa/Nagano/Japan (2004-10-07) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator, Toxic; ST 84 (Tanabe et al. 2009b) **Gene data:** ftsZ (AB465767); glnA (AB465768); gltX (AB465769); gyrB (AB465770); mcyD (AB444759); mcyG (AB444800); mcyJ (AB444841); pgi (AB465771); recA (AB465772); tpi (AB465773) **Other strain no.:** SA-2 **References:** 1054, 1059, 1060 **Remarks:** Cryopreserved
- 2468** **History:** < Tanabe, Yuuhiko **Locality:** Lake Suwa/Nagano/Japan (2004-10-07) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator, Toxic; ST 85 (unpubl.) **Gene data:** ftsZ (AB444841); glnA (AB444841); gltX (AB444841); gyrB (AB444841); pgi (AB444841); recA (AB444841); tpi (AB444841) **Other strain no.:** Sw-4 **References:** 1054, 1060 **Remarks:** Cryopreserved
- 2469** **History:** < Tanabe, Yuuhiko **Locality:** Lake Kasumigaura/Ibaraki/Japan (2005-07-17) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator, Toxic; ST 90 (Tanabe et al. 2009b) **Gene data:** ftsZ (AB465809); glnA (AB465810); gltX (AB465811); gyrB (AB465812); mcyD (AB444762); mcyG (AB444803); mcyJ (AB444844); pgi (AB465813); recA (AB465814); tpi (AB465815) **Other strain no.:** Ks05IS02 **References:** 1054, 1057, 1059, 1060 **Remarks:** Cryopreserved
- 2470** **History:** < Tanabe, Yuuhiko **Locality:** Lake Kasumigaura/Ibaraki/Japan (2005-07-17) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator, Toxic; ST 91 (Tanabe et al. 2009b) **Gene data:** ftsZ (AB465816); glnA (AB465817); gltX (AB465818); gyrB (AB465819); pgi (AB465820); recA (AB465821); tpi (AB465822) **Other strain no.:** Ks05IS11 **References:** 1054, 1057, 1059, 1060 **Remarks:** Cryopreserved
- 2471** **History:** < Tanabe, Yuuhiko **Locality:** Lake Kasumigaura/Ibaraki/Japan (2005-07-17) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator, Toxic; ST 102 (Tanabe et al. 2009b) **Gene data:** ftsZ (AB465893); glnA (AB465894); gltX (AB465895); gyrB (AB465896); pgi (AB465897); recA (AB465898); tpi (AB465899) **Other strain no.:** Ks05IS19 **References:** 1054, 1057, 1059, 1060 **Remarks:** Cryopreserved
- 2472** **History:** < Tanabe, Yuuhiko **Locality:** Lake Kasumigaura/Ibaraki/Japan (2005-07-17) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator, Toxic; ST 86 (Tanabe et al. 2009b) **Gene data:** ftsZ (AB465781);

- glnA (AB465782); gltX (AB465783); gyrB (AB465784); pgi (AB465785); recA (AB465786); tpi (AB465787) **Other strain no.:** Ks05TA51 **References:** 1054, 1057, 1059, 1060 **Remarks:** Cryopreserved
- 2473** **History:** < Tanabe, Yuuhiko **Locality:** Lake Kasumigaura/Ibaraki/Japan (2005-09-03) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator, Toxic; ST 89 (Tanabe et al. 2009b) **Gene data:** ftsZ (AB465802); glnA (AB465803); gltX (AB465804); gyrB (AB465805); pgi (AB465806); recA (AB465807); tpi (AB465808) **Other strain no.:** Ki05TA07 **References:** 1054, 1057, 1059, 1060 **Remarks:** Cryopreserved
- 2474** **History:** < Tanabe, Yuuhiko **Locality:** Lake Kasumigaura/Ibaraki/Japan (2005-09-03) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator, Toxic; ST 87 (Tanabe et al. 2009b) **Gene data:** ftsZ (AB465788); glnA (AB465789); gltX (AB465790); gyrB (AB465791); mcyD (AB444760); mcyG (AB444801); mcyJ (AB444842); pgi (AB465792); recA (AB465793); tpi (AB465794) **Other strain no.:** Ks05TA62 **References:** 1054, 1057, 1059, 1060 **Remarks:** Cryopreserved
- 2475** **History:** < Tanabe, Yuuhiko **Locality:** Lake Teganuma/Chiba/Japan (2005-09-10) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator, Toxic; ST 94 (Tanabe et al. 2009b) **Gene data:** ftsZ (AB465837); glnA (AB465838); gltX (AB465839); gyrB (AB465840); pgi (AB465841); recA (AB465842); tpi (AB465843) **Other strain no.:** Tn05AK02 **References:** 1054, 1057, 1059, 1060 **Remarks:** Cryopreserved
- 2476** **History:** < Tanabe, Yuuhiko **Locality:** Lake Teganuma/Chiba/Japan (2005-09-10) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator, Toxic; ST 96 (Tanabe et al. 2009b) **Gene data:** ftsZ (AB465851); glnA (AB465852); gltX (AB465853); gyrB (AB465854); pgi (AB465855); recA (AB465856); tpi (AB465857) **Other strain no.:** Tn05AK05 **References:** 1054, 1057, 1059, 1060 **Remarks:** Cryopreserved
- 2477** **History:** < Tanabe, Yuuhiko **Locality:** Lake Inbanuma/Chiba/Japan (2005-09-19) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Water) **Characteristics:** Water bloom (aoko); Indicator, Toxic; ST 98 (Tanabe et al. 2009b) **Gene data:** ftsZ (AB465865); glnA (AB465866); gltX (AB465867); gyrB (AB465868); mcyD (AB444767); mcyG (AB444808); mcyJ (AB444849); pgi (AB465869); recA (AB465870); tpi (AB465871) **Other strain no.:** Ia05Yo03 **References:** 1054, 1057, 1059, 1060 **Remarks:** Cryopreserved
- 2478** **History:** < Tanabe, Yuuhiko **Locality:** Lake Suwa/Nagano/Japan (2005-09-28) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator, Toxic; ST 100 (Tanabe et al. 2009b) **Gene data:** ftsZ (AB465879); glnA (AB465880); gltX (AB465881); gyrB (AB465882); mcyD (AB444769); mcyG (AB444810); mcyJ (AB444851); pgi (AB465883); recA (AB465884); tpi (AB465885) **Other strain no.:** Sn05Mb05 **References:** 1054, 1057, 1059, 1060 **Remarks:** Cryopreserved
- 2479** **History:** < Tanabe, Yuuhiko **Locality:** Lake Kasumigaura/Ibaraki/Japan (2004-09-01) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator, Toxic; ST 81 (Tanabe et al. 2009b) **Gene data:** ftsZ (AB465746); glnA (AB465747); gltX (AB465748); gyrB (AB465749); mcyD (AB444756); mcyG (AB444797); mcyJ (AB444838); pgi (AB465750); recA (AB465751); tpi (AB465752) **Other strain no.:** KA-4 **References:** 1054, 1057, 1059, 1060
- 2480** **History:** < Tanabe, Yuuhiko **Locality:** Lake Kasumigaura/Nagano/Japan (2005-07-17) **Isolator:**

- Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; ST 109 (Tanabe et al. 2009a) **Gene data:** glnA (AB511578); gltX (AB511610); gyrB (AB511634); pgi (AB511657); recA (AB511676); tpi (AB511693) **Other strain no.:** Ks05TA1 **References:** 1054, 1057, 1060
- 2481** **History:** < Tanabe, Yuuhiko **Locality:** Lake Kasumigaura/Ibaraki/Japan (2005-07-17) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; ST 110 (Tanabe et al. 2009a) **Gene data:** glnA (AB511579); gltX (AB511611); gyrB (AB511635); recA (AB511677); tpi (AB511694) **Other strain no.:** Ks05TA2 **References:** 1054, 1057, 1060
- 2482** **History:** < Tanabe, Yuuhiko **Locality:** Lake Kasumigaura/Ibaraki/Japan (2005-07-17) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; ST 111 (Tanabe et al. 2009a) **Gene data:** glnA (AB511580); gyrB (AB511636); pgi (AB511658) **Other strain no.:** Ks05TA3 **References:** 1054, 1057, 1060
- 2483** **History:** < Tanabe, Yuuhiko **Locality:** Lake Kasumigaura/Ibaraki/Japan (2005-07-17) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; ST 112 (Tanabe et al. 2009a) **Gene data:** gltX (AB511612) **Other strain no.:** Ks05TA4 **References:** 1054, 1057, 1060
- 2484** **History:** < Tanabe, Yuuhiko **Locality:** Lake Kasumigaura/Ibaraki/Japan (2005-07-17) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; ST 113 (Tanabe et al. 2009a) **Gene data:** glnA (AB511581); gyrB (AB511637) **Other strain no.:** Ks05TA5 **References:** 1054, 1057, 1060
- 2485** **History:** < Tanabe, Yuuhiko **Locality:** Lake Kasumigaura/Ibaraki/Japan (2005-07-17) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; ST 114 (Tanabe et al. 2009a) **Gene data:** glnA (AB511582); gyrB (AB511638); recA (AB511678) **Other strain no.:** Ks05TA6 **References:** 1054, 1057, 1060
- 2486** **History:** < Tanabe, Yuuhiko **Locality:** Lake Kasumigaura/Ibaraki/Japan (2005-07-17) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; ST 116 (Tanabe et al. 2009a) **Gene data:** pgi (AB511660) **Other strain no.:** Ks05TA21 **References:** 1054, 1057, 1060
- 2487** **History:** < Tanabe, Yuuhiko **Locality:** Lake Kasumigaura/Ibaraki/Japan (2005-07-17) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; ST 118 (Tanabe et al. 2009a) **Gene data:** glnA (AB511584); gltX (AB511613); pgi (AB511661) **Other strain no.:** Ks05TA23 **References:** 1054, 1057, 1060
- 2488** **History:** < Tanabe, Yuuhiko **Locality:** Lake Kasumigaura/Ibaraki/Japan (2005-07-17) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; ST 123 (Tanabe et al. 2009a) **Gene data:** glnA (AB511588); gyrB (AB511640) **Other strain no.:** Ks05TA32 **References:** 1054, 1057, 1060
- 2489** **History:** < Tanabe, Yuuhiko **Locality:** Lake Kasumigaura/Ibaraki/Japan (2005-07-17) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; ST 125 (Tanabe et al. 2009a) **Gene data:** glnA (AB511590); gyrB (AB511641) **Other strain no.:** Ks05TA35 **References:** 1054, 1057, 1060
- 2490** **History:** < Tanabe, Yuuhiko **Locality:** Lake Kasumigaura/Ibaraki/Japan (2005-07-17) **Isolator:**

- Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; ST 126 (Tanabe et al. 2009a) **Gene data:** glnA (AB511591); gltX (AB511614); gyrB (AB511642) **Other strain no.:** Ks05TA37 **References:** 1054, 1057, 1060
- 2491** **History:** < Tanabe, Yuuhiko **Locality:** Lake Kasumigaura/Ibaraki/Japan (2005-07-17) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; ST 129 (Tanabe et al. 2009a) **Gene data:** glnA (AB511594); gltX (AB511615); gyrB (AB511643) **Other strain no.:** Ks05TA52 **References:** 1054, 1057, 1060
- 2492** **History:** < Tanabe, Yuuhiko **Locality:** Lake Kasumigaura/Ibaraki/Japan (2005-07-17) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; ST 130 (Tanabe et al. 2009a) **Gene data:** ftsZ (AB511569); glnA (AB511595); gltX (AB511616); gyrB (AB511644); pgi (AB511662); tpi (AB511695) **Other strain no.:** Ks05TA56 **References:** 1054, 1057, 1060
- 2493** **History:** < Tanabe, Yuuhiko **Locality:** Lake Kasumigaura/Ibaraki/Japan (2005-09-03) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; Probably non-toxic; ST 135 (Tanabe et al. 2009a) **Gene data:** glnA (AB511597); gltX (AB511618); gyrB (AB511648); recA (AB511681); tpi (AB511696) **Other strain no.:** Ki05TA10 **References:** 1054, 1057, 1060
- 2494** **History:** < Tanabe, Yuuhiko **Locality:** Lake Kasumigaura/Ibaraki/Japan (2005-09-03) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; ST 136 (Tanabe et al. 2009a) **Gene data:** gltX (AB511619); recA (AB511682) **Other strain no.:** Ki05TA11 **References:** 1054, 1057, 1060
- 2495** **History:** < Tanabe, Yuuhiko **Locality:** Lake Kitaura/Ibaraki/Japan (2005-08-14) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; ST 149 (Tanabe et al. 2009a) **Gene data:** ftsZ (AB511574); glnA (AB511603); gltX (AB511626); gyrB (AB511652); pgi (AB511670); recA (AB511688); tpi (AB511700) **Other strain no.:** Kw05YA03 **References:** 1054, 1057, 1060
- 2496** **History:** < Tanabe, Yuuhiko **Locality:** Lake Kitaura/Ibaraki/Japan (2005-08-14) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; ST 150 (Tanabe et al. 2009a) **Gene data:** glnA (AB511604); gltX (AB511627) **Other strain no.:** Kw05YA04 **References:** 1054, 1057, 1060
- 2546** **History:** < Tanabe, Yuuhiko **Locality:** Lake Kasumigaura/Ibaraki/Japan (2005-07-17) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator, Toxic; ST 137 (Tanabe et al. 2009a) **Gene data:** glnA (AB511598) **Other strain no.:** Ks05IS01 **References:** 1054, 1057, 1060
- 2547** **History:** < Tanabe, Yuuhiko **Locality:** Lake Kasumigaura/Ibaraki/Japan (2005-07-17) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; ST 138 (Tanabe et al. 2009a) **Gene data:** pgi (AB511664) **Other strain no.:** Ks05IS04 **References:** 1054, 1057, 1060
- 2548** **History:** < Tanabe, Yuuhiko **Locality:** Lake Kasumigaura/Ibaraki/Japan (2005-07-17) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; Probably non-toxic; ST 142 (Tanabe et al. 2009a) **Other strain no.:** Ks05IS14 **References:** 1054, 1057, 1060

- 2549** **History:** < Tanabe, Yuuhiko **Locality:** Lake Kasumigaura/Ibaraki/Japan (2005-07-17) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; ST 120 (Tanabe et al. 2009a) **Other strain no.:** Ks05TA38 **References:** 1054, 1057, 1060
- 2550** **History:** < Tanabe, Yuuhiko **Locality:** Lake Kasumigaura/Ibaraki/Japan (2005-09-03) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; ST 134 (Tanabe et al. 2009a) **Gene data:** gltX (AB511617); gyrB (AB511647); recA (AB511680) **Other strain no.:** Ki05TA05 **References:** 1054, 1057, 1060
- 2551** **History:** < Tanabe, Yuuhiko **Locality:** Lake Kasumigaura/Ibaraki/Japan (2005-09-03) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; ST 131 (Tanabe et al. 2009a) **Gene data:** glnA (AB511596); gyrB (AB511645); pgi (AB511663) **Other strain no.:** Kw05TA03 **References:** 1054, 1057, 1060
- 2552** **History:** < Tanabe, Yuuhiko **Locality:** Lake Kasumigaura/Ibaraki/Japan (2005-09-03) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; ST 132 (Tanabe et al. 2009a) **Other strain no.:** Kw05TA04 **References:** 1054, 1057, 1060
- 2553** **History:** < Tanabe, Yuuhiko **Locality:** Lake Kitaura/Ibaraki/Japan (2005-08-14) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; ST 144 (Tanabe et al. 2009a) **Gene data:** recA (AB511685) **Other strain no.:** Ks05YA03 **References:** 1054, 1057, 1060
- 2554** **History:** < Tanabe, Yuuhiko **Locality:** Lake Teganuma/Chiba/Japan (2005-09-10) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; ST 151 (Tanabe et al. 2009a) **Gene data:** ftsZ (AB511575); glnA (AB511605); gltX (AB511628); pgi (AB511671); recA (AB511689); tpi (AB511701) **Other strain no.:** Tw05AK01 **References:** 1054, 1057, 1060
- 2555** **History:** < Tanabe, Yuuhiko **Locality:** Lake Teganuma/Chiba/Japan (2005-09-10) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; ST 152 (Tanabe et al. 2009a) **Gene data:** glnA (AB511606) **Other strain no.:** Tw05AK02 **References:** 1054, 1057, 1060
- 2556** **History:** < Tanabe, Yuuhiko **Locality:** Lake Teganuma/Chiba/Japan (2005-09-10) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; Probably non-toxic; ST 153 (Tanabe et al. 2009a) **Gene data:** ftsZ (AB511576); glnA (AB511607); gltX (AB511629); pgi (AB511672); recA (AB511690) **Other strain no.:** Tw05AK10 **References:** 1054, 1057, 1060
- 2557** **History:** < Tanabe, Yuuhiko **Locality:** Lake Teganuma/Chiba/Japan (2005-09-10) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; ST 154 (Tanabe et al. 2009a) **Gene data:** glnA (AB511608); pgi (AB511673) **Other strain no.:** Tw05AK11 **References:** 1054, 1057, 1060
- 2558** **History:** < Tanabe, Yuuhiko **Locality:** Lake Inbanuma/Chiba/Japan (2005-09-19) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Water) **Characteristics:** Water bloom (aoko); Indicator; ST 156 (Tanabe et al. 2009a) **Gene data:** gyrB (AB511653) **Other strain no.:** Iw05FU01 **References:** 1054, 1057, 1060

- 2559** **History:** < Tanabe, Yuuhiko **Locality:** Lake Inbanuma/Chiba/Japan (2005-09-19) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Water) **Characteristics:** Water bloom (aoko); Indicator; ST 157 (Tanabe et al. 2009a) **Other strain no.:** Iw05FU08 **References:** 1054, 1057, 1060
- 2560** **History:** < Tanabe, Yuuhiko **Locality:** Lake Inbanuma/Chiba/Japan (2005-09-19) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; ST 159 (Tanabe et al. 2009a) **Gene data:** gltX (AB511632); gyrB (AB511655); recA (AB511692) **Other strain no.:** li05Yo01 **References:** 1054, 1057, 1060
- 2561** **History:** < Tanabe, Yuuhiko **Locality:** Lake Inbanuma/Chiba/Japan (2005-09-19) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Water) **Characteristics:** Water bloom (aoko); Indicator, Toxic; ST 97 (Tanabe et al. 2009b) **Other strain no.:** In05Yo05 **References:** 1054, 1057, 1059, 1060
- 2591** **History:** < Tanabe, Yuuhiko **Locality:** Lake Suwa/Nagano/Japan (2004-10-07) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; ST 67 (Tanabe et al. 2011) **Other strain no.:** Sw-7 **References:** 1054, 1060
- 2592** **History:** < Tanabe, Yuuhiko **Locality:** Lake Kasumigaura/Ibaraki/Japan (2005-07-17) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; ST 121 (Tanabe et al. 2009a) **Gene data:** glnA (AB511586); gyrB (AB511639) **Other strain no.:** Ks05TA28 **References:** 1054, 1057, 1060
- 2593** **History:** < Tanabe, Yuuhiko **Locality:** Lake Kasumigaura/Ibaraki/Japan (2005-07-17) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; ST 117 (Tanabe et al. 2009a) **Other strain no.:** Ks05TA53 **References:** 1054, 1057, 1060
- 2594** **History:** < Tanabe, Yuuhiko **Locality:** Lake Kasumigaura/Ibaraki/Japan (2005-09-03) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; Probably non-toxic; ST 133 (Tanabe et al. 2009a) **Gene data:** gyrB (AB511646); recA (AB511679) **Other strain no.:** Ki05TA03 **References:** 1054, 1057, 1060
- 2595** **History:** < Tanabe, Yuuhiko **Locality:** Lake Suwa/Nagano/Japan (2005-09-28) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; Probably toxic; ST 163 (Tanabe et al. 2011) **Gene data:** recA (AB547856) **Other strain no.:** Sn05Mb06 **References:** 1054, 1060
- 2596** **History:** < Tanabe, Yuuhiko **Locality:** Lake Kasumigaura/Ibaraki/Japan (2007-08-03) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; ST 169 (Tanabe et al. 2011) **Gene data:** glnA (AB547734); gyrB (AB547802); pgi (AB547829) **Other strain no.:** Ks07TS20 **References:** 1054, 1060
- 2597** **History:** < Tanabe, Yuuhiko **Locality:** Lake Kasumigaura/Ibaraki/Japan (2007-08-03) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; ST 170 (Tanabe et al. 2011) **Gene data:** pgi (AB547830) **Other strain no.:** Ks07TS27 **References:** 1054, 1060
- 2598** **History:** < Tanabe, Yuuhiko **Locality:** Lake Kasumigaura/Ibaraki/Japan (2007-09-03) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture**

- conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator, Toxic; ST 185 (Tanabe et al. 2011) **Gene data:** gyrB (AB547809); pgi (AB547835) **Other strain no.:** Kn07TS91 **References:** 1054, 1060
- 2599 History:** < Tanabe, Yuuhiko **Locality:** Lake Kasumigaura/Ibaraki/Japan (2007-09-16) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; ST 179 (Tanabe et al. 2011) **Other strain no.:** Ks07TS123 **References:** 1054, 1060
- 2600 History:** < Tanabe, Yuuhiko **Locality:** Lake Kasumigaura/Ibaraki/Japan (2007-09-22) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; ST 181 (Tanabe et al. 2011) **Gene data:** pgi (AB547831); recA (AB547863) **Other strain no.:** Ks07TS137 **References:** 1054, 1060
- 2601 History:** < Tanabe, Yuuhiko **Locality:** Lake Kasumigaura/Ibaraki/Japan (2007-10-14) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; Probably non-toxic; ST 184 (Tanabe et al. 2011) **Gene data:** ftsZ (AB547719); gltX (AB547775); gyrB (AB547808); pgi (AB547834); recA (AB547866); tpi (AB547886) **Other strain no.:** Ks07TS159 **References:** 1054, 1060
- 2602 History:** < Tanabe, Yuuhiko **Locality:** Lake Inbanuma/Chiba/Japan (2007-07-04) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; Probably non-toxic; ST 195 (Tanabe et al. 2011) **Gene data:** glnA (AB547741); gltX (AB547779); pgi (AB547840) **Other strain no.:** Ii07Yo01 **References:** 1054, 1060
- 2603 History:** < Tanabe, Yuuhiko **Locality:** Lake Suwa/Nagano/Japan (2007-09-25) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; Probably non-toxic; ST 199 (Tanabe et al. 2011) **Gene data:** glnA (AB547745); gltX (AB547781); pgi (AB547843) **Other strain no.:** Sw07Hb06 **References:** 1054, 1060
- 2604 History:** < Tanabe, Yuuhiko **Locality:** Lake Biwa/Shiga/Japan (2007-11-12) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator, Toxic; ST 203 (Tanabe et al. 2011) **Gene data:** recA (AB547871) **Other strain no.:** Bv07BH03 **References:** 1054, 1060
- 2605 History:** < Tanabe, Yuuhiko **Locality:** Ishigaki Isl., Nagura Dam/Okinawa/Japan (2008-02-20) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20 °C ; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Water) **Characteristics:** Water bloom (aoko); Indicator, Toxic; ST 206 (Tanabe et al. 2011) **Other strain no.:** Rs08NA05 **References:** 1054, 1060
- 2606 History:** < Tanabe, Yuuhiko **Locality:** Lake Kasumigaura/Ibaraki/Japan (2008-08-02) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; Probably non-toxic; ST 216 (Tanabe et al. 2011) **Gene data:** glnA (AB547751); gltX (AB547792); tpi (AB547899) **Other strain no.:** Ks08TS05 **References:** 1054, 1060
- 2607 History:** < Tanabe, Yuuhiko **Locality:** Lake Kasumigaura/Ibaraki/Japan (2008-08-02) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; Probably non-toxic; ST 217 (Tanabe et al. 2011) **Gene data:** gyrB (AB547819) **Other strain no.:** Ks08TS06 **References:** 1054, 1060

- 2608** **History:** < Tanabe, Yuuhiko **Locality:** Lake Kitaura/Ibaraki/Japan (2008-08-03) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; Probably non-toxic; ST 221 (Tanabe et al. 2011) **Gene data:** gltX (AB547794); pgi (AB547850) **Other strain no.:** Ks08YA15 **References:** 1054, 1060
- 2609** **History:** < Tanabe, Yuuhiko **Locality:** Lake Kitaura/Ibaraki/Japan (2008-08-03) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; Probably non-toxic; ST 224 (Tanabe et al. 2011) **Gene data:** glnA (AB547752) **Other strain no.:** Ks08YA25 **References:** 1054, 1060
- 2610** **History:** < Tanabe, Yuuhiko **Locality:** Hachirogata/Akita/Japan (2008-08-22) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; Probably toxic; ST 230 (Tanabe et al. 2011) **Gene data:** glnA (AB547757); pgi (AB547853); recA (AB547878) **Other strain no.:** An08Hj03 **References:** 1054, 1060
- 2611** **History:** < Tanabe, Yuuhiko **Locality:** Hachirogata/Akita/Japan (2008-08-22) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; Probably toxic; ST 234 (Tanabe et al. 2011) **Gene data:** recA (AB547879) **Other strain no.:** As08Fu06 **References:** 1054, 1060
- 2612** **History:** < Tanabe, Yuuhiko **Locality:** Hachirogata/Akita/Japan (2008-08-22) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; Probably non-toxic; ST 228 (Tanabe et al. 2011) **Gene data:** glnA (AB547755); pgi (AB547851); tpi (AB547902) **Other strain no.:** As08Gb10 **References:** 1054, 1060
- 2613** **History:** < Tanabe, Yuuhiko **Locality:** Hachirogata/Akita/Japan (2008-08-22) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; Probably non-toxic; ST 235 (Tanabe et al. 2011) **Other strain no.:** Aw08Fu02 **References:** 1054, 1060
- 2617** **History:** < Tanabe, Yuuhiko **Locality:** Lake Kasumigaura/Ibaraki/Japan (2005-07-17) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator, Toxic; ST 141 (Tanabe et al. 2011) **Gene data:** gltX (AB511622) **Other strain no.:** Ks05IS12 **References:** 1054, 1057, 1060
- 2618** **History:** < Tanabe, Yuuhiko **Locality:** Lake Kasumigaura/Ibaraki/Japan (2005-07-17) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; Probably non-toxic; ST 143 (Tanabe et al. 2011) **Other strain no.:** Ks05IS17 **References:** 1054, 1057, 1060
- 2619** **History:** < Tanabe, Yuuhiko **Locality:** Lake Suwa/Nagano/Japan (2005-09-29) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; Probably non-toxic; ST 162 (Tanabe et al. 2011) **Gene data:** gltX (AB547764) **Other strain no.:** Sn05Hb06 **References:** 1054, 1060
- 2620** **History:** < Tanabe, Yuuhiko **Locality:** Lake Kasumigaura/Ibaraki/Japan (2007-08-03) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; ST 127 (Tanabe et al. 2011) **Other strain no.:** Ks07TS13 **References:** 1054, 1060

- 2621** **History:** < Tanabe, Yuuhiko **Locality:** Lake Kasumigaura/Ibaraki/Japan (2007-09-09) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; Probably non-toxic; ST 187 (Tanabe et al. 2011) **Gene data:** gyrB (AB547811); pgi (AB547837); tpi (AB547888) **Other strain no.:** Kw07TS101 **References:** 1054, 1060
- 2622** **History:** < Tanabe, Yuuhiko **Locality:** Lake Kasumigaura/Ibaraki/Japan (2007-09-16) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; ST 180 (Tanabe et al. 2011) **Gene data:** gltX (AB547772) **Other strain no.:** Ks07TS127 **References:** 1054, 1060
- 2623** **History:** < Tanabe, Yuuhiko **Locality:** Hyotan-ike Pond/Shizuoka/Japan (2007-10-22) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; Probably non-toxic; ST 201 (Tanabe et al. 2011) **Gene data:** tpi (AB547892) **Other strain no.:** Hw07SP01 **References:** 1054, 1060
- 2624** **History:** < Tanabe, Yuuhiko **Locality:** Lake Biwa/Shiga/Japan (2007-11-12) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; Probably non-toxic; ST 103 (Tanabe et al. 2011) **Other strain no.:** Bi07BH01 **References:** 1054, 1060
- 2625** **History:** < Tanabe, Yuuhiko **Locality:** Yamashita-ike Pond/Kagawa/Japan (2008-07-02) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; Probably non-toxic; ST 209 (Tanabe et al. 2011) **Gene data:** glnA (AB547747); gyrB (AB547816) **Other strain no.:** SKw08Ya04 **References:** 1054, 1060
- 2626** **History:** < Tanabe, Yuuhiko **Locality:** Lake Kitaura/Ibaraki/Japan (2008-08-03) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; Probably non-toxic; ST 219 (Tanabe et al. 2011) **Gene data:** gltX (AB547793); recA (AB547876) **Other strain no.:** Ks08YA11 **References:** 1054, 1060
- 2627** **History:** < Tanabe, Yuuhiko **Locality:** Hachirogata/Akita/Japan (2008-08-22) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; Probably non-toxic; ST 233 (Tanabe et al. 2011) **Gene data:** ftsZ (AB547726); glnA (AB547760); gltX (AB547797); gyrB (AB547822); pgi (AB547854) **Other strain no.:** Ai08Fu01 **References:** 1054, 1060
- 2628** **History:** < Tanabe, Yuuhiko **Locality:** Hachirogata/Akita/Japan (2008-08-22) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; Probably non-toxic; ST 227 (Tanabe et al. 2011) **Gene data:** glnA (AB547754) **Other strain no.:** As08Gb04 **References:** 1054, 1060
- 2629** **History:** < Tanabe, Yuuhiko **Locality:** Hachirogata/Akita/Japan (2008-08-22) **Isolator:** Tanabe, Yuuhiko **Identified by:** Tanabe, Yuuhiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom (aoko); Indicator; Probably non-toxic; ST 231 (Tanabe et al. 2011) **Gene data:** glnA (AB547758); gltX (AB547796); gyrB (AB547821) **Other strain no.:** As08Hj03 **References:** 1054, 1060

MICROMONAS : Prasinophyceae**Micromonas pusilla** (Butcher) Manton et Parke

- 1411** **History:** < TKB **Locality:** Tokyo/Japan (2004-10-28) **Isolator:** Nakayama, Takeshi **Identified by:**

- Nakayama, Takeshi **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** f/2; 20°C; 20-30µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** TKB-189 (nak78)
- 1412** **History:** < TKB **Locality:** Motobu, Sesoko/Okinawa/Japan (2004-11-08) **Isolator:** Nakayama, Takeshi **Identified by:** Nakayama, Takeshi **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** MNK; 20°C; 20-30µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** TKB-214 (nak100)
- 1413** **History:** < TKB **Locality:** Tennozu Canal/Tokyo/Japan (2004-12-03) **Isolator:** Nakayama, Takeshi **Identified by:** Nakayama, Takeshi **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** f/2; 20°C; 20-30µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** TKB-215 (nak101)
- 2672** **History:** < RCC (2010) **Other collection strain no.:** RCC 299 **Locality:** Equatorial Pacific (1998-02-10) **Isolator:** Boulben, S. **Identified by:** Guillou, L. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 22-32µmol/m²/s; 14 D **Habitat:** Marine (Seawater) **Other strain no.:** NOUM17

MICROTHAMNION : Trebouxiophyceae*Microthamnion kützingianum* Nägeli

- 479** **History:** < Kasai, Fumie **Locality:** Toyohira River/Hokkaido/Japan (1987-07-02) **Isolator:** Kasai, Fumie **Identified by:** Kasai, Fumie; Confirmed at NIES by DNA sequencing **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C; 10°C; 6-12µmol/m²/s; 6 M (10°C; 10-15µmol/m²/s) **Habitat:** Freshwater (River water) **Gene data:** 18S rRNA (AB488588) **Other strain no.:** Tst11-6 **References:** 567, 1018, 1019 **Remarks:** Cryopreserved

MISCHOCOCCUS : Xanthophyceae*Mischococcus* sp.

- 1963** **History:** < TKB **Locality:** Ryugasaki/Ibaraki/Japan (2006-01-13) **Isolator:** Chikuni, Tomoko **Identified by:** Chikuni, Tomoko (2006-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C; 20°C; 15-22µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Other strain no.:** TKB-325

MONOMASTIX : Prasinophyceae*Monomastix minuta* Skuja

- 255** **History:** < Suda, Shoichiro **Locality:** Tsuchiura/Ibaraki/Japan (1983-07-22) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C; 20°C; 40-50µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Gene data:** 16S-ITS1-tRNA-Ile-tRNA-Ala-23S (FN563091); 18S-ITS1-5.8S-ITS2-28S (FN562446) **Other strain no.:** SIS-Mono **References:** 138, 360, 687
- 256** **History:** < Suda, Shoichiro **Locality:** Ozegahara/Gunma/Japan (1983-08-29) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** AF-6; 20°C; 40-50µmol/m²/s; 1 M **Habitat:** Freshwater (Bog water) **Other strain no.:** Oz-35-m

MONORAPHIDIUM : Chlorophyceae*Monoraphidium circinale* (Nygaard) Nygaard

- 480** **History:** < Suda, Shoichiro **Locality:** Tsuchiura/Ibaraki/Japan (1983-07-22) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 4-10µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Pond water) **Gene data:** rbcL (AB175933); rbcL (AB175934) **Other strain no.:** SIS-1-M **Reference:** 567

Monoraphidium contortum (Thuret) Komárková-Legnerová

384 **History:** < Sawaguchi, Tomohiro **Locality:** Lake Unagiike/Kagoshima/Japan (1985-02-20) **Isolator:** Sawaguchi, Tomohiro **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C; 20°C; 4-10µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Lake water) **Other strain no.:** Ep-i **Reference:** 567

Monoraphidium griffithii (Berkeley) Komárková-Legnerová

385 **History:** < Sawaguchi, Tomohiro **Locality:** Urizura/Ibaraki/Japan (1984-10-28) **Isolator:** Sawaguchi, Tomohiro **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 20°C; 4-10µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Pond water) **Other strain no.:** AWA **Reference:** 567

Monoraphidium minutum (Nägeli) Komárková-Legnerová

Syn. *Selenastrum minutum* (Nägeli) Collins

2282 **History:** < IAM (2007) < Murano, Fumio **Other collection strain no.:** IAM C-139 **Isolator:** Murano, Fumio **Identified by:** Fukushima, Hiroshi **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M

Monoraphidium sp.

2267 **History:** < IAM (2007) < Fujii, Katsuhiko **Other collection strain no.:** IAM C-632 **Locality:** Yamaguchi/Japan **Isolator:** Fujii, Katsuhiko **Identified by:** Fujii, Katsuhiko **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Habitat:** (Activated sludge) **Characteristics:** Astaxantin production **Other strain no.:** GK 12

MURIELLA : Chlorophyceae

Muriella zofingiensis (Dönnz) Hindák

Syn. *Chlorella zofingiensis* Dönnz

2175 **History:** < IAM (2007) < BIU (UTEX; 1961) **Other collection strain no.:** IAM C-111; ATCC 30412; CCAP 211-14; SAG B211-14; UTEX 32; CAUP H6503 **Locality:** Ramooswald near Zofingen/Switzerland **Isolator:** Dönnz, O. C. **Identified by:** Kessler, E.; Confirmed at NIES by DNA sequencing (1991) **States:** Unialgal; Clonal; Axenic[2012 Feb] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Habitat:** (Soil) **Gene data:** 18S rRNA (AB488563) **References:** 385, 496, 498, 499

MYCHONASTES : Chlorophyceae

Mychonastes sp.

2334 **History:** < Takamura, Noriko **Locality:** Lake Kizaki/Nagano/Japan (1991-05-15) **Isolator:** Takamura, Noriko **Identified by:** Takamura, Noriko; Confirmed at NIES by DNA sequencing **States:** Unialgal **Culture conditions:** CB; 15°C; 15-22µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Gene data:** 18S rRNA (AB488564) **Other strain no.:** KIZ 11

2336 **History:** < Takamura, Noriko **Locality:** Lake Yamanaka/Yamanashi/Japan (1991-04-11) **Isolator:** Takamura, Noriko **Identified by:** Takamura, Noriko; Confirmed at NIES by DNA sequencing **States:** Unialgal **Culture conditions:** CB; 15°C; 15-22µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Gene data:** 18S rRNA (AB488565) **Other strain no.:** YA 4

2339 **History:** < Takamura, Noriko **Locality:** Lake Sagami/Kanagawa/Japan (1991-04-11) **Isolator:** Takamura, Noriko **Identified by:** Takamura, Noriko; Confirmed at NIES by DNA sequencing **States:** Unialgal; Clonal; Axenic[2012 Nov] **Culture conditions:** CB; 15°C; 15-22µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Gene data:** 18S rRNA (AB488566) **Other strain no.:** SA 2

2340 **History:** < Takamura, Noriko **Locality:** Lake Nakatsuna/Nagano/Japan (1991-05-15) **Isolator:** Takamura, Noriko **Identified by:** Takamura, Noriko; Confirmed at NIES by DNA sequencing **States:** Unialgal **Culture conditions:** CB; 15°C; 15-22µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Gene data:** 18S rRNA (AB488567) **Other strain no.:** NT 2

2341 **History:** < Takamura, Noriko **Locality:** Lake Tateshina/Nagano/Japan (1991-05-09) **Isolator:** Takamura, Noriko **Identified by:** Takamura, Noriko; Confirmed at NIES by DNA sequencing

States: Unialgal **Culture conditions:** CB; 15°C; 15-22µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Gene data:** 18S rRNA (AB488568) **Other strain no.:** TATE 1

MYRMECIA : Trebouxiophyceae

Myrmezia biatorellae (Tschermk-Woess et Plessl) Peterson

2181 History: < IAM (2007) **Other collection strain no.:** IAM C-356 **States:** Unialgal; Clonal; Axenic[2012 Feb] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M

MYXOSARCINA : Cyanophyceae

Myxosarcina burmensis Skuja

481 History: < Kasai, Fumie **Other collection strain no.:** IAM M-481 **Locality:** Mt. Tsukuba/Ibaraki/Japan (1987-04-17) **Isolator:** Kasai, Fumie **Identified by:** Watanabe, Makoto M. **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** MDM (agar); 20 °C ; 4-10µmol/m²/s; 5 M (20°C; 15-27µmol/m²/s) **Habitat:** Freshwater (Stream water) **Other strain no.:** (1)-45 **References:** 139, 567, 1018 **Remarks:** Cryopreserved

NANNOCHLOROPSIS : Eustigmatophyceae

Nannochloropsis gaditana Lubián

2587 History: < RCC (2009) **Other collection strain no.:** RCC 504 **Locality:** Mediterranean Sea (Spanish Coast)/Spain (2001-03-20) **Isolator:** Guillou, L.; Guillou, L. (Re-isolation) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 20°C; 22-32µmol/m²/s; 14 D **Habitat:** Marine (Seawater) **Other strain no.:** BL 120-7

Nannochloropsis granulata Karlson et Potter

2588 History: < RCC (2009) **Other collection strain no.:** RCC 438 **Locality:** Mediterranean Sea (Spanish Coast)/Spain (2000-12-21) **Isolator:** Guillou, L.; Guillou, L. (Re-isolation) **Identified by:** Confirmed at RCC by DNA sequencing **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 20°C; 22-32µmol/m²/s; 14 D **Habitat:** Marine (Seawater) **Other strain no.:** BL 39

Nannochloropsis oculata (Droop) Hibberd

2145 History: < IAM (2007) < Hara, Yoshiaki (1988) < Suisan Center of Fukushima Prefecture **Other collection strain no.:** IAM ST-4 **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM (agar); 20°C; 10-20µmol/m²/s; 3 M **Habitat:** Marine

2146 History: < IAM (2007) < Maruyama, Ko (around 1986) **Other collection strain no.:** IAM ST-6 **Locality:** Institute of Fisheries/Nagasaki/Japan **Isolator:** Maruyama, Ko **Identified by:** Maruyama, Ko, et al. **States:** Unialgal; Clonal; Axenic **Culture conditions:** ESM (agar); 20°C; 10-20µmol/m²/s; 3 M **Habitat:** Marine **Reference:** 497

NEMALIONOPSIS : Florideophyceae

Nemalionopsis tortuosa Yoneda et Yagi

Syn. *Nemalionopsis shawii* Skuja f. *caroliniana* Howard et Parker

1464 History: < Iima, Masafumi **Locality:** Kase River/Kumamoto/Japan (2000-05-31) **Isolator:** Iima, Masafumi **Identified by:** Iima, Masafumi (2000-05-31) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; CR+EN **Other strain no.:** ① **Remarks:** Cryopreserved

1465 History: < Iima, Masafumi **Locality:** Koujiro River/Nagasaki/Japan (2001-06-10) **Isolator:** Tateno, Madoka **Identified by:** Iima, Masafumi (2001-06-10) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; CR+EN **Other strain no.:** ②

- 1466** **History:** < Kawachi, Masanobu **Locality:** Ohkubo-ga/Okinawa/Japan (2002-03-16) **Isolator:** Ishimoto, Miwa **Identified by:** Kawachi, Masanobu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20 °C; 3-12 μ mol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; CR+EN **Other strain no.:** OOK-1 **Remarks:** Cryopreserved
- 1467** **History:** < Higa, Atsushi **Locality:** Izumi/Kumamoto/Japan (2002-11-01) **Isolator:** Higa, Atsushi **Identified by:** Yoshida, Tadao (2002-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20 °C; 3-12 μ mol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; CR+EN **Other strain no.:** KS2 **Reference:** 142 **Remarks:** Cryopreserved
- 1468** **History:** < Higa, Atsushi **Locality:** Izumi/Kumamoto/Japan (2002-11-01) **Isolator:** Higa, Atsushi **Identified by:** Yoshida, Tadao (2002-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20 °C; 3-12 μ mol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; CR+EN **Other strain no.:** KS5 **Remarks:** Cryopreserved
- 1469** **History:** < Higa, Atsushi **Locality:** Izumi/Kumamoto/Japan (2002-11-**) **Isolator:** Higa, Atsushi **Identified by:** Yoshida, Tadao (2002-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20 °C; 3-12 μ mol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; CR+EN **Other strain no.:** KS6 **Remarks:** Cryopreserved
- 1470** **History:** < Iima, Masafumi **Locality:** Kashima/Kumamoto/Japan (2002-03-02) **Isolator:** Iima, Masafumi **Identified by:** Iima, Masafumi (2002-03-02) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15 °C; 3-12 μ mol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; CR+EN **Other strain no.:** ③ **Remarks:** Cryopreserved
- 1471** **History:** < Iima, Masafumi **Locality:** Oh River/Nagasaki/Japan (2002-04-08) **Isolator:** Teruya, Akiko **Identified by:** Iima, Masafumi (2002-04-08) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15 °C; 3-12 μ mol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; CR+EN **Other strain no.:** ④
- 1472** **History:** < Iima, Masafumi **Locality:** Yamanota River (tributary stream of Yue River)/Nagasaki/Japan (2002-09-24) **Isolator:** Teruya, Akiko **Identified by:** Iima, Masafumi (2002-09-24) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20 °C; 3-12 μ mol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; CR+EN **Other strain no.:** ⑤
- 1735** **History:** < Higa, Atsushi **Locality:** Kin River/Kagoshima/Japan (2005-05-03) **Isolator:** Higa, Atsushi **Identified by:** Arai, Shogo (2005-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20 °C; 3-12 μ mol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; CR+EN **Other strain no.:** AMN1
- 1736** **History:** < Higa, Atsushi **Locality:** Kin River/Kagoshima/Japan (2005-05-03) **Isolator:** Higa, Atsushi **Identified by:** Arai, Shogo (2005-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20 °C; 3-12 μ mol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; CR+EN **Other strain no.:** AMN2 **Remarks:** Cryopreserved
- 1737** **History:** < Higa, Atsushi **Locality:** Kin River/Kagoshima/Japan (2005-05-03) **Isolator:** Higa, Atsushi **Identified by:** Arai, Shogo (2005-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20 °C; 3-12 μ mol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; CR+EN **Other strain no.:** AMN3 **Remarks:** Cryopreserved
- 1738** **History:** < Higa, Atsushi **Locality:** Kin River/Kagoshima/Japan (2005-05-03) **Isolator:** Higa, Atsushi **Identified by:** Arai, Shogo (2005-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20 °C; 3-12 μ mol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; CR+EN **Other strain no.:** AMN4 **Remarks:** Cryopreserved
- 1739** **History:** < Higa, Atsushi **Locality:** Okichi Spring/Ehime/Japan (2005-08-09) **Isolator:** Higa, Atsushi **Identified by:** Kumano, Shigeru (2005-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20 °C; 3-12 μ mol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; CR+EN **Other strain no.:** OKC1
- 1740** **History:** < Higa, Atsushi **Locality:** Okichi Spring/Ehime/Japan (2005-08-09) **Isolator:** Higa, Atsushi **Identified by:** Kumano, Shigeru (2005-**-**) **States:** Unialgal; Clonal; Non-axenic

- Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; CR+EN **Other strain no.:** OKC2
- 1741 History:** < Higa, Atsushi **Locality:** Okichi Spring/Ehime/Japan (2005-08-09) **Isolator:** Higa, Atsushi **Identified by:** Kumano, Shigeru (2005-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; CR+EN **Other strain no.:** OKC3
- 1742 History:** < Higa, Atsushi **Locality:** Okichi Spring/Ehime/Japan (2005-08-09) **Isolator:** Higa, Atsushi **Identified by:** Kumano, Shigeru (2005-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; CR+EN **Other strain no.:** OKC4
- 1743 History:** < Higa, Atsushi **Locality:** Okichi Spring/Ehime/Japan (2005-08-09) **Isolator:** Higa, Atsushi **Identified by:** Kumano, Shigeru (2005-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; CR+EN **Other strain no.:** OKC5
- 1744 History:** < Higa, Atsushi **Locality:** Okichi Spring/Ehime/Japan (2005-08-09) **Isolator:** Higa, Atsushi **Identified by:** Kumano, Shigeru (2005-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; CR+EN **Other strain no.:** OKC6 **Remarks:** Cryopreserved
- 1745 History:** < Higa, Atsushi **Locality:** Okichi Spring/Ehime/Japan (2005-08-09) **Isolator:** Higa, Atsushi **Identified by:** Kumano, Shigeru (2005-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; CR+EN **Other strain no.:** OKC7 **Remarks:** Cryopreserved
- 1746 History:** < Higa, Atsushi **Locality:** Okichi Spring/Ehime/Japan (2005-08-09) **Isolator:** Higa, Atsushi **Identified by:** Kumano, Shigeru (2005-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; CR+EN **Other strain no.:** OKC8
- 1747 History:** < Higa, Atsushi **Locality:** Okichi Spring/Ehime/Japan (2005-08-09) **Isolator:** Higa, Atsushi **Identified by:** Kumano, Shigeru (2005-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; CR+EN **Other strain no.:** OKC9
- 1748 History:** < Higa, Atsushi **Locality:** Okichi Spring/Ehime/Japan (2005-08-09) **Isolator:** Higa, Atsushi **Identified by:** Kumano, Shigeru (2005-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; CR+EN **Other strain no.:** OKC10
- 1749 History:** < Higa, Atsushi **Locality:** Okichi Spring/Ehime/Japan (2005-08-09) **Isolator:** Higa, Atsushi **Identified by:** Kumano, Shigeru (2005-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; CR+EN **Other strain no.:** OKC11 **Remarks:** Cryopreserved
- 1750 History:** < Higa, Atsushi **Locality:** Okichi Spring/Ehime/Japan (2005-08-09) **Isolator:** Higa, Atsushi **Identified by:** Kumano, Shigeru (2005-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; CR+EN **Other strain no.:** OKC12 **Remarks:** Cryopreserved
- 2023 History:** < Higa, Atsushi **Locality:** Kuma River, near Meuba Bridge/Kumamoto/Japan (2006-03-30) **Isolator:** Higa, Atsushi **Identified by:** Kumano, Shigeru (2006-03-30) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; CR+EN **Other strain no.:** KMN1
- 2024 History:** < Higa, Atsushi **Locality:** Kuma River, near Meuba Bridge/Kumamoto/Japan (2006-03-30) **Isolator:** Higa, Atsushi **Identified by:** Kumano, Shigeru (2006-03-30) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; CR+EN **Other strain no.:** KMN2 **Remarks:** Cryopreserved

- 2025** **History:** < Higa, Atsushi **Locality:** Kuma River, near Meuba Bridge/Kumamoto/Japan (2006-03-30) **Isolator:** Higa, Atsushi **Identified by:** Kumano, Shigeru (2006-03-30) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; CR+EN **Other strain no.:** KMN3 **Remarks:** Cryopreserved
- 2026** **History:** < Higa, Atsushi **Locality:** Kuma River, near Meuba Bridge/Kumamoto/Japan (2006-03-30) **Isolator:** Higa, Atsushi **Identified by:** Kumano, Shigeru (2006-03-30) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; CR+EN **Other strain no.:** KMN4 **Remarks:** Cryopreserved
- 2027** **History:** < Higa, Atsushi **Locality:** Kuma River, near Meuba Bridge/Kumamoto/Japan (2006-03-30) **Isolator:** Higa, Atsushi **Identified by:** Kumano, Shigeru (2006-03-30) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; CR+EN **Other strain no.:** KMN5 **Remarks:** Cryopreserved
- 2028** **History:** < Higa, Atsushi **Locality:** Kuma River, near Meuba Bridge/Kumamoto/Japan (2006-03-30) **Isolator:** Higa, Atsushi **Identified by:** Kumano, Shigeru (2006-03-30) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; CR+EN **Other strain no.:** KMN6 **Remarks:** Cryopreserved
- 2029** **History:** < Higa, Atsushi **Locality:** Kuma River, near Meuba Bridge/Kumamoto/Japan (2006-03-30) **Isolator:** Higa, Atsushi **Identified by:** Kumano, Shigeru (2006-03-30) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; CR+EN **Other strain no.:** KMN7 **Remarks:** Cryopreserved
- 2030** **History:** < Higa, Atsushi **Locality:** Kuma River, near Meuba Bridge/Kumamoto/Japan (2006-03-30) **Isolator:** Higa, Atsushi **Identified by:** Kumano, Shigeru (2006-03-30) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; CR+EN **Other strain no.:** KMN8
- 2031** **History:** < Higa, Atsushi **Locality:** Kuma River, near Meuba Bridge/Kumamoto/Japan (2006-03-30) **Isolator:** Higa, Atsushi **Identified by:** Kumano, Shigeru (2006-03-30) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; CR+EN **Other strain no.:** KMN9 **Remarks:** Cryopreserved
- 2075** **History:** < Iima, Masafumi **Locality:** Kamabuta River/Nagasaki/Japan (2003-04-08) **Isolator:** Ishikawa, Yukari **Identified by:** Iima, Masafumi (2003-04-08) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; CR+EN **Other strain no.:** 030408 **Remarks:** Cryopreserved
- 2076** **History:** < Iima, Masafumi **Locality:** Kuma River, Branch/Kumamoto/Japan (2003-05-10) **Isolator:** Ishikawa, Yukari **Identified by:** Iima, Masafumi (2003-05-10) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; CR+EN **Other strain no.:** 030510 **Remarks:** Cryopreserved
- 2077** **History:** < Iima, Masafumi **Locality:** Kikuchi, Kikoji/Kumamoto/Japan (2003-05-12) **Isolator:** Iima, Masafumi **Identified by:** Iima, Masafumi (2003-05-12) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; CR+EN **Other strain no.:** 030512
- 2078** **History:** < Iima, Masafumi **Locality:** Shizu River/Kumamoto/Japan (2003-06-01) **Isolator:** Ishikawa, Yukari **Identified by:** Iima, Masafumi (2003-06-01) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; CR+EN **Other strain no.:** 030601 **Remarks:** Cryopreserved
- 2079** **History:** < Iima, Masafumi **Locality:** Sueoyoshi/Kagoshima/Japan (2003-06-14) **Isolator:** Ishikawa, Yukari **Identified by:** Iima, Masafumi (2003-06-23) **States:** Unialgal; Clonal;

- Non-axenic **Culture conditions:** Bold 3N; 15°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater
Characteristics: Epilithic; CR+EN **Other strain no.:** 030314
- 2080** **History:** < Iima, Masafumi **Locality:** Asakura, Shimoura/Fukuoka/Japan (2005-06-12) **Isolator:** Kubota, Yuki **Identified by:** Iima, Masafumi (2005-06-14) **States:** Unialgal; Clonal; Non-axenic
Culture conditions: Bold 3N; 15°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; CR+EN **Other strain no.:** 050612
- 2081** **History:** < Iima, Masafumi **Locality:** Asakura, Kuwahara/Fukuoka/Japan (2005-06-30) **Isolator:** Kubota, Yuki **Identified by:** Iima, Masafumi (2005-06-30) **States:** Unialgal; Clonal; Non-axenic
Culture conditions: Bold 3N; 15°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; CR+EN **Other strain no.:** 050630
- 2082** **History:** < Iima, Masafumi **Locality:** Kawabe/Kagoshima/Japan (2006-03-29) **Isolator:** Iima, Masafumi **Identified by:** Iima, Masafumi (2006-03-29) **States:** Unialgal; Clonal; Non-axenic
Culture conditions: Bold 3N; 15°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; CR+EN **Other strain no.:** 060329
- 2083** **History:** < Iima, Masafumi **Locality:** Jin-ya River/Fukuoka/Japan (2006-06-19) **Isolator:** Yamashita, Hirokatsu **Identified by:** Iima, Masafumi (2006-06-20) **States:** Unialgal; Clonal; Non-axenic
Culture conditions: Bold 3N; 15°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; CR+EN **Other strain no.:** 060619

NEOHETEROMITA : Sarcomonadea*Neoheteromita caudratti* Howe, Bass, Vickerman, Chao et Cavalier-Smith

- 2416** **History:** < Howe, Alexis T. **Locality:** U.K. (2001-**-**) **Isolator:** Vickerman, Keith **Identified by:** Vickerman, Keith (2001-**-**) **Culture conditions:** AF-6 + Wheat; 20°C; 0µmol/m²/s; 2-3 M
Habitat: Terrestrial (Soil) **Characteristics:** Heterotrophic; Authentic strain; Resting spore forming
Other strain no.: KV Pc **Reference:** 225

Neoheteromita hederiae Howe, Bass, Vickerman, Chao et Cavalier-Smith

- 2417** **History:** < Howe, Alexis T. **Locality:** U.K. (2006-**-**) **Isolator:** Howe, Alexis T. **Identified by:** Howe, Alexis T. (2006-**-**) **Culture conditions:** URO-H + Wheat; 20°C; 0µmol/m²/s; 2-3 M
Habitat: Terrestrial (Plant (Ivy leaf)) **Characteristics:** Heterotrophic; Authentic strain; Resting spore forming
Other strain no.: IVY21a **Reference:** 225

Neoheteromita soli Howe, Bass, Vickerman, Chao et Cavalier-Smith

- 2418** **History:** < Howe, Alexis T. **Locality:** Wytham Wood/U.K. (2006-**-**) **Isolator:** Howe, Alexis T. **Identified by:** Howe, Alexis T. (2006-**-**) **Culture conditions:** URO-H + Wheat; 20°C; 0µmol/m²/s; 2-3 M
Habitat: Terrestrial (Soil) **Characteristics:** Heterotrophic; Authentic strain; Resting spore forming
Other strain no.: WA4a **Reference:** 225

NEPHROSELMIS : Prasinophyceae*Nephroselmis astigmatica* Inouye et Pienaar

- 252** **History:** < Inouye, Isao **Locality:** Tateyama Harbor/Chiba/Japan (1983-08-10) **Isolator:** Inouye, Isao **Identified by:** Inouye, Isao **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** f/2; ESM; 20°C; 32-40µmol/m²/s; 1 M
Habitat: Marine (Seawater) **Characteristics:** Red tide
Other strain no.: 810-13 **References:** 658, 1262
- 1415** **History:** < TKB **Locality:** Isonoura Beach/Wakayama/Japan (2003-06-**) **Isolator:** Okamoto, Noriko **Identified by:** Okamoto, Noriko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 20 °C ; 20-30µmol/m²/s; 14 D
Habitat: Marine (Sand and seawater) **Characteristics:** Benthic **Other strain no.:** TKB-075 (nrc054)

Nephroselmis olivacea Stein

- 483** **History:** < Suda, Shoichiro **Locality:** Tsuchiura/Ibaraki/Japan (1986-02-**) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Axenic[2011 Aug] **Culture**

- conditions:** AF-6; 20 °C ; 22-32 μ mol/m²/s; 20 D **Habitat:** Freshwater (Pond sediment)
Characteristics: Heterothallic; Mating type(+) **Other strain no.:** S-N-2-1 **References:** 138, 490, 687, 988, 990, 1014, 1262
- 484** **History:** < Suda, Shoichiro **Locality:** Tsuchiura/Ibaraki/Japan (1986-02-**) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Axenic[2011 Aug] **Culture conditions:** AF-6; 20 °C ; 22-32 μ mol/m²/s; 20 D **Habitat:** Freshwater (Pond sediment)
Characteristics: Heterothallic; Mating type(-) **Gene data:** chloroplast genome (NC_000927); Mitochondrial DNA (AF110138); Plastid DNA (AF137379) **Other strain no.:** S-N-5-8
References: 1104, 1105, 1106
- 485** **History:** < Suda, Shoichiro **Locality:** Tsuchiura/Ibaraki/Japan (1986-02-**) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Axenic[2011 Aug] **Culture conditions:** AF-6; 20 °C ; 22-32 μ mol/m²/s; 20 D **Habitat:** Freshwater (Pond sediment)
Characteristics: Heterothallic; Mating type(-) **Other strain no.:** S-N-3-4 **References:** 490, 687, 988, 990
- Nephroselmis pyriformis* (Carter) Ettl
- 1416** **History:** < TKB **Locality:** East China Sea/Japan (2004-07-28) **Isolator:** Nakayama, Takeshi **Identified by:** Nakayama, Takeshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 20°C; 15-22 μ mol/m²/s; 2 M **Habitat:** Marine (Seawater) **Other strain no.:** TKB-187 (nak76)
- 1817** **History:** < TKB **Locality:** Onahama Harbor/Fukushima/Japan (2004-07-07) **Isolator:** Chikuni, Tomoko **Identified by:** Chikuni, Tomoko (2005-**-**) **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** f/2; 20°C; 20-30 μ mol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** TKB-247
- Nephroselmis* sp.
- 1414** **History:** < TKB **Locality:** Isonoura Beach/Wakayama/Japan (2003-06-**) **Isolator:** Okamoto, Noriko **Identified by:** Okamoto, Noriko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** IMK; 20°C; 32-40 μ mol/m²/s; 1 M **Habitat:** Marine (Sand) **Characteristics:** Benthic **Other strain no.:** TKB-076 (nrc055)
- 1417** **History:** < TKB **Locality:** Isonoura Beach/Wakayama/Japan (2002-08-09) **Isolator:** Okamoto, Noriko **Identified by:** Okamoto, Noriko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 15-22 μ mol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** TKB-041 (nrc015-028)
- 1418** **History:** < TKB **Locality:** Isonoura Beach/Wakayama/Japan (2004-03-09) **Isolator:** Okamoto, Noriko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 20°C; 20-30 μ mol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** TKB-096 (nrc)
- 1818** **History:** < TKB **Locality:** Isonoura Beach/Wakayama/Japan (2005-03-30) **Isolator:** Okamoto, Noriko **Identified by:** Okamoto, Noriko (2005-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MNK; 20°C; 20-30 μ mol/m²/s; 1 M **Habitat:** Marine (Sand) **Other strain no.:** TKB-244
- 2309** **History:** < Suda, Shoichiro **Locality:** Harima-nada/Japan (1988-08-**) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 22-32 μ mol/m²/s; 20 D **Habitat:** Marine (Seawater) **Other strain no.:** 813H-7
- Nephroselmis spinosa* Suda et M.M. Watanabe
- 934** **History:** < Suda, Shoichiro **Locality:** Port Hedland/Australia (1991-10-10) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 15-22 μ mol/m²/s; 2 M **Habitat:** Marine (Sediment) **Characteristics:** Euryhaline **Other strain no.:** S222 **References:** 984, 1262
- 935** **History:** < Suda, Shoichiro **Locality:** Hamerin Pool/Australia (1991-10-10) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 15-22 μ mol/m²/s; 2 M **Habitat:** Marine (Sediment) **Characteristics:** Euryhaline **Other strain no.:** SD959-3 **References:** 658, 984, 1262

Nephroselmis viridis Inouye, Pienaar, Suda et Chihara

- 486** **History:** < Suda, Shoichiro **Locality:** Harima-Nada/Japan (1983-02-**) **Isolator:** Suda, Shoichiro **Identified by:** Inouye, Isao **States:** Unialgal; Clonal; Axenic **Culture conditions:** ESM; 20°C; 15-22µmol/m²/s; 1 M **Habitat:** Marine (Sediment) **Characteristics:** Red tide; Authentic strain **Gene data:** 18S rRNA (AB214976) **Other strain no.:** H-70-2 **References:** 138, 1216, 1262

NETRIUM : Charophyceae*Netrium digitus* (Ehrenberg ex Ralfs) Itzigsohn et Rothe var. *digitus*

- 2288** **History:** < IAM (2007) < UTEX (1996) **Other collection strain no.:** IAM C-587 (=C-311); UTEX 1257 **Isolator:** Biebel **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Characteristics:** Homothallic

Netrium digitus (Ehrenberg ex Ralfs) Itzigsohn et Rothe var. *lamellosum* (Brébisson) Grönblad

- 2289** **History:** < IAM (2007) < UTEX (1996) **Other collection strain no.:** IAM C-588 (=C-312); UTEX 1255 **Isolator:** Biebel **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Characteristics:** Heterothallic; Crosses with UTEX 1256

NITELLA : Charophyceae*Nitella acuminata* A.Braun ex Wallman var. *capitulifera* (Allen) Imahori

- 1607** **History:** < Sakayama, Hidetoshi **Locality:** Kasumigaura General Park, aquatic plant area/Ibaraki/Japan (2004-07-28) **Identified by:** Sakayama, Hidetoshi (2004-**-**) **States:** Clonal; Non-axenic **Culture conditions:** SWCN-1; SWCN-3; 20°C; 16-20µmol/m²/s; 1 M **Habitat:** Freshwater **Characteristics:** Monoecious; CR+EN **Other strain no.:** CH-96

Nitella axilliformis Imahori

Syn. *Nitella translucens* (Persoon) C.Agardh f. *axilliformis* (Imahori) R.D. Wood

- 1608** **History:** < Shimmen, Teruo **States:** Clonal; Non-axenic **Culture conditions:** mSWC-2; SWCN-1; SWCN-2; SWCN-3; 22 °C ; 16-20µmol/m²/s; 1 M **Habitat:** Freshwater **Characteristics:** Monoecious; CR+EN **Other strain no.:** CH-27
- 1609** **History:** < Sakayama, Hidetoshi **Locality:** Tamatsukuri/Ibaraki/Japan (2004-06-29) **Identified by:** Sakayama, Hidetoshi (2004-**-**) **States:** Clonal; Non-axenic **Culture conditions:** mSWC-2; SWCN-1; SWCN-2; SWCN-3; 22°C; 16-20µmol/m²/s; 1 M **Habitat:** Freshwater **Characteristics:** Monoecious; CR+EN **Other strain no.:** CH-81

Nitella comptonii J.Groves

- 1704** **History:** < Sakayama, Hidetoshi **Locality:** Kunigami/Okinawa/Japan (2005-03-03) **Identified by:** Sakayama, Hidetoshi (2005-03-03) **States:** Clonal; Non-axenic **Culture conditions:** mSWC-2; SWC-1; SWCN-2; SWCN-3; 20°C; 16-20µmol/m²/s; 1 M **Habitat:** Freshwater **Characteristics:** Monoecious **Gene data:** 18S-ITS1-5.8S-ITS2-28S (AB236678); atpB (AB236672); psaB (AB236675); rbcL (AB236669) **Other strain no.:** S091 **References:** 871, 872
- 1705** **History:** < Sakayama, Hidetoshi **Locality:** Kume Isl./Okinawa/Japan (2005-01-25) **Identified by:** Sakayama, Hidetoshi (2005-01-25) **States:** Clonal; Non-axenic **Culture conditions:** mSWC-2; SWC-1; SWCN-2; SWCN-3; 20°C; 16-20µmol/m²/s; 1 M **Habitat:** Freshwater **Characteristics:** Monoecious **Gene data:** 18S-ITS1-5.8S-ITS2-28S (AB236679); atpB (AB236673); psaB (AB236676); rbcL (AB236670) **Other strain no.:** S137 **References:** 871, 872
- 1706** **History:** < Sakayama, Hidetoshi **Locality:** Onna/Okinawa/Japan (2005-03-03) **Identified by:** Sakayama, Hidetoshi (2005-03-03) **States:** Clonal; Non-axenic **Culture conditions:** mSWC-2; SWC-1; SWCN-2; SWCN-3; 20°C; 16-20µmol/m²/s; 1 M **Habitat:** Freshwater **Characteristics:** Monoecious **Gene data:** 18S-ITS1-5.8S-ITS2-28S (AB236680); atpB (AB236674); psaB (AB236677); rbcL (AB236671) **Other strain no.:** S138 **References:** 871, 872

Nitella flexilis (L.) C.Agardh

- 1610** **History:** < Shimmen, Teruo **Locality:** Sanda/Hyogo/Japan **States:** Clonal; Non-axenic **Culture**

- conditions:** mSWC-2; SWCN-1; SWCN-2; SWCN-3; 20°C; 16-20µmol/m²/s; 1 M **Habitat:** Freshwater **Characteristics:** Monoecious; CR+EN **Other strain no.:** CH-28
- 1611** **History:** < Sakayama, Hidetoshi **Locality:** Oh-ike Pond/Hyogo/Japan (2001-06-02) **Isolator:** Sakayama, Hidetoshi **Identified by:** Sakayama, Hidetoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** mSWC-2; SWCN-1; SWCN-2; SWCN-3; 20°C; 16-20µmol/m²/s; 6 M **Habitat:** Freshwater **Characteristics:** Monoecious; CR+EN **Other strain no.:** CH-62; S069 **References:** 735, 871
- 1612** **History:** < Sakayama, Hidetoshi **Locality:** Naradani-ike Pond/Kagawa/Japan (2004-06-15) **Identified by:** Sakayama, Hidetoshi (2004-**-**) **States:** Clonal; Non-axenic **Culture conditions:** mSWC-2; SWCN-1; SWCN-2; SWCN-3; 20°C; 16-20µmol/m²/s; 1 M **Habitat:** Freshwater **Characteristics:** Monoecious; CR+EN **Other strain no.:** CH-78 **Reference:** 735
- 1613** **History:** < Sakayama, Hidetoshi **Locality:** Lake Yunoko/Tochigi/Japan (2004-07-27) **Identified by:** Sakayama, Hidetoshi (2004-**-**) **States:** Clonal; Non-axenic **Culture conditions:** mSWC-2; SWCN-1; SWCN-2; SWCN-3; 20°C; 16-20µmol/m²/s; 1 M **Habitat:** Freshwater **Characteristics:** Monoecious; CR+EN **Other strain no.:** CH-93 **Reference:** 735
- Nitella furcata* (Roxburgh ex Bruzelius) C.Agardh var. *furcata*
- 1614** **History:** < Shimmen, Teruo **States:** Clonal; Non-axenic **Culture conditions:** mSWC-2; SWCN-2; 20°C; 16-20µmol/m²/s; 1 M **Habitat:** Freshwater **Characteristics:** Monoecious; CR+EN **Other strain no.:** CH-23 **Reference:** 735
- 1615** **History:** < Sakayama, Hidetoshi **Locality:** Urabandai-kogen/Fukushima/Japan (1999-10-08) **Identified by:** Sakayama, Hidetoshi **States:** Clonal; Non-axenic **Culture conditions:** mSWC-2; SWCN-2; 20°C; 16-20µmol/m²/s; 1 M **Habitat:** Freshwater **Characteristics:** Monoecious; CR+EN **Gene data:** 18S-ITS1-5.8S-ITS2-28S (AB169927); atpB (AB110843); psaB (AB191749); rbcL (AB076059) **Other strain no.:** CH-111; S037 **References:** 735, 871, 873, 874, 875, 876
- 1617** **History:** < Sakayama, Hidetoshi **Locality:** Kasumigaura General Park, aquatic plant area/Ibaraki/Japan (2004-07-28) **Identified by:** Sakayama, Hidetoshi (2004-**-**) **States:** Clonal; Non-axenic **Culture conditions:** mSWC-2; SWCN-2; 20°C; 16-20µmol/m²/s; 1 M **Habitat:** Freshwater **Characteristics:** Monoecious; CR+EN **Other strain no.:** CH-95
- Nitella gracilens* Morioka
Syn. *Nitella furcata* (Roxburgh ex Bruzelius) C.Agardh f. *gracilens* (Morioka) R.D. Wood
- 1619** **History:** < Shimmen, Teruo **Identified by:** Sakayama, Hidetoshi (2004-04-13) **States:** Clonal; Non-axenic **Culture conditions:** mSWC-2; SWC-1; SWCN-2; 20°C; 16-20µmol/m²/s; 1 M **Habitat:** Freshwater **Characteristics:** Monoecious; CR+EN **Other strain no.:** CH-26
- 1620** **History:** < Nozaki, Hisayoshi **Locality:** Lake Ashinoko/Kanagawa/Japan (1995-11-18) **Isolator:** Ishimoto, Miwa (Re-isolation) **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** mSWC-2; SWC-1; SWCN-2; 20°C; 16-20µmol/m²/s; 6 M **Habitat:** Freshwater **Characteristics:** Monoecious; CR+EN **Other strain no.:** CH-34
- 1621** **History:** < Sakayama, Hidetoshi **Locality:** Uji-ga-ike Pond/Hyogo/Japan (2004-06-18) **Isolator:** Ishimoto, Miwa (Re-isolation) **Identified by:** Sakayama, Hidetoshi (2004-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** mSWC-2; SWC-1; SWCN-2; 20°C; 16-20µmol/m²/s; 6 M **Habitat:** Freshwater **Characteristics:** Monoecious; CR+EN **Other strain no.:** CH-76
- 1622** **History:** < Sakayama, Hidetoshi **Locality:** Uji-ga-ike Pond/Hyogo/Japan (2004-06-18) **Identified by:** Sakayama, Hidetoshi (2004-**-**) **States:** Clonal; Non-axenic **Culture conditions:** mSWC-2; SWC-1; SWCN-2; 20°C; 16-20µmol/m²/s; 1 M **Habitat:** Freshwater **Characteristics:** Monoecious; CR+EN **Other strain no.:** CH-77
- Nitella hyalina* (DC.) C.Agardh
- 1623** **History:** < Shimmen, Teruo **States:** Clonal; Non-axenic **Culture conditions:** mSWC-2; SWCN-1; SWCN-2; SWCN-3; 20°C; 16-20µmol/m²/s; 1 M **Habitat:** Freshwater **Characteristics:** Monoecious; CR+EN **Other strain no.:** CH-29

Nitella japonica AllenSyn. *Nitella furcata* (Roxburgh ex Bruzelius) C.Agardh f. *japonica* (Allen) R.D. Wood

- 1624** **History:** < Sakayama, Hidetoshi **Locality:** Mannou/Kagawa/Japan (2004-06-16) **Identified by:** Sakayama, Hidetoshi (2004-**-**) **States:** Clonal; Non-axenic **Culture conditions:** SWCN-1; SWCN-3; 22 °C; 16-20µmol/m²/s; 1 M **Habitat:** Freshwater **Characteristics:** Monoecious; CR+EN **Other strain no.:** CH-63

Nitella megaspora (J.Groves) SakayamaSyn. *Nitella pseudoflabellata* A.Braun f. *megaspora* (J.Groves) R.D. Wood

- 1628** **History:** < Sakayama, Hidetoshi **Locality:** Junsai-numa Pond/Hyogo/Japan (2002-09-12) **Identified by:** Sakayama, Hidetoshi **States:** Clonal; Non-axenic **Culture conditions:** mSWC-2; SWCN-3; 20 °C; 16-20µmol/m²/s; 1 M **Habitat:** Freshwater **Characteristics:** Monoecious; CR+EN **Gene data:** 18S-ITS1-5.8S-ITS2-28S (AB169944); atpB (AB169962); psaB (AB191768); rbcL (AB169970) **Other strain no.:** CH-114; S073 **References:** 871, 874, 875

Nitella mirabilis Nordstedt ex J.Groves

- 1629** **History:** < Higuchi, Sumio **Locality:** Ohgemi-ike Pond/Nagano/Japan **Identified by:** Sakayama, Hidetoshi (2004-**-**) **States:** Clonal; Non-axenic **Culture conditions:** mSWC-2; SWCN-1; SWCN-2; SWCN-3; 20 °C; 16-20µmol/m²/s; 1 M **Habitat:** Freshwater **Characteristics:** Monoecious **Other strain no.:** CH-107; S134

Nitella moriokae R.D. Wood

- 1616** **History:** < Sakayama, Hidetoshi **Locality:** Naradani-ike Pond/Kagawa/Japan (2004-06-15) **Identified by:** Sakayama, Hidetoshi (2004-**-**) **Formerly identified as:** *Nitella furcata* (Roxburgh ex Bruzelius) C.Agardh **States:** Clonal; Non-axenic **Culture conditions:** mSWC-2; SWCN-2; 20 °C; 16-20µmol/m²/s; 1 M **Habitat:** Freshwater **Characteristics:** Monoecious; CR+EN **Other strain no.:** CH-68
- 1632** **History:** < Nohara, Seiichi **Locality:** Lake Kasumigaura, Takahamairi/Ibaraki/Japan (2001-08-23) **Isolator:** Ishimoto, Miwa **Identified by:** Sakayama, Hidetoshi (2004-12-20) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** mSWC-2; SWCN-1; SWCN-3; 20 °C; 16-20µmol/m²/s; 6 M **Habitat:** Freshwater **Characteristics:** Monoecious; Germinated from a buried oospore **Other strain no.:** CH-48; S133
- 1633** **History:** < Sakayama, Hidetoshi **Locality:** Sanda, Kamizukise/Hyogo/Japan (2002-09-20) **Identified by:** Sakayama, Hidetoshi **States:** Clonal; Non-axenic **Culture conditions:** mSWC-2; SWCN-1; SWCN-3; 20 °C; 16-20µmol/m²/s; 1 M **Habitat:** Freshwater **Characteristics:** Monoecious **Other strain no.:** CH-61; S105

Nitella pulchella AllenSyn. *Nitella dualis* Nordstedt f. *pulchella* (Allen) R.D. Wood

- 1634** **History:** < Sakayama, Hidetoshi **Locality:** Lake Onifukuro-ike/Hyogo/Japan (2001-06-03) **Identified by:** Sakayama, Hidetoshi **States:** Clonal; Non-axenic **Culture conditions:** SWC-1; SWCN-2; 20 °C; 16-20µmol/m²/s; 1 M **Habitat:** Freshwater **Characteristics:** Monoecious; CR+EN **Gene data:** atpB (AB110841); rbcL (AB110867) **Other strain no.:** CH-112; S051 **References:** 871, 873

Nitella sp.

- 1618** **History:** < Sakayama, Hidetoshi **Locality:** Onnato River/Okinawa/Japan **Identified by:** Sakayama, Hidetoshi (2006-07-10) **States:** Clonal; Non-axenic **Culture conditions:** mSWC-2; SWCN-2; 20 °C; 16-20µmol/m²/s; 1 M **Habitat:** Freshwater **Other strain no.:** CH-105
- 1635** **History:** < Satake, Kiyoshi **Locality:** Jinden-ike Pond/Ibaraki/Japan (2001-07-04) **Identified by:** Kawachi, Masanobu (2001-**-**) **States:** Clonal; Non-axenic **Culture conditions:** mSWC-2; SWCN-2; 20 °C; 16-20µmol/m²/s; 1 M **Habitat:** Freshwater **Other strain no.:** CH-46
- 1636** **History:** < Sakayama, Hidetoshi **Locality:** Kasumigaura General Park, aquatic plant area/Ibaraki/Japan (2004-07-28) **Identified by:** Sakayama, Hidetoshi **States:** Clonal; Non-axenic **Culture conditions:** mSWC-2; SWCN-3; 20 °C; 16-20µmol/m²/s; 1 M **Habitat:** Freshwater **Other**

strain no.: CH-97

NITELLOPSIS : Charophyceae

Nitellopsis obtusa (Desvaux) J.Groves

- 1637** **History:** < Iwasaki, Naohiko **Locality:** Lake Nojiri/Nagano/Japan (1974-08-08) **States:** Clonal; Non-axenic **Culture conditions:** mSWC-2; SWCN-1; SWCN-2; SWCN-3; 20 °C ; 16-20µmol/m²/s; 6 M **Habitat:** Freshwater **Characteristics:** Dioecious; CR+EN **Other strain no.:** CH-1
- 1638** **History:** < Higuchi, Sumio < Iwasaki, Naohiko **Locality:** Lake Nojiri/Nagano/Japan (1974-08-08) **Identified by:** Iwasaki, Naohiko (1974-08-08) **States:** Clonal; Non-axenic **Culture conditions:** mSWC-2; SWCN-1; SWCN-2; SWCN-3; 20°C ; 16-20µmol/m²/s; 6 M **Habitat:** Freshwater **Characteristics:** Dioecious; Male; CR+EN **Gene data:** rbcL (AB195320) **Other strain no.:** CH-56 **Reference:** 367

NITZSCHIA : Bacillariophyceae

Nitzschia closterium (Ehrenberg) Smith

- 2351** **History:** < IAM (2007) **Other collection strain no.:** IAM B-16 **Locality:** Misaki/Kanagawa/Japan **Isolator:** Tokuda **States:** Unialgal; Clonal; Axenic[2012 Mar] **Culture conditions:** ESM; 20°C; 8-15µmol/m²/s; 3 M

Nitzschia palea (Kützing) W.Smith

- 487** **History:** < Kasai, Fumie **Locality:** Miyata River/Ibaraki/Japan (1987-04-21) **Isolator:** Kasai, Fumie **Identified by:** Takamura, Noriko **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** CSi; 15°C; 15-22µmol/m²/s; 2 M **Habitat:** Freshwater (River water) **Other strain no.:** 3st-0-57 **References:** 401, 904, 1018

Nitzschia sp.

- 1339** **History:** < Nakano, Shinichi **Locality:** Uchiumi/Ehime/Japan (2003-07-18) **Isolator:** Shime, Mari **Identified by:** Nakano, Shinichi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 15°C; 10-18µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** A6
- 1340** **History:** < Nakano, Shinichi **Locality:** Uchiumi/Ehime/Japan (2003-07-18) **Isolator:** Shime, Mari **Identified by:** Nakano, Shinichi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 15°C; 10-18µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** B4

NORRISIELLA : Chlorarachniophyceae

Norrisiella sphaerica Ota et Ishida

- 2433** **History:** < TKB **Locality:** Baja California/Mexico (1992-05-22) **Isolator:** Ishida, Ken-ichiro **Identified by:** Ohta, Shuhei (2007-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 15-22µmol/m²/s; 1 M **Habitat:** Marine (Seaweed) **Other strain no.:** TKB-329

NOSTOC : Cyanophyceae

Nostoc carneum Agardh

- 2107** **History:** < IAM (2007) < Ishikawa, Masako **Other collection strain no.:** IAM M-35 **Isolator:** Ishikawa, Masako **Identified by:** Fukushima, Hiroshi **States:** Unialgal; Clonal; Axenic[2012 Feb] **Culture conditions:** MDM (agar); 20°C; 13-18µmol/m²/s; 3 M **Characteristics:** Chromatic adaptation

Nostoc commune Vaucher ex Bornet et Flahault

- 2538** **History:** < Sakamoto, Toshio **Locality:** Kanazawa University/Ishikawa/Japan **Isolator:** Sakamoto, Toshio **Identified by:** Sakamoto, Toshio **States:** Non-Axenic **Culture conditions:** BG-11 (N-free); 20°C; 4-6µmol/m²/s; 2 M **Habitat:** Terrestrial **Characteristics:** N₂ fixation; **Gene data:** 16S

rRNA (AB088375); groESL (AB249674); nrtP (AB325916); petH (AB111467) **Other strain no.:** KU002 **Remarks:** Cryopreserved

Nostoc commune Vaucher ex Bornet et Flauhault

24 **History:** < IAM (1983) **Other collection strain no.:** IAM M-13 **Locality:** Kurobe Gorge/Toyama/Japan **Isolator:** Watanabe, Atsushi **Identified by:** Fukushima, Hiroshi; Watanabe, Makoto M. (Reidentify) **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** MDM (agar); 20°C; 4-10µmol/m²/s; 4 M (25°C; 70-80µmol/m²/s) **Habitat:** Terrestrial (Plant (The moss *Cavicularia densa*)) **Characteristics:** Epiphytic **References:** 235, 567, 669, 671, 1008, 1015, 1125, 1159 **Remarks:** Cryopreserved

38 **History:** < IAM (1983) **Other collection strain no.:** IAM M-115 **Locality:** Marble Point/Antarctica **Isolator:** Holm-Hansen, O. **Identified by:** Watanabe, Makoto M. **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** MDM (agar); 20°C; 4-10µmol/m²/s; 4 M (25°C; 70-80µmol/m²/s) **Habitat:** Terrestrial (Dry sand) **Other strain no.:** M-48-a **References:** 235, 567 **Remarks:** Cryopreserved

Nostoc linckia Bornet ex Bornet et Flauhault

25 **History:** < IAM (1983) **Other collection strain no.:** IAM M-16 (=M-251) **Locality:** Kagoshima/Japan **Isolator:** Ishikawa, Masako **Identified by:** Watanabe, Makoto M. **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** MDM (agar); 20°C; 4-10µmol/m²/s; 4 M (25 °C ; 70-80µmol/m²/s) **Gene data:** 16S rRNA (AB074503); gyrB (AB074769); rpoC1 (AB074792); rpoD1 (AB074819) **References:** 567, 937, 1125

Nostoc linckia Bornet ex Bornet et Flauhault var. *arvense* C.B. Rao

28 **History:** < IAM (1983) **Other collection strain no.:** IAM M-30 **Locality:** Kagoshima/Japan **Isolator:** Ishikawa, Masako **Identified by:** Fukushima, Hiroshi; Maruyama, Ko; Watanabe, Makoto M. (Reidentify) **States:** Unialgal; Clonal; Axenic **Culture conditions:** MDM (agar); 20°C; 4-10µmol/m²/s; 4 M (25 °C ; 70-80µmol/m²/s) **References:** 235, 567, 1125 **Remarks:** Cryopreserved

Nostoc minutum Desmazières ex Bornet et Flauhault

26 **History:** < IAM (1983) **Other collection strain no.:** IAM M-17 **Locality:** Ishigaki Isl./Okinawa/Japan **Isolator:** Ishikawa, Masako **Identified by:** Watanabe, Makoto M. **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** MDM (agar); 20°C; 4-10µmol/m²/s; 4 M (25°C; 70-80µmol/m²/s) **Characteristics:** Chromatic adaptation **References:** 139, 567, 583, 808, 1125, 1159

29 **History:** < IAM (1983) **Other collection strain no.:** IAM M-31 **Locality:** Ishigaki Isl./Okinawa/Japan **Isolator:** Ishikawa, Masako **Identified by:** Watanabe, Makoto M. **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** MDM (agar); 20°C; 4-10µmol/m²/s; 4 M (25°C; 70-80µmol/m²/s) **References:** 567, 1125, 1159

Nostoc punctiforme (Kützing) Hariot

2108 **History:** < IAM (2007) < Watanabe, Atsushi **Other collection strain no.:** IAM M-15 **Isolator:** Watanabe, Atsushi **Identified by:** Watanabe, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MDM (agar); 20°C; 13-18µmol/m²/s; 3 M **Habitat:** Terrestrial (The lichen *Peltigera erumpens*) **Characteristics:** Nitrogen fixation; Chromatic adaptation

Nostoc sp.

2109 **History:** < IAM (2007) < Katoh, Hiroshi **Other collection strain no.:** IAM M-270 **Locality:** Hyogo/Japan **Isolator:** Katoh, Hiroshi **Identified by:** Katoh, Hiroshi **States:** Unialgal; Clonal; Axenic[2012 Feb] **Culture conditions:** BG-11 (agar); 20°C; 13-18µmol/m²/s; 3 M **Habitat:** Terrestrial **Characteristics:** Drought tolerance **Other strain no.:** HK-01

2110 **History:** < IAM (2007) < Katoh, Hiroshi **Other collection strain no.:** IAM M-271 **Locality:** Japan **Isolator:** Katoh, Hiroshi **Identified by:** Katoh, Hiroshi **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** BG-11 (agar); 20°C; 13-18µmol/m²/s; 3 M **Habitat:** Terrestrial **Characteristics:** Drought tolerance **Other strain no.:** YK-01

- 2111** **History:** < IAM (2007) < Katoh, Hiroshi **Other collection strain no.:** IAM M-272 **Locality:** Japan **Isolator:** Katoh, Hiroshi **Identified by:** Katoh, Hiroshi **States:** Unialgal; Clonal; Axenic[2012 Feb] **Culture conditions:** BG-11 (agar); 20°C; 13-18µmol/m²/s; 3 M **Habitat:** Terrestrial **Characteristics:** Drought tolerance **Other strain no.:** KK-01
- 2112** **History:** < IAM (2007) < Tsuzuki, Mikio (2005) < IAM (1994) **Other collection strain no.:** IAM M-280 (=M-47) **Isolator:** Ishikawa, Masako **Identified by:** Fukushima, Hiroshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MDM (agar); 20°C; 13-18µmol/m²/s; 3 M
- 2113** **History:** < IAM (2007) < Katoh, Hiroshi **Other collection strain no.:** IAM M-292 **Locality:** Iwate/Japan (2003-**-**) **Isolator:** Katoh, Hiroshi **Identified by:** Katoh, Hiroshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** BG-11 (agar); 20°C; 13-18µmol/m²/s; 4 M **Habitat:** Terrestrial **Characteristics:** Drought tolerance **Other strain no.:** IK-01
- 2114** **History:** < IAM (2007) < Katoh, Hiroshi **Other collection strain no.:** IAM M-294 **Locality:** Himeji/Hyogo/Japan (2002-**-**) **Isolator:** Katoh, Hiroshi **Identified by:** Katoh, Hiroshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** BG-11 (agar); 20°C; 13-18µmol/m²/s; 4 M **Habitat:** Terrestrial **Characteristics:** Drought tolerance **Other strain no.:** HK-02

Nostoc verrucosum Vaucher

- 2539** **History:** < Sakamoto, Toshio **Locality:** Ishikawa/Japan **Isolator:** Sakamoto, Toshio **Identified by:** Sakamoto, Toshio **States:** Non-Axenic **Culture conditions:** BG-11 (N-free); 20°C; 4-6µmol/m²/s; 2 M **Habitat:** Freshwater **Characteristics:** N₂ fixation; Epilithic **Gene data:** 16S rRNA (AB494996); wspA (AB509258) **Other strain no.:** KU005 **Remarks:** Cryopreserved

OCHROMONAS : Chrysophyceae*Ochromonas danica* Pringsheim

- 2142** **History:** < IAM (2007) < UTEX (1996) **Other collection strain no.:** IAM CS-4 (=CS-2); ATCC 30004; CCAP 933/2; SAG 933-7; UTEX L 1298; CCAP 933/2B; CCMP 585 **Locality:** near Everdrup/Denmark **Isolator:** Pringsheim, E. G. **Identified by:** Pringsheim, E. G. **States:** Unialgal; Clonal; Axenic **Culture conditions:** O (semi-solid); 20°C; 40-50µmol/m²/s; 14 D **Habitat:** Freshwater **References:** 57, 379, 512, 1191

Ochromonas minuta Pringsheim

- 2143** **History:** < IAM (2007) < UTEX (1996) **Other collection strain no.:** IAM CS-5 (=CS-3); CCAP 933/10; SAG 933-10; UTEX L 1300 **Locality:** Solling/Germany **Isolator:** Pringsheim, E. G. **States:** Unialgal; Clonal; Axenic[2012 Mar] **Culture conditions:** O (semi-solid); 20°C; 40-50µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water)

Ochromonas sp.

- 1828** **History:** < TKB **Locality:** East China Sea (2004-07-28) **Isolator:** Nakayama, Takeshi **Identified by:** Nakayama, Takeshi (2004-**-**) **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** ESM; 20°C; 20-30µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** TKB-152 **Remarks:** Fragile species to transportation stresses
- 2300** **History:** < Suda, Shoichiro **Locality:** Mitsukaido/Ibaraki/Japan (1986-01-17) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 15-22µmol/m²/s; 2 M (20°C; 22-32µmol/m²/s) **Habitat:** Freshwater (Pond sediment) **Other strain no.:** KY-1S

OCHROSPHAERA : Prymnesiophyceae*Ochrosphaera neapolitana* Schussnig

- 1395** **History:** < TKB **Locality:** Hachijo Isl./Tokyo/Japan (2002-12-13) **Isolator:** Yoshida, Masaki **Identified by:** Yoshida, Masaki (2003-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 15°C; 35-50µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** TKB-103 (ym-11)

1964 **History:** < TKB **Locality:** Tatsukushi Beach/Kochi/Japan (2006-07-14) **Isolator:** Chikuni, Tomoko **Identified by:** Chikuni, Tomoko (2006-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** IMK; 20°C; 15-22µmol/m²/s; 14 D **Habitat:** Marine (Seawater) **Other strain no.:** TKB-324

ODONTELLA : Bacillariophyceae

Odontella aurita Agardh

589 **History:** < Ono, Sachiko **Locality:** Penzance/U.K. (1991-03-15) **Isolator:** Ono, Sachiko **Identified by:** Ono, Sachiko **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** f/2; 15°C; 10-18µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Other strain no.:** St-22 **Reference:** 1078

Odontella longicruris (Greville) Hoban

590 **History:** < Ono, Sachiko **Locality:** Hitachi/Ibaraki/Japan (1990-09-26) **Isolator:** Ono, Sachiko **Identified by:** Ono, Sachiko **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** f/2; 15°C; 10-18µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Other strain no.:** St-11

OEDOGONIUM : Chlorophyceae

Oedogonium obesum Wittrock ex Hirn

203 **History:** < IAM (1983) **Other collection strain no.:** IAM C-348 **Locality:** Japan **Isolator:** Saito, E. **Identified by:** Saito, E. **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 20°C; 4-10µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Other strain no.:** 807 **References:** 235, 567, 1014

OLISTHODISCUS : Raphidophyceae

Olisthodiscus luteus Carter

15 **History:** < Inouye, Isao **Locality:** Seto Inland Sea/Okayama/Japan **Isolator:** Inouye, Isao **Identified by:** Inouye, Isao **States:** Unialgal; Clonal; Axenic **Culture conditions:** f/2; 20°C; 15-22µmol/m²/s; 1 M **Habitat:** Marine (Coastal soil) **Characteristics:** Red tide **Other strain no.:** Olisth **References:** 9, 137, 150, 245, 388, 390, 495, 592, 751, 1036, 1115, 1243 **Remarks:** Fragile species to transportation stresses

1379 **History:** < TKB **Locality:** Isonoura Beach/Wakayama/Japan (2004-03-09) **Isolator:** Okamoto, Noriko **Identified by:** Okamoto, Noriko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 20°C; 32-40µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** TKB-097 (nrc) **Remarks:** Fragile species to transportation stresses

1831 **History:** < TKB **Locality:** Isonoura Beach/Wakayama/Japan (2005-07-**) **Isolator:** Nakayama, Takeshi **Identified by:** Nakayama, Takeshi (2005-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 20°C; 32-40µmol/m²/s; 1 M **Habitat:** Marine (Sand) **Other strain no.:** TKB-262 **Remarks:** Fragile species to transportation stresses

OLTMANSIELLOPSIS : Ulvophyceae

Oltmannsiellopsis geminata Inouye et Chihara

672 **History:** < KAGAWA < Yoshimatsu, Sadaaki **Locality:** Harima-nada/Japan (1986-06-04) **Isolator:** Yoshimatsu, Sadaaki **Identified by:** Yoshimatsu, Sadaaki **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** ESM; 20°C; 40-50µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Reference:** 567

Oltmannsiellopsis unicellularis Inouye et Chihara

359 **History:** < Suda, Shoichiro **Locality:** Ieshima Isls./Hyogo/Japan (1984-08-10) **Isolator:** Suda, Shoichiro **Identified by:** Inouye, Isao **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** ESM; 20°C; 32-40µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Characteristics:** Red

tide; Authentic strain **Other strain no.:** 810YB-6 **References:** 49, 567

Oltmannsiellopsis viridis (Hargraves et Steele) Chihara et Inouye

- 360** **History:** < Suda, Shoichiro **Locality:** Onagawa Bay/Miyagi/Japan (1984-08-28) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Axenic[2012 Feb] **Culture conditions:** ESM; 20°C; 32-40µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Gene data:** 18S rRNA (D86495); Plastid DNA (DQ291132) **Other strain no.:** 8280G41-2 **References:** 49, 567, 659, 847, 848, 857
- 1825** **History:** < TKB **Locality:** Shizugawa Bay/Miyagi/Japan (2005-08-31) **Isolator:** Chikuni, Tomoko **Identified by:** Chikuni, Tomoko (2005-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 20-30µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** TKB-249

OOCYSTIS : Trebouxiophyceae

Oocystis borgei Snow

- 659** **History:** < Kasai, Fumie **Locality:** Watarase River/Gunma/Japan (1987-08-15) **Isolator:** Kasai, Fumie **Identified by:** Kasai, Fumie **States:** Unialgal **Culture conditions:** C; 15°C; 8-15µmol/m²/s; 6 M (15°C; 15-22µmol/m²/s) **Habitat:** Freshwater (River water) **Other strain no.:** AT2-26 **References:** 567, 1018 **Remarks:** Cryopreserved

Oocystis lacustris Chodat

- 660** **History:** < Kasai, Fumie **Locality:** Watarase River/Gunma/Japan (1987-08-15) **Isolator:** Kasai, Fumie **Identified by:** Kasai, Fumie **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C; 15°C; 8-15µmol/m²/s; 6 M (15°C; 15-22µmol/m²/s) **Habitat:** Freshwater (River water) **Other strain no.:** Ast-3-1 **References:** 567, 1018 **Remarks:** Cryopreserved
- 661** **History:** < Kasai, Fumie **Locality:** Miyata River/Ibaraki/Japan (1987-05-22) **Isolator:** Kasai, Fumie **Identified by:** Kasai, Fumie **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 20°C; 8-15µmol/m²/s; 6 M **Habitat:** Freshwater (River water) **Other strain no.:** 4st-3-9 **References:** 567, 1018 **Remarks:** Cryopreserved
- 662** **History:** < Kasai, Fumie **Locality:** Miyata River/Ibaraki/Japan (1987-02-25) **Isolator:** Kasai, Fumie **Identified by:** Kasai, Fumie **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 20°C; 8-15µmol/m²/s; 6 M **Habitat:** Freshwater (River water) **Other strain no.:** 1st-2-9 **References:** 567, 1017, 1018 **Remarks:** Cryopreserved

OOLITHOTUS : Prymnesiophyceae

Oolithotus fragilis (Lohmann) Reinhardt

- 1320** **History:** < Kawachi, Masanobu **Locality:** Hachijo Isl., Yaene Harbor/Tokyo/Japan (2002-01-23) **Isolator:** Noël, Mary-Hélène **Identified by:** Noël, Mary-Hélène **States:** Unialgal; Clonal; Non-axenic; Coccolith(+)[2013 Jan] **Culture conditions:** mIMR; MNK; 20°C; 25-40µmol/m²/s; 20 D **Habitat:** Marine (Seawater) **Other strain no.:** MH 35
- 1321** **History:** < Kawachi, Masanobu **Locality:** Hachijo Isl., Yaene Harbor/Tokyo/Japan (2003-01-15) **Isolator:** Noël, Mary-Hélène **Identified by:** Noël, Mary-Hélène **States:** Unialgal; Clonal; Non-axenic; Coccolith(+)[2013 Jan] **Culture conditions:** mIMR; MNK; 20°C; 22-32µmol/m²/s; 20 D **Habitat:** Marine (Seawater) **Other strain no.:** MH 58
- 1322** **History:** < Kawachi, Masanobu **Locality:** East China Sea (2003-08-06) **Isolator:** Noël, Mary-Hélène **Identified by:** Noël, Mary-Hélène **States:** Unialgal; Clonal; Non-axenic; Coccolith(-)[2013 Jan] **Culture conditions:** MNK; 20°C; 22-32µmol/m²/s; 20 D **Habitat:** Marine (Seawater) **Other strain no.:** MH 80

OPHIOCYTIUM : Xanthophyceae

Ophiocytium capitatum Wolle

1011 **History:** < Moriya, Mayumi **Locality:** Shishizuka-ohike Pond/Ibaraki/Japan (2000-05-**) **Isolator:** Moriya, Mayumi **Identified by:** Moriya, Mayumi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 15°C; 15-22µmol/m²/s; 2 M **Habitat:** Freshwater (Pond water) **Other strain no.:** #86 **Reference:** 137

1384 **History:** < TKB **Locality:** Hyotaro-ike Pond/Ibaraki/Japan (2004-06-24) **Isolator:** Nakayama, Takeshi **Identified by:** Nakayama, Takeshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 40-50µmol/m²/s; 2 M **Habitat:** Freshwater (Pond water) **Other strain no.:** TKB-125 (nak19)

Ophiocytium parvulum Wolle

1385 **History:** < TKB **Locality:** Shishizuka-ohike Pond/Ibaraki/Japan (2004-06-24) **Isolator:** Nakayama, Takeshi **Identified by:** Nakayama, Takeshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 40-50µmol/m²/s; 2 M **Habitat:** Freshwater (Pond water) **Other strain no.:** TKB-126 (nak20)

OSCILLATORIA : Cyanophyceae

Oscillatoria amphibia Agardh ex Gomont

361 **History:** < Watanabe, Makoto M. **Locality:** Asaji Bay/Nagasaki/Japan (1985-07-**) **Isolator:** Watanabe, Makoto M. **Identified by:** Watanabe, Makoto M. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 20 °C ; 15-22µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Characteristics:** Benthic **Other strain no.:** Oa **References:** 139, 567 **Remarks:** Cryopreserved

Oscillatoria animalis Agardh ex Gomont

206 **History:** < IAM (1983) **Other collection strain no.:** IAM M-75 **Locality:** Japan **Isolator:** Murano, Fumio **Identified by:** Fukushima, Hiroshi; Watanabe, Makoto M. (Reidentify) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MDM (agar); 20°C; 4-10µmol/m²/s; 4 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater **References:** 139, 235, 567 **Remarks:** Cryopreserved

Oscillatoria laetevirens Gomont

31 **History:** < IAM (1983) **Other collection strain no.:** IAM M-42 (=M-242) **Locality:** Kawaji Hot Spring/Tochigi/Japan **Isolator:** Ishikawa, Masako **Identified by:** Fukushima, Hiroshi; Watanabe, Makoto M. (Reidentify) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MDM (agar); 20°C; 4-10µmol/m²/s; 4 M (25°C; 70-80µmol/m²/s) **Habitat:** Hot spring **References:** 235, 567, 1159

Oscillatoria limnetica Lemmermann

36 **History:** < IAM (1983) **Other collection strain no.:** IAM M-92 **Locality:** Nakano-ku/Tokyo/Japan **Isolator:** Murano, Fumio **Identified by:** Fukushima, Hiroshi; Watanabe, Makoto M. (Reidentify) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MDM (agar); 20°C; 4-10µmol/m²/s; 4 M (25°C; 70-80µmol/m²/s) **Habitat:** Terrestrial **References:** 20, 139, 235, 567, 797 **Remarks:** Cryopreserved

Oscillatoria mougeotii Kützing

2115 **History:** < IAM (2007) < Tsuzuki, Mikio (2005) < IAM (1994) **Other collection strain no.:** IAM M-281 (=M-72) **Isolator:** Murano, Fumio **Identified by:** Fukushima, Hiroshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MDM (agar); 20°C; 13-18µmol/m²/s; 3 M **Remarks:** Cryopreserved

Oscillatoria neglecta Lemmermann

2116 **History:** < IAM (2007) < Murano, Fumio **Other collection strain no.:** IAM M-82 **Isolator:** Murano, Fumio **Identified by:** Fukushima, Hiroshi **States:** Unialgal; Clonal; Axenic[2012 Feb] **Culture conditions:** MDM (agar); 20°C; 13-18µmol/m²/s; 3 M **Characteristics:** Toxic **Gene data:** 16S rRNA (AB003168) **Other strain no.:** Murano 400 (PC-G) **References:** 214, 280, 281, 1007

Oscillatoria rosea Utermöhl

208 **History:** < Ichimura, Yoji **Other collection strain no.:** IAM M-220 **Locality:** Asaji Bay/Nagasaki/Japan (1983-08-19) **Isolator:** Ichimura, Yoji **Identified by:** Watanabe, Makoto M. **States:** Unialgal; Clonal; Axenic **Culture conditions:** f/2; 20°C; 32-40µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Gene data:** 16S rRNA (AB033164) **Other strain no.:** NGS-1 **References:** 139, 214, 280, 281, 567, 916 **Remarks:** Cryopreserved

Oscillatoria sp.

2118 **History:** < IAM (2007) < Safferman, R. S. **Other collection strain no.:** IAM M-117 **Identified by:** Ishida, Tatuya **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** MDM (agar); 20°C; 13-18µmol/m²/s; 3 M **Gene data:** 16S rRNA (AB003163) **Other strain no.:** CU 1407/1 **References:** 214, 280, 281

2308 **History:** < Yanagimoto, Masakatsu **Locality:** Lake Chad/Chad **Isolator:** Yanagimoto, Masakatsu **Identified by:** Yanagimoto, Masakatsu **States:** Unialgal **Culture conditions:** SOT; 20°C; 4-10µmol/m²/s; 4 M (25°C; 60-70µmol/m²/s) **Habitat:** Salt water (Water)

Oscillatoria tenuis Agardh ex Gomont

33 **History:** < IAM (1983) **Other collection strain no.:** IAM M-50 **Locality:** Setagaya-ku, Ohara-cho/Tokyo/Japan **Isolator:** Ishikawa, Masako **Identified by:** Maruyama, Ko; Watanabe, Makoto M. (Reidentify) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MDM (agar); 20°C; 4-10µmol/m²/s; 4 M (25°C; 70-80µmol/m²/s) **Gene data:** 16S rRNA (AB042844) **References:** 139, 235, 567, 796 **Remarks:** Cryopreserved

OSTREOCOCCUS : Prasinophyceae

Ostreococcus sp.

2674 **History:** < RCC (2010) **Other collection strain no.:** RCC 809 **Locality:** Tropical Atlantic (1991-10-01) **Isolator:** Partensky F.; Rodriguez F. (Re-isolation) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 22-32µmol/m²/s; 14 D **Habitat:** Marine (Seawater) **Other strain no.:** Eum16BBL_clonal

Ostreococcus tauri Courties et Chrétiennot-Dinet

2673 **History:** < RCC (2010) **Other collection strain no.:** RCC 116 **Locality:** Mediterranean Sea (Thau Lagoon) (1995-05-03) **Isolator:** Courties, C. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 22-32µmol/m²/s; 14 D **Habitat:** Marine (Seawater) **Characteristics:** Authentic strain **Other strain no.:** OTTH 0595

OSTREOPSIS : Dinophyceae

Ostreopsis siamensis Schmidt

1404 **History:** < TKB **Locality:** Yaene Harbor/Tokyo/Japan (2003-06-27) **Isolator:** Kai, Atsushi **Identified by:** Kai, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MNK; 20°C; 40-50µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** TKB-064 (AK-06) **Remarks:** Fragile species to transportation stresses

OVULINATA : Imbricatea

Ovulinata parva Anderson, Rogerson et Hannah

2377 **History:** < TKB **Locality:** Ashiya-hama/Hyogo/Japan (2005-06-27) **Isolator:** Yabuki, Akinori **Identified by:** Yabuki, Akinori (2008-**-**) **Culture conditions:** ESM; 20°C; 0µmol/m²/s; 14 D **Habitat:** Marine (Seawater) **Characteristics:** Phagotrophic; Benthic **Other strain no.:** TKB-342

OXYRRHIS : Oxyrrhea

Oxyrrhis marina Dujardin

494 **History:** < Sawaguchi, Tomohiro **Locality:** Hachinohe/Aomori/Japan (1988-08-22) **Isolator:** Sawaguchi, Tomohiro **Identified by:** Sawaguchi, Tomohiro **States:** Mixed; Clonal; Non-axenic

Culture conditions: f/2; 20 °C ; 40-50µmol/m²/s; 1 M **Habitat:** Marine (Seawater)
Characteristics: Predator; Feeds on *Pyramimonas parkeae* (NIES-254) **Other strain no.:** 370OX
Remarks: Fragile species to transportation stresses

PANDORINA : Chlorophyceae

Pandorina colemaniae Nozaki

572 **History:** < Nozaki, Hisayoshi **Locality:** Kourakuen/Okayama/Japan (1988-10-12) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20 °C; 22-27µmol/m²/s; 1 M **Habitat:** Freshwater (Paddy soil) **Characteristics:** Authentic strain; Isogamy; Mating type(+); Crosses with NIES-573 **Gene data:** atpB (AB014027); psaA (AB044232); psaB (AB044457); psbC (AB044512); rbcL (D63441) **Other strain no.:** 88-1025-1 **References:** 567, 715, 726, 733, 738

573 **History:** < Nozaki, Hisayoshi **Locality:** Kourakuen/Okayama/Japan (1988-10-12) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20 °C; 22-27µmol/m²/s; 1 M **Habitat:** Freshwater (Paddy soil) **Characteristics:** Authentic strain; Isogamy; Mating type(-); Crosses with NIES-572 **Other strain no.:** 89-0131-P-3 **References:** 567, 726

Pandorina morum (O.F. Müller) Bory

242 **History:** < Suda, Shoichiro **Locality:** Lake Ozenuma/Fukushima/Japan (1983-08-30) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Axenic **Culture conditions:** CA; 20°C; 15-27µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Heterothallic; Mating type(+); Crosses with NIES-243 and 362 **Other strain no.:** Oz-Pa-2 **Reference:** 567

243 **History:** < Suda, Shoichiro **Locality:** Lake Ozenuma/Fukushima/Japan (1983-08-30) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Axenic **Culture conditions:** CA; 20°C; 15-27µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Heterothallic; Mating type(-); Crosses with NIES-242 **Other strain no.:** Oz-Pa-3 **Reference:** 567

362 **History:** < Suda, Shoichiro **Locality:** Lake Ozenuma/Fukushima/Japan (1983-08-30) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Axenic **Culture conditions:** CA; 20°C; 15-27µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Heterothallic; Mating type(-); Crosses with NIES-242 **Other strain no.:** Oz-Pa-1 **Reference:** 567

886 **History:** < Nozaki, Hisayoshi < UTEX **Other collection strain no.:** UTEX 854 **Locality:** Bloomington/Indiana/U.S.A. (1955-09-**) **Isolator:** Coleman, A. W. **Identified by:** Coleman, A. W. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-27µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Heterothallic; Isogamy **Gene data:** atpB (AB044180); psaA (AB044231); psaB (AB044456); psbC (AB044510); psbC (AB044511); rbcL (AB044167) **References:** 56, 733

887 **History:** < Nozaki, Hisayoshi < UTEX **Other collection strain no.:** UTEX 880 **Locality:** Tulare County/California/U.S.A. (1951-02-**) **Isolator:** Coleman, A. W. **Identified by:** Coleman, A. W. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-27µmol/m²/s; 1 M **Habitat:** (Soil) **Characteristics:** Heterothallic; Isogamy **Gene data:** atpB (AB044179); psaA (AB044229); psaA (AB044230); psaB (AB044455); psbC (AB044509); rbcL (AB044166) **References:** 56, 733

888 **History:** < Nozaki, Hisayoshi < UTEX **Other collection strain no.:** UTEX 1726 **Locality:** Kimberley/South Africa (1967-07-22) **Isolator:** Palmer, E. **Identified by:** Palmer, E. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-27µmol/m²/s; 1 M **Habitat:** (Soil) **Characteristics:** Heterothallic; Isogamy; Mating type(+); Crosses with NIES-889 **Reference:** 733

889 **History:** < Nozaki, Hisayoshi < UTEX **Other collection strain no.:** UTEX 1727 **Locality:** Kimberley/South Africa (1967-07-22) **Isolator:** Palmer, E. **Identified by:** Palmer, E. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-27µmol/m²/s; 1 M **Habitat:**

(Soil) **Characteristics:** Heterothallic; Isogamy; Mating type(-); Crosses with NIES-888 **Gene data:** atpB (AB044178); psaA (AB044228); psaB (AB044454); psbC (AB044508); rbcL (AB044165) **Reference:** 733

890 **History:** < Nozaki, Hisayoshi < UTEX **Other collection strain no.:** UTEX 2326 **Locality:** Kawai Dam/Ishikawa/Japan (1977-09-**) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-27µmol/m²/s; 1 M **Habitat:** Freshwater (Reservoir water) **Characteristics:** Other water bloom; Heterothallic; Isogamy **Gene data:** atpB (AB044177); psaA (AB044227); psaB (AB044453); psbC (AB044506); rbcL (AB044507); rbcL (AB044164) **Other strain no.:** Ishi-1 **References:** 720, 733

Pandorina morum (O.F. Müller) Bory var. *morum*

574 **History:** < Nozaki, Hisayoshi **Locality:** Nepal (1986-09-**) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** VT; 20°C; 22-27µmol/m²/s; 1 M **Habitat:** Freshwater (Paddy soil) **Characteristics:** Heterothallic; Isogamy; Mating type(+); Crosses with NIES-575 **Gene data:** atpB (AB014025); atpB (AB014026); psaA (AB044226); psaB (AB044452); psbC (AB044505); rbcL (D63442) **Other strain no.:** 7916-P-7 **References:** 567, 662, 698, 715, 733, 738, 740

575 **History:** < Nozaki, Hisayoshi **Locality:** Nepal (1986-09-**) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-27µmol/m²/s; 1 M **Habitat:** Freshwater (Paddy soil) **Characteristics:** Heterothallic; Isogamy; Mating type(-); Crosses with NIES-574 **Other strain no.:** 7916-P-8 **References:** 567, 698

PARACERCOMONAS : Sarcomonadea

Paracercomonas elongata Howe et Cavalier-Smith

2450 **History:** < Bass, David **Locality:** U.K. (2006-**-**) **Isolator:** Howe, Alexis T. **Identified by:** Bass, David; Howe, Alexis T. (2008-**-**) **Culture conditions:** AF-6 + Wheat; 20°C; 0µmol/m²/s; 2-3 M **Habitat:** Terrestrial (Plant (Ivy leaf)) **Characteristics:** Heterotrophic; Authentic strain; Resting spore forming **Other strain no.:** IVY11 **Reference:** 32

Paracercomonas oxoniensis Howe et Cavalier-Smith

2451 **History:** < Bass, David **Locality:** Wytham Wood/U.K. (2006-**-**) **Isolator:** Howe, Alexis T. **Identified by:** Bass, David; Howe, Alexis T. (2008-**-**) **Culture conditions:** AF-6 + Wheat; 20°C; 0µmol/m²/s; 2-3 M **Habitat:** Terrestrial (Soil) **Characteristics:** Heterotrophic; Authentic strain; Resting spore forming **Other strain no.:** WA8 **Reference:** 32

Paracercomonas paralaciniagerens Bass et Cavalier-Smith

2452 **History:** < Bass, David **Locality:** U.K. (2004-**-**) **Isolator:** Bass, David **Identified by:** Bass, David; Howe, Alexis T. (2008-**-**) **Culture conditions:** AF-6 + Wheat; 20°C; 0µmol/m²/s; 2-3 M **Habitat:** Terrestrial (Soil) **Characteristics:** Heterotrophic; Authentic strain; Resting spore forming **Other strain no.:** 31-1C **Reference:** 32

Paracercomonas pleomorpha Bass et Cavalier-Smith

2453 **History:** < Bass, David **Locality:** U.K. (2004-**-**) **Isolator:** Bass, David **Identified by:** Bass, David; Howe, Alexis T. (2008-**-**) **Culture conditions:** AF-6 + Wheat; 20°C; 0µmol/m²/s; 2-3 M **Habitat:** Terrestrial (Soil) **Characteristics:** Heterotrophic; Authentic strain; Resting spore forming **Other strain no.:** 19-5C **Reference:** 32

Paracercomonas producta Howe et Cavalier-Smith

2454 **History:** < Bass, David **Locality:** Wytham Wood/U.K. (2006-**-**) **Isolator:** Howe, Alexis T. **Identified by:** Bass, David; Howe, Alexis T. (2008-**-**) **Culture conditions:** AF-6 + Wheat; 20°C; 0µmol/m²/s; 2-3 M **Habitat:** Terrestrial (Soil) **Characteristics:** Heterotrophic; Authentic strain; Resting spore forming **Other strain no.:** WA42 **Reference:** 32

PARACHLORELLA : Trebouxiophyceae

Parachlorella kessleri (Fott et Nováková) Krienitz, Hegewald, Hepperle, Huss, Rohr et Wolf
Syn. *Chlorella kessleri* Fott et Nováková

- 2152** **History:** < IAM (2007) < Yakult < IAM **Other collection strain no.:** IAM C-33 **Isolator:** Watanabe, Atsushi **Identified by:** Kessler, E. (1994); Confirmed at NIES by DNA sequencing (1994) **States:** Unialgal; Clonal; Axenic[2008 Apr] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Gene data:** 18S rRNA (AB488589) **Remarks:** Cryopreserved
- 2153** **History:** < IAM (2007) < Yakult < IAM **Other collection strain no.:** IAM C-37 **Isolator:** Watanabe, Atsushi **Identified by:** Kessler, E. (1994); Confirmed at NIES by DNA sequencing (1994) **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Gene data:** 18S rRNA (AB488590) **Remarks:** Cryopreserved
- 2154** **History:** < IAM (2007) < Yakult < IAM **Other collection strain no.:** IAM C-38 **Isolator:** Watanabe, Atsushi **Identified by:** Kessler, E. (1994); Confirmed at NIES by DNA sequencing (1994) **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Gene data:** 18S rRNA (AB488591) **Remarks:** Cryopreserved
- 2155** **History:** < IAM (2007) < Yakult < IAM **Other collection strain no.:** IAM C-39 **Isolator:** Watanabe, Atsushi **Identified by:** Kessler, E. (1994); Confirmed at NIES by DNA sequencing (1994) **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Gene data:** 18S rRNA (AB488592) **Remarks:** Cryopreserved
- 2156** **History:** < IAM (2007) < Yakult < IAM **Other collection strain no.:** IAM C-47 **Identified by:** Kessler, E. (1994); Confirmed at NIES by DNA sequencing (1994) **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Gene data:** 18S rRNA (AB488593) **Remarks:** Cryopreserved
- 2157** **History:** < IAM (2007) < Ishikawa, Masako **Other collection strain no.:** IAM C-143 **Isolator:** Ishikawa, Masako **Identified by:** Fukushima, Hiroshi; Kessler E. (1993); Confirmed at NIES by DNA sequencing (1993) **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Gene data:** 18S rRNA (AB488594) **References:** 496, 548, 559, 560 **Remarks:** Cryopreserved
- 2158** **History:** < IAM (2007) **Other collection strain no.:** IAM C-155 **Identified by:** Kessler, E. (1994); Re-identified at NIES by DNA sequencing (1994) **Formerly identified as:** *Scenedesmus acutus* Meyen **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Gene data:** 18S rRNA (AB488595) **Remarks:** Cryopreserved
- 2159** **History:** < IAM (2007) < Soeder, C. J. (1966) < CCAP **Other collection strain no.:** IAM C-208; CAUP H1901; CCAP 211/11G; SAG 211-11g; UTEX 262 **Isolator:** Winokur **Identified by:** Kessler, E. (1993); Confirmed at NIES by DNA sequencing (1993) **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Gene data:** 16S rRNA (AJ242769); 16S rRNA (AJ387750); 18S rRNA (AJ242765); 18S rRNA (AB488596) **Reference:** 1212 **Remarks:** Cryopreserved
- 2160** **History:** < IAM (2007) < Tsuzuki, Mikio (1988) < Miyachi, Shigetoh (1977) < Schmid, G. H. **Other collection strain no.:** IAM C-531; ATCC 11468; CCAP 211/11H; SAG 211-11h; UTEX 263 **Locality:** U.S.A. **Isolator:** Pratt, R. **Identified by:** Confirmed at NIES by DNA sequencing **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Gene data:** 18S rRNA (AB488597) **References:** 5, 123, 131, 195, 210, 211, 385, 451, 511, 537, 539, 541, 547, 548, 549, 554, 557, 558, 559, 560, 561, 633, 635, 636, 637, 638, 639, 640, 641, 642, 643, 781, 959, 960, 963, 964, 1022, 1023, 1024, 1094, 1095, 1096, 1097, 1098, 1099, 1100, 1101, 1102, 1211, 1223, 1224 **Remarks:** Cryopreserved
- 2161** **History:** < IAM (2007) < Kamiya, A.; Miyachi, Shigetoh < Schmid, G. H. **Other collection strain no.:** IAM C-425; SAG 211-11h/20 **Isolator:** Schwarze, P.; Frandsen, N. O. **Identified by:** Re-identified at NIES by DNA sequencing **Formerly identified as:** *Chlorella vulgaris* Beijerinck **States:** Unialgal; Clonal; Axenic **Culture conditions:** Tre (agar); 20°C; 8-15µmol/m²/s; 3 M **Characteristics:** Yellow mutant of NIES-2160 (IAM C-531) **Gene data:** 18S rRNA (AB488598) **References:** 511, 915, 1101 **Remarks:** Cryopreserved
- 2162** **History:** < IAM (2007) < Kamiya, A. (1990-10-23) < Miyachi, Shigetoh < Schmid, G. H. **Other**

- collection strain no.:** IAM C-539; SAG 9.80 **Identified by:** Re-identified at NIES by DNA sequencing **Formerly identified as:** *Chlorella vulgaris* Beijerinck **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Characteristics:** White mutant of NIES-2160 (IAM C-531) **Gene data:** 18S rRNA (AB488599) **Other strain no.:** Schwarze 125 **References:** 337, 338, 339, 340, 540, 541, 915, 1101 **Remarks:** Cryopreserved
- 2177** **History:** < IAM (2007) < Tsuzuki, Mikio (2005) < IAM (1994) **Other collection strain no.:** IAM C-625 (=C-151) **Identified by:** Re-identified at NIES by DNA sequencing **Formerly identified as:** *Chlorella* sp. **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Gene data:** 18S rRNA (AB488600) **Remarks:** Cryopreserved
- 2178** **History:** < IAM (2007) < Tsuzuki, Mikio (2005) < IAM (1994) **Other collection strain no.:** IAM C-627 (=C-157) **Identified by:** Re-identified at NIES by DNA sequencing **Formerly identified as:** *Chlorella* sp. **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Gene data:** 18S rRNA (AB488601) **Remarks:** Cryopreserved
- 2179** **History:** < IAM (2007) < Tsuzuki, Mikio (2005) < IAM (1994) **Other collection strain no.:** IAM C-628 (=C-160) **Identified by:** Re-identified at NIES by DNA sequencing **Formerly identified as:** *Chlorella* sp. **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Gene data:** 18S rRNA (AB488602) **Remarks:** Cryopreserved

PARAPHYSOMONAS : Chrysophyceae

Paraphysomonas vestita De Saedeleer

- 1377** **History:** < TKB **Locality:** Hyotaro-ike Pond/Ibaraki/Japan (2004-10-15) **Isolator:** Yubuki, Naoji **Identified by:** Yubuki, Naoji **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** URO + Wheat; 20°C; 20 D **Habitat:** Freshwater (Pond water) **Characteristics:** Heterotrophic **Other strain no.:** TKB-136 (NY0155)

PAULINELLA : Imbricatea

Paulinella chromatophora Lauterborn

- 2635** **History:** < Ishida, Ken-ichiro **Locality:** Fukuroda/Ibaraki/Japan (2006-05-15) **Isolator:** Nakayama, Takeshi **Identified by:** Nakayama, Takeshi (2006-05-17) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** 1/2 WarisH+Si; 20°C; 1-3µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Symbiotic; Benthic **Other strain no.:** FK01

PAULSCHULZIA : Chlorophyceae

Paulschulzia pseudovolvox Skuja

- 727** **History:** < Nozaki, Hisayoshi < UTEX **Other collection strain no.:** UTEX 167 **Locality:** Tvarminne/Finland **States:** Unialgal; Clonal; Axenic **Culture conditions:** AF-6; 20°C; 15-22µmol/m²/s; 2 M **Habitat:** Freshwater **Gene data:** atpB (AB014040); psaA (AB044422); psaA (AB044423); psaB (AB044473); psbC (AB044531); psbC (AB044532); rbcL (D86837) **References:** 86, 567, 733, 738

PAVLOVA : Pavlovophyceae

Pavlova gyrans Butcher

- 623** **History:** < Sawaguchi, Tomohiro **Locality:** Matoya Bay/Mie/Japan (1984-09-01) **Isolator:** Sawaguchi, Tomohiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 22-32µmol/m²/s; 2 M **Habitat:** Marine (Water) **Other strain no.:** MB-D-24

Pavlova pinguis J.C. Green

- 1398** **History:** < TKB **Locality:** Wakayama/Japan (2003-05-19) **Isolator:** Kai, Atsushi **Identified by:** Kai, Atsushi **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** ESM; 20°C; 40-50µmol/m²/s; 1 M **Habitat:** Marine (Water) **Other strain no.:** TKB-068 (AK-10)

Pavlova sp.

- 1399** **History:** < TKB **Locality:** Wakayama/Japan (2003-07-29) **Isolator:** Kai, Atsushi **Identified by:** Kai, Atsushi **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** f/2; 20 °C ; 40-50µmol/m²/s; 1 M **Habitat:** Marine (Water) **Other strain no.:** TKB-069 (AK-11)
- 1400** **History:** < TKB **Locality:** Ishikawa/Japan **Isolator:** Yoshii, Yukie **Identified by:** Kai, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 20°C; 40-50µmol/m²/s; 1 M **Habitat:** Marine **Other strain no.:** TKB-070 (AK-12)
- 1401** **History:** < TKB **Locality:** Amachi Beach/Okinawa/Japan (2003-12-**) **Isolator:** Okamoto, Noriko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 20°C; 40-50µmol/m²/s; 20 D **Habitat:** Marine (Seawater) **Characteristics:** Benthic **Other strain no.:** TKB-093 (nrc)
- 1815** **History:** < TKB **Locality:** Isonoura Beach/Wakayama/Japan (2005-03-30) **Isolator:** Okamoto, Noriko **Identified by:** Okamoto, Noriko (2005-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 20°C; 20-30µmol/m²/s; 1 M **Habitat:** Marine (Sand) **Other strain no.:** TKB-241
- 1816** **History:** < TKB **Locality:** Isonoura Beach/Wakayama/Japan (2005-03-30) **Isolator:** Okamoto, Noriko **Identified by:** Okamoto, Noriko (2005-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 20°C; 20-30µmol/m²/s; 1 M **Habitat:** Marine (Sand) **Other strain no.:** TKB-242
- 1965** **History:** < TKB **Locality:** Isonoura Beach/Wakayama/Japan (2005-10-18) **Isolator:** Chikuni, Tomoko **Identified by:** Chikuni, Tomoko (2005-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** IMK; 20°C; 15-22µmol/m²/s; 14 D **Habitat:** Marine (Sand) **Other strain no.:** TKB-326

PEDIASTRUM : Chlorophyceae*Pediastrum angulosum* Meneghini var. *angulosum*

- 300** **History:** < Kasai, Fumie **Locality:** Higashihiroshima/Hiroshima/Japan (1983-10-**) **Isolator:** Kasai, Fumie **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C; 20°C; 4-10µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Lake water) **Other strain no.:** 83-24-1-7 **Reference:** 567

Pediastrum boryanum (Turpin) Meneghini

- 209** **History:** < Watanabe, Michiko H. **Locality:** Lake Kasumigaura/Ibaraki/Japan (1982-12-**) **Isolator:** Watanabe, Michiko H. **Identified by:** Watanabe, Michiko H. **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 20°C; 8-15µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Gene data:** CO1 (D63659) **Other strain no.:** K-P-40 **References:** 188, 567 **Remarks:** Cryopreserved
- 301** **History:** < TAC **Locality:** Lake Shoji/Yamanashi/Japan (1981-10-27) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 20°C; 8-15µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Gene data:** Pcy (AB218889) **Other strain no.:** TAC 56-3A (TAN-56-3A) **References:** 567, 631, 632 **Remarks:** Cryopreserved

Pediastrum duplex Meyen

- 212** **History:** < Watanabe, Michiko H. **Locality:** Lake Kawaguchi/Yamanashi/Japan (1981-06-**) **Isolator:** Watanabe, Michiko H. **Identified by:** Watanabe, Michiko H. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C; 20°C; 8-15µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Other strain no.:** KW-P-1 **References:** 567, 1112 **Remarks:** Cryopreserved

Pediastrum duplex Meyen var. *duplex*

- 210** **History:** < Yuri, Akira **Locality:** Tsukuba/Ibaraki/Japan (1983-05-25) **Isolator:** Yuri, Akira **Identified by:** Yuri, Akira; Watanabe, Masayuki (Reidentify) **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 20°C; 4-10µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Pond water) **Other strain no.:** Pe-16 **Reference:** 567 **Remarks:** Cryopreserved

- 213** **History:** < Hiwatari, Takehiko **Locality:** Tsukuba/Ibaraki/Japan (1983-05-25) **Isolator:** Hiwatari, Takehiko **Identified by:** Hiwatari, Takehiko; Watanabe, Masayuki (Reidentify) **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 20°C; 8-15µmol/m²/s; 2 M **Habitat:** Freshwater (Pond water) **Gene data:** atpB (AB084306); Pcy (AB218890); psaB (AB084340); rbcL (AB084333) **Other strain no.:** AQ-P-1 **References:** 207, 567, 740, 1159 **Remarks:** Cryopreserved

Pediastrum duplex Meyen var. *gracillimum* W. et G.S. West

- 211** **History:** < Kasai, Fumie **Locality:** Lake Kasumigaura/Ibaraki/Japan (1983-08-23) **Isolator:** Kasai, Fumie **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 4-10µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Lake water) **Other strain no.:** F50-1 **Reference:** 567 **Remarks:** Cryopreserved

- 214** **History:** < Hiwatari, Takehiko **Locality:** Tsukuba/Ibaraki/Japan (1983-08-02) **Isolator:** Hiwatari, Takehiko **Identified by:** Hiwatari, Takehiko; Watanabe, Masayuki (Reidentify) **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C; 20°C; 8-15µmol/m²/s; 2 M **Habitat:** Freshwater (Pond water) **Other strain no.:** KR-P-2 **Reference:** 567

Pediastrum simplex Meyen

- 215** **History:** < Watanabe, Michiko H. **Locality:** Lake Biwa/Shiga/Japan (1982-07-**) **Isolator:** Watanabe, Michiko H. **Identified by:** Watanabe, Michiko H. **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 20°C; 8-15µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Other strain no.:** B-P-18 **Reference:** 567 **Remarks:** Cryopreserved

- 302** **History:** < Kasai, Fumie **Locality:** Lake Kasumigaura/Ibaraki/Japan (1983-08-23) **Isolator:** Kasai, Fumie **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 20°C; 4-10µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Lake water) **Other strain no.:** F-26-4 **Reference:** 567 **Remarks:** Cryopreserved

Pediastrum tetras (Ehrenberg) Ralfs

- 216** **History:** < Watanabe, Michiko H. **Locality:** Lake Kasumigaura/Ibaraki/Japan (1982-12-**) **Isolator:** Watanabe, Michiko H. **Identified by:** Watanabe, Michiko H. **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 20°C; 8-15µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Other strain no.:** K-P-30 **Reference:** 567 **Remarks:** Cryopreserved

PEDINELLA : Dictyochophyceae

Pedinella sp.

- 2346** **History:** < Nozaki, Hisayoshi **Locality:** Lake Nojiri (depth 15m)/Nagano/Japan (1992-06-09) **Isolator:** Nozaki, Hisayoshi **Identified by:** Moestrup, Øjvind; Kawachi, Masanobu (Reidentify) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C/6; C/10; 10°C; 15-20µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Mixotrophic **Other strain no.:** 92-912-1

Pedinella squamata Sekiguchi, Kawachi, Nakayama et Inouye

- 1008** **History:** < Moriya, Mayumi **Locality:** Nakagusuku Bay/Okinawa/Japan (2002-03-16) **Isolator:** Moriya, Mayumi **Identified by:** Moriya, Mayumi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 32-40µmol/m²/s; 2 M **Habitat:** Marine (Seawater) **Characteristics:** Mixotrophic **Other strain no.:** M-11

PEDINOMONAS : Pedinophyceae

Pedinomonas minor Korshikov

- 363** **History:** < Suda, Shoichiro **Locality:** Tsukuba/Ibaraki/Japan (1984-05-08) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 4-10µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Paddy soil) **Other strain no.:** H31P4

PELAGOMONAS : Pelagophyceae

Pelagomonas calceolata Andersen et Saunders

- 2689** **History:** < RCC (2010) **Other collection strain no.:** RCC 102; CCMP 1864 **Locality:** Sargasso Sea (1987-10-09) **Isolator:** Vaultot, Daniel **Identified by:** Simon, N. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** MAXEuk 72
- 2690** **History:** < RCC (2010) **Other collection strain no.:** RCC 103; CCMP 1865 **Locality:** Red Sea (Gulf of Aqaba) (1993-01-01) **Isolator:** Veldhuis, M.; Simon, N. (Re-isolation) **Identified by:** Simon, N. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20 °C ; 22-32µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** REDSEA2C
- 2691** **History:** < RCC (2010) **Other collection strain no.:** RCC 108 **Locality:** Equatorial Pacific (1994-11-26) **Isolator:** Vaultot, Daniel **Identified by:** Guillou, L. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** OLI120FC

Pelagomonas calceolata Andersen et Saunders

- 1003** **History:** < Kawachi, Masanobu < CCMP **Other collection strain no.:** CCMP 1214 **Locality:** North Pacific, Central Gyre (1973-02-17) **Isolator:** Lewin, Ralph A. **Identified by:** Andersen, Robert A. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MNK; 22 °C ; 20-30µmol/m²/s; 14 D **Habitat:** Marine **Reference:** 137

PENIUM : Charophyceae*Penium margaritaceum* Brébisson

- 217** **History:** < IAM (1983) **Other collection strain no.:** IAM C-397 (=C-589) **Locality:** Rumalbhara/Nepal (1965-11-01) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 20°C; 8-15µmol/m²/s; 2 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Paddy soil) **Characteristics:** Heterothallic **Other strain no.:** N-76-20 **References:** 235, 567
- 303** **History:** < Kasai, Fumie **Locality:** Tsukiyono/Gunma/Japan (1984-06-01) **Isolator:** Kasai, Fumie **Identified by:** Kasai, Fumie **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C; 20°C; 8-15µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Ditch water) **Other strain no.:** 84-25-1 **Reference:** 567

PERCOLOMONAS : Heterolobosea*Percolomonas* sp.

- 1441** **History:** < TKB **Locality:** Chiba Harbor/Chiba/Japan (2002-11-29) **Isolator:** Nakayama, Takeshi **Identified by:** Nakayama, Takeshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2 + Wheat; 15°C; 0µmol/m²/s; 20 D **Habitat:** Marine (Seawater) **Characteristics:** Heterotrophic **Other strain no.:** TKB-016 (NY0123) **Reference:** 142

PERIDINIUM : Dinophyceae*Peridinium bipes* Stein f. *globosum* Lindemann

- 495** **History:** < Sawaguchi, Tomohiro **Locality:** Lake Onogawa/Fukushima/Japan (1985-07-30) **Isolator:** Sawaguchi, Tomohiro **Identified by:** Sawaguchi, Tomohiro **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 15°C; 35-50µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Other strain no.:** LOND-9 **Reference:** 387 **Remarks:** Fragile species to transportation stresses

Peridinium bipes Stein f. *occultatum* (Lindemann) Lefèvre

- 497** **History:** < Sawaguchi, Tomohiro **Locality:** Lake Kizaki/Nagano/Japan (1988-04-20) **Isolator:** Sawaguchi, Tomohiro **Identified by:** Sawaguchi, Tomohiro **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Carefoot; 15°C; 35-50µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Characteristics:** Red tide **Other strain no.:** LK420 **Remarks:** Poor growth; Fragile species to

transportation stresses

Peridinium pseudolaeve Lefèvre

- 1405** **History:** < TKB **Locality:** Hyotaro-ike Pond/Ibaraki/Japan (2003-01-**) **Isolator:** Nakayama, Takeshi **Identified by:** Nakayama, Takeshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 15°C; 35-50µmol/m²/s; 2 M **Habitat:** Freshwater (Pond water) **Characteristics:** Other water bloom **Other strain no.:** TKB-048 (nak-03) **Remarks:** Fragile species to transportation stresses

Peridinium volzii Lemmermann

- 365** **History:** < Sawaguchi, Tomohiro **Locality:** Ajiro/Iwate/Japan (1984-09-08) **Isolator:** Sawaguchi, Tomohiro **Identified by:** Sawaguchi, Tomohiro **States:** Unialgal; Clonal; Axenic **Culture conditions:** Carefoot; 15°C; 35-50µmol/m²/s; 2 M **Habitat:** Freshwater (Pond water) **Other strain no.:** HND-1 **Remarks:** Poor growth; Fragile species to transportation stresses
- 501** **History:** < Sawaguchi, Tomohiro **Locality:** Tsuchiura/Ibaraki/Japan (1986-04-**) **Isolator:** Sawaguchi, Tomohiro **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Carefoot; 15°C; 35-50µmol/m²/s; 2 M **Habitat:** Freshwater (Pond sediment) **Characteristics:** Homothallic **Other strain no.:** SPSP-2 **Remarks:** Fragile species to transportation stresses

Peridinium willei Huitfeldt-Kaas

- 304** **History:** < Sawaguchi, Tomohiro **Locality:** Tsukiyono/Gunma/Japan (1984-06-01) **Isolator:** Sawaguchi, Tomohiro **Identified by:** Sawaguchi, Tomohiro **States:** Unialgal; Clonal; Axenic **Culture conditions:** Carefoot; 15°C; 35-50µmol/m²/s; 2 M **Habitat:** Freshwater (Pond water) **Characteristics:** Homothallic **Other strain no.:** 8423-P **Reference:** 143 **Remarks:** Fragile species to transportation stresses
- 366** **History:** < Sawaguchi, Tomohiro **Locality:** Tsuchiura/Ibaraki/Japan (1985-04-13) **Isolator:** Sawaguchi, Tomohiro **Identified by:** Sawaguchi, Tomohiro **States:** Unialgal; Clonal; Axenic **Culture conditions:** Carefoot; 15°C; 35-50µmol/m²/s; 2 M **Habitat:** Freshwater (Pond water) **Characteristics:** Homothallic **Other strain no.:** SPD-1 **Remarks:** Poor growth; Fragile species to transportation stresses

PHACOTUS : Chlorophyceae

Phacotus lenticularis (Ehrenberg) Stein

- 858** **History:** < Nozaki, Hisayoshi **Locality:** Germany **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C; 20°C; 15-22µmol/m²/s; 2 M **Gene data:** 18S rRNA (X91628); atpB (AB014039); psaB (AB084373); psaB (AB084374); rbcL (AJ001883) **Other strain no.:** KR 91/1 **References:** 189, 738, 740
- 859** **History:** < Nozaki, Hisayoshi < SAG **Other collection strain no.:** SAG 61-1 **Locality:** Germany **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C; 20°C; 15-22µmol/m²/s; 2 M **Gene data:** rbcL (AJ001884) **Reference:** 189

PHAEOCYSTIS : Prymnesiophyceae

Phaeocystis globosa Scherffel

- 388** **History:** < Sawaguchi, Tomohiro **Locality:** Hachijo Isl./Tokyo/Japan (1984-04-19) **Isolator:** Sawaguchi, Tomohiro **Identified by:** Sawaguchi, Tomohiro **Formerly identified as:** Phaeocystis pouchetii (Hariot) Lagerheim **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** ESM; 15°C; 20-30µmol/m²/s; 10 D (20°C; 40-50µmol/m²/s) **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Gene data:** CO1 (AB000120) **Other strain no.:** 8-P **References:** 142, 187 **Remarks:** Unstable
- 1396** **History:** < TKB **Locality:** Tsukuba Univ. Marine Research Center/Shizuoka/Japan (2003-04-02) **Isolator:** Kai, Atsushi **Identified by:** Kai, Atsushi **Formerly identified as:** Phaeocystis sp. **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** ESM; 20°C; 40-50µmol/m²/s; 14 D **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Other strain no.:** TKB-032 (AK-03)

Reference: 759

PHAEOMONAS : Pinguiphyceae

Phaeomonas sp.

2693 **History:** < RCC (2010) **Other collection strain no.:** RCC 503 **Locality:** Mediterranean Sea (Spanish Coast)/Spain (2001-06-25) **Isolator:** Guillou, L.; Guillou, L. (Re-isolation) **Identified by:** Confirmed at RCC by DNA sequencing **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** BL_149-10

PHORMIDIUM : Cyanophyceae

Phormidium ambiguum Gomont

2119 **History:** < IAM (2007) < Murano, Fumio **Other collection strain no.:** IAM M-71 **Isolator:** Murano, Fumio **Identified by:** Fukushima, Hiroshi **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** MDM (agar); 20°C; 13-18µmol/m²/s; 3 M **Characteristics:** Hydrogen evolution **Gene data:** 16S rRNA (AB003167) **Other strain no.:** Murano 394 (W1-27(1)) **References:** 20, 214, 280, 281

2120 **History:** < IAM (2007) < Tsuzuki, Mikio (2005) < IAM (1994) **Other collection strain no.:** IAM M-283 (=M-89) **Isolator:** Murano, Fumio **Identified by:** Fukushima, Hiroshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MDM (agar); 20°C; 13-18µmol/m²/s; 3 M **Remarks:** Cryopreserved

2121 **History:** < IAM (2007) < Tsuzuki, Mikio (2005) < IAM (1994) **Other collection strain no.:** NIG, Japan **Locality:** Africa **Isolator:** Ishikawa, Masako **Identified by:** Fukushima, Hiroshi **States:** Unialgal; Clonal; Axenic[2012 Nov] **Culture conditions:** MDM (agar); 20°C; 13-18µmol/m²/s; 3 M **Habitat:** Terrestrial (Soil) **Remarks:** Cryopreserved

2122 **History:** < IAM (2007) < Tsuzuki, Mikio (2005) < IAM (1994) **Other collection strain no.:** IAM M-285 (=M-108) **Locality:** Kyoto/Kyoto/Japan **Isolator:** Murano, Fumio; Ishikawa, Masako **Identified by:** Fukushima, Hiroshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MDM (agar); 20°C; 13-18µmol/m²/s; 3 M **Remarks:** Cryopreserved

Phormidium angustissimum W. et G. S. West

2123 **History:** < IAM (2007) < Ishikawa, Masako **Other collection strain no.:** IAM M-21 **Isolator:** Ishikawa, Masako **Identified by:** Fukushima, Hiroshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MDM (agar); 20°C; 13-18µmol/m²/s; 3 M **Remarks:** Cryopreserved

Phormidium foveolarum Gomont

32 **History:** < IAM (1983) **Other collection strain no.:** IAM M-43 **Locality:** Lake Shirakaba/Nagano/Japan **Isolator:** Ishikawa, Masako **Identified by:** Fukushima, Hiroshi; Watanabe, Makoto M. (Reidentify) **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** MDM (agar); 20 °C ; 4-10µmol/m²/s; 4 M (25 °C ; 70-80µmol/m²/s) **Habitat:** Freshwater **References:** 235, 567, 1075, 1108 **Remarks:** Cryopreserved

34 **History:** < IAM (1983) **Other collection strain no.:** IAM M-59 **Locality:** Sakunami Hot Spring/Miyagi/Japan **Isolator:** Ishikawa, Masako **Identified by:** Maruyama, Ko; Watanabe, Makoto M. (Reidentify) **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** MDM (agar); 20°C; 4-10µmol/m²/s; 4 M (25°C; 70-80µmol/m²/s) **References:** 235, 567 **Remarks:** Cryopreserved

503 **History:** < Watanabe, Makoto M. **Locality:** Mt. Tsukuba/Ibaraki/Japan (1987-04-17) **Isolator:** Kasai, Fumie **Identified by:** Watanabe, Makoto M. **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** CSi; CSi + Cu; 20°C; 4-10µmol/m²/s; 3 M (20°C; 15-27µmol/m²/s) **Habitat:** Freshwater (Stream sediment) **Other strain no.:** (1)-48 **References:** 567, 1018

504 **History:** < Kasai, Fumie **Locality:** Miyata River/Ibaraki/Japan (1987-03-25) **Isolator:** Kasai, Fumie **Identified by:** Watanabe, Makoto M. **States:** Unialgal; Non-clonal; Non-axenic **Culture**

conditions: CSi; CSi + Cu; 20°C; 4-10µmol/m²/s; 3 M (20°C; 15-27µmol/m²/s) **Habitat:** Freshwater (River sediment) **Other strain no.:** 2st-2-4 **References:** 567, 1017, 1018, 1019

- 505** **History:** < Kasai, Fumie **Locality:** Watarase River/Gunma/Japan (1987-08-15) **Isolator:** Kasai, Fumie **Identified by:** Watanabe, Makoto M. **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** CSi; CSi + Cu; 20°C; 4-10µmol/m²/s; 2 M (20°C; 15-27µmol/m²/s) **Habitat:** Freshwater (River sediment) **Other strain no.:** AT4-17 **References:** 567, 1018, 1019

Phormidium henningsii Lemmermann

- 2124** **History:** < IAM (2007) < Murano, Fumio **Other collection strain no.:** IAM M-88 **Isolator:** Murano, Fumio **Identified by:** Fukushima, Hiroshi **States:** Unialgal; Clonal; Axenic **Culture conditions:** MDM (agar); 20°C; 13-18µmol/m²/s; 3 M **Other strain no.:** Murano 387 (W1-21(2)) **Remarks:** Cryopreserved

Phormidium jenkelianum G.Schmid

- 506** **History:** < Kasai, Fumie **Locality:** Watarase River/Gunma/Japan (1987-08-15) **Isolator:** Kasai, Fumie **Identified by:** Watanabe, Makoto M. **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** CSi; CSi + Cu; 20°C; 4-10µmol/m²/s; 2 M (20°C; 15-27µmol/m²/s) **Habitat:** Freshwater (River sediment) **Other strain no.:** AT5-37 **References:** 567, 1018
- 507** **History:** < Kasai, Fumie **Locality:** Watarase River/Gunma/Japan (1987-08-15) **Isolator:** Kasai, Fumie **Identified by:** Watanabe, Makoto M. **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** CSi; CSi + Cu; 20°C; 4-10µmol/m²/s; 2 M (20°C; 15-27µmol/m²/s) **Habitat:** Freshwater (River sediment) **Other strain no.:** Ast-1-4 **References:** 139, 567, 1018, 1019

Phormidium luridum (Kützing) Gomont

- 2125** **History:** < IAM (2007) < Murano, Fumio **Other collection strain no.:** IAM M-84 **Isolator:** Murano, Fumio **Identified by:** Fukushima, Hiroshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MDM (agar); 20°C; 13-18µmol/m²/s; 3 M **Other strain no.:** Murano 397 (W1-32(2)) **Remarks:** Cryopreserved

Phormidium molle (Kützing) Gomont

- 509** **History:** < Kasai, Fumie **Locality:** Watarase River/Gunma/Japan (1987-08-15) **Isolator:** Kasai, Fumie **Identified by:** Watanabe, Makoto M. **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** CSi; CSi + Cu; 20°C; 4-10µmol/m²/s; 2 M (20°C; 15-27µmol/m²/s) **Habitat:** Freshwater (River sediment) **Other strain no.:** AT2-17 **References:** 567, 1018, 1019
- 2126** **History:** < IAM (2007) < Murano, Fumio **Other collection strain no.:** IAM M-77 **Isolator:** Murano, Fumio **Identified by:** Fukushima, Hiroshi **States:** Unialgal; Clonal; Axenic **Culture conditions:** MDM (agar); 20°C; 13-18µmol/m²/s; 3 M **Other strain no.:** Murano 386 (W1-21U) **Remarks:** Cryopreserved

Phormidium mucicola Huber-Pestalozzi et Naum

- 510** **History:** < Watanabe, Makoto M. **Other collection strain no.:** IAM M-221 **Locality:** Mt. Tsukuba/Ibaraki/Japan (1987-04-17) **Isolator:** Kasai, Fumie **Identified by:** Watanabe, Makoto M. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CSi; CSi + Cu; 20°C; 4-10µmol/m²/s; 4 M (20°C; 15-27µmol/m²/s) **Habitat:** Freshwater (Stream sediment) **Gene data:** 16S rRNA (AB003165) **Other strain no.:** (1)-23 **References:** 214, 280, 281, 567, 1018

Phormidium ramosum Boye-Petersen

- 305** **History:** < Suda, Shoichiro **Locality:** Takatori River/Ibaraki/Japan (1984-12-11) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CSi; CSi + Cu; 20°C; 4-10µmol/m²/s; 4 M (20°C; 15-27µmol/m²/s) **Habitat:** Freshwater (Sediment) **Other strain no.:** 841211St5-1 **References:** 139, 567, 1017, 1018

Phormidium sp.

- 2128** **History:** < IAM (2007) < BIU (UTEX; 1961-08-11) **Other collection strain no.:** IAM M-99; (BIU 426) **Isolator:** Boesch **Identified by:** Ishida, Tatuya **States:** Unialgal; Clonal; Axenic **Culture conditions:** MDM (agar); 20°C; 13-18µmol/m²/s; 3 M **Gene data:** 16S rRNA

(AB003169); gyrB (AB074775); rpoC1 (AB074798); rpoD1 (AB074825) **References:** 280, 281, 937 **Remarks:** Cryopreserved

PICOCHLORUM : Trebouxiophyceae

Picochlorum sp.

1270 **History:** < Moriya, Mayumi **Locality:** Banzu Tidal Flat/Chiba/Japan (2002-05-14) **Isolator:** Moriya, Mayumi **Identified by:** Moriya, Mayumi; Confirmed at NIES by DNA sequencing **Formerly identified as:** Nanochlorum sp. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Marine (Tidal flat water) **Gene data:** 18S rRNA (AB488603) **Other strain no.:** M-66 **Remarks:** Cryopreserved

PICOPHAGUS : Chrysophyceae

Picophagus flagellatus Guillow et Chrétiennot-Dinet

2586 **History:** < RCC (2009) **Other collection strain no.:** RCC 22; CCMP 1953 **Locality:** Equatorial Pacific (1994-11-07) **Isolator:** Vaultot, Daniel **Identified by:** Guillou, L. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Rice; 20°C; 15-20µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Characteristics:** Heterotrophic; Authentic strain **Other strain no.:** OLI11SC2D

PLACIDIA : Placididea

Placidia cafeteriopsis Moriya, Nakayama et Inouye

1013 **History:** < Moriya, Mayumi **Locality:** Tokyo Bay/Kanagawa/Japan (1998-01-11) **Isolator:** Moriya, Mayumi **Identified by:** Moriya, Mayumi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** SUY 1/10; 15°C; 0µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Characteristics:** Phagotrophic; Heterotrophic **Gene data:** 18S rRNA (AB061218) **Other strain no.:** #51

1014 **History:** < Moriya, Mayumi **Locality:** Kamaishi Harbor/Iwate/Japan (1999-01-**) **Isolator:** Moriya, Mayumi **Identified by:** Moriya, Mayumi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** SUY 1/10; 15°C; 0µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Characteristics:** Phagotrophic; Heterotrophic **Other strain no.:** #69 **Reference:** 574

PLANCTONEMA : Chlorophyceae

Planctonema lauterbornii Schmidle

514 **History:** < Niiyama, Yuko **Locality:** Lake Kasumigaura/Ibaraki/Japan (1988-08-18) **Isolator:** Niiyama, Yuko **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 20°C; 8-15µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Other strain no.:** K880818 **Reference:** 567 **Remarks:** Cryopreserved

PLANKTOSPHAERIA : Chlorophyceae

Planktosphaeria gelatinosa G.M. Smith

2268 **History:** < IAM (2007) **Other collection strain no.:** IAM C-405 **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 8-15µmol/m²/s; 3 M

PLANKTOTHRICOIDES : Cyanophyceae

Planktothricoides raciborskii Suda et M.M. Watanabe

Syn. *Oscillatoria raciborskii* Woloszynska

207 **History:** < Suda, Shoichiro **Locality:** Lake Kasumigaura/Ibaraki/Japan (1983-06-16) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** CT; MG; 20°C; 15-25µmol/m²/s; 20 D **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Type strain **Gene data:** 16S rRNA (AB045960) **Other strain no.:** K-O-R **References:** 477, 567, 671, 991, 1159

917 **History:** < Suda, Shoichiro **Locality:** Lake Inbanuma/Chiba/Japan **Identified by:** Li, Renhui **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** CT; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Water bloom **Gene data:** 16S rRNA (AB045953) **Other strain no.:** INBaOR **Reference:** 991

PLANKTOTHRIX : Cyanophyceae

Planktothrix agardhii (Gomont) Anagnostidis et Komárek
Syn. *Oscillatoria agardhii* Gomont

- 204** **History:** < Suda, Shoichiro **Other collection strain no.:** IAM M-244; CCAP 1460/5; PCC 10704 **Locality:** Lake Kasumigaura/Ibaraki/Japan (1983-08-24) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Axenic **Culture conditions:** CB; 25°C; 20-30µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Type strain **Gene data:** 16S rRNA (AB045954) **Other strain no.:** K-O-A **References:** 50, 192, 290, 323, 477, 567, 582, 593, 594, 595, 669, 671, 903, 905, 906, 949, 951, 953, 954, 991, 1077, 1159, 1187, 1272 **Remarks:** Cryopreserved
- 205** **History:** < TAC **Locality:** Lake Kasumigaura/Ibaraki/Japan (1982-09-16) **Isolator:** Watanabe, Masayuki **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MA; 25°C; 20-30µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** TAC 53 (K-TAN-53) **References:** 290, 477, 567, 578, 858, 950, 991 **Remarks:** Cryopreserved
- 594** **History:** < Takamura, Noriko **Locality:** Northern Ireland/U.K. **Identified by:** Suda, Shoichiro (Reidentify) **States:** Unialgal; Clonal; Axenic **Culture conditions:** CT; 20°C; 4-10µmol/m²/s; 2 M (20°C; 15-27µmol/m²/s) **Habitat:** Freshwater **Gene data:** 16S rRNA (AB045956) **Other strain no.:** K-8 **References:** 567, 991 **Remarks:** Cryopreserved
- 595** **History:** < Takamura, Noriko **Locality:** Northern Ireland/U.K. **Identified by:** Suda, Shoichiro (Reidentify) **States:** Unialgal; Clonal; Axenic **Culture conditions:** CT; 20°C; 4-10µmol/m²/s; 2 M (20°C; 15-27µmol/m²/s) **Habitat:** Freshwater **Gene data:** 16S rRNA (AB045957) **Other strain no.:** 3A(2) **References:** 292, 567, 991 **Remarks:** Cryopreserved
- 596** **History:** < Takamura, Noriko **Locality:** Veluwemeer/Netherlands **Identified by:** Suda, Shoichiro (Reidentify) **States:** Unialgal; Clonal; Axenic **Culture conditions:** CT; 20°C; 4-10µmol/m²/s; 2 M (20°C; 15-27µmol/m²/s) **Habitat:** Freshwater **Gene data:** 16S rRNA (AB045958) **Other strain no.:** VLOA 7 **References:** 90, 290, 567, 578, 991 **Remarks:** Cryopreserved
- 905** **History:** < Suda, Shoichiro < CCAP **Other collection strain no.:** CCAP 1459/11A **Locality:** Windermere/England, Cambria/U.K. (1975-**-**) **Isolator:** Jaworski, G. H. M. **Identified by:** Suda, Shoichiro (Reidentify) **States:** Unialgal; Clonal; Axenic **Culture conditions:** CT; 20°C; 20-30µmol/m²/s; 1 M **Habitat:** Freshwater **Characteristics:** Cyanobacterial water bloom (aoko); Toxic **Gene data:** 16S rRNA (AB045896) **References:** 884, 991 **Remarks:** Toxic; Cryopreserved
- 989** **History:** < Sano, Tomoharu **Locality:** Lake Mikata/Fukui/Japan (2000-12-05) **Isolator:** Sano, Tomoharu **Identified by:** Kawachi, Masanobu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CT; 20°C; 20-30µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** Mikata1-3 **Remarks:** Cryopreserved
- 990** **History:** < Sano, Tomoharu **Locality:** Lake Mikata/Fukui/Japan (2000-12-05) **Isolator:** Sano, Tomoharu **Identified by:** Kawachi, Masanobu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CT; 20°C; 20-30µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** Mikata1-6 **Remarks:** Cryopreserved
- 1263** **History:** < Sano, Tomoharu **Locality:** Germany (2000-08-18) **Isolator:** Sano, Tomoharu **Identified by:** Otsuka, Shigeto **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CT; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater **Characteristics:** Cyanobacterial water bloom (aoko); Toxic **Other strain no.:** DU-Oa-2-3 **Remarks:** Toxic; Cryopreserved
- 1264** **History:** < Sano, Tomoharu **Locality:** Neuglobsow/Brandenburg/Germany (2000-08-18) **Isolator:** Sano, Tomoharu **Identified by:** Otsuka, Shigeto **States:** Unialgal; Clonal; Non-axenic **Culture**

- conditions:** CT; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater **Characteristics:** Cyanobacterial water bloom (aoko); Toxic **Other strain no.:** DU-Oa-3-3 **Remarks:** Toxic; Cryopreserved
- 1265** **History:** < Sano, Tomoharu **Locality:** Neuglobsow/Brandenburg/Germany (2000-08-15) **Isolator:** Sano, Tomoharu **Identified by:** Otsuka, Shigeto **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CT; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** DU-Oa-5-5 **Remarks:** Cryopreserved
- Planktothrix rubescens* (DC. ex Gomont) Anagnostidis et Komárek
Syn. *Oscillatoria rubescens* DC. ex Gomont
- 610** **History:** < CCAP **Other collection strain no.:** CCAP 1459/22; NIVA CYA 18 **Locality:** Lake Gjersjøen/Norway **Isolator:** Romstad **Identified by:** Suda, Shoichiro (Reidentify) **Formerly identified as:** *Oscillatoria agardhii* Gomont **States:** Axenic **Culture conditions:** CB; MA; 20°C; 40-50µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Type strain **Gene data:** 16S rRNA (AB045959) **References:** 221, 383, 567, 880, 881, 882, 991 **Remarks:** Cryopreserved
- 928** **History:** < Suda, Shoichiro < CCAP **Other collection strain no.:** CCAP 1459/14 **Locality:** England, Cambria/U.K. (1975-**-**) **Isolator:** Jaworski, G. H. M. **Identified by:** Suda, Shoichiro (Reidentified) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CT; 20 °C ; 22-30µmol/m²/s; 1 M **Habitat:** Freshwater **Characteristics:** Cyanobacterial water bloom (aoko); Toxic **References:** 478, 883, 884 **Remarks:** Toxic; Cryopreserved
- 1266** **History:** < Sano, Tomoharu **Locality:** Neuglobsow/Brandenburg/Germany (2000-08-19) **Isolator:** Sano, Tomoharu **Identified by:** Sano, Tomoharu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CT; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater **Characteristics:** Cyanobacterial water bloom (aoko); Toxic **Other strain no.:** DU-Oa-4-1 **Reference:** 478 **Remarks:** Toxic; Cryopreserved
- 1267** **History:** < Sano, Tomoharu **Locality:** Neuglobsow/Brandenburg/Germany (2000-08-19) **Isolator:** Sano, Tomoharu **Identified by:** Sano, Tomoharu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CT; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater **Characteristics:** Cyanobacterial water bloom (aoko); Toxic **Other strain no.:** DU-Oa-4-2 **Remarks:** Toxic; Cryopreserved

PLATYDORINA : Chlorophyceae*Platydorina caudata* Kofoid

- 728** **History:** < Nozaki, Hisayoshi < UTEX **Other collection strain no.:** UTEX 1658 **Locality:** Kansas/U.S.A. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 20 °C ; 32-40µmol/m²/s; 2 M **Habitat:** Freshwater (Pond water) **Gene data:** atpB (AB014032); psaA (AB044211); psaA (AB044212); psaB (AB044442); psbC (AB044494); rbcL (D86828) **References:** 244, 567, 662, 716, 733, 738
- 729** **History:** < Nozaki, Hisayoshi < UTEX **Other collection strain no.:** UTEX 1661 **Locality:** Kansas/U.S.A. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 23 °C ; 180-200µmol/m²/s; 1 M **Habitat:** Freshwater marsh **Gene data:** rbcL (D86827) **References:** 244, 567, 662, 716

PLATYMONAS : Prasinophyceae*Platymonas subcordiformis* (Wille) HazenSyn. *Tetraselmis subcordiformis* (Wille) Butcher

- 2572** **History:** < IAM (2007) < BIU (UTEX; 1967) **Other collection strain no.:** IAM C-298; SAG 161-1a; UTEX 171; CCAP 161/1a **Locality:** New Haven/Connecticut/U.S.A. **Isolator:** Lewin, Ralph A. **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** BES2 (agar); 20°C; 8-15µmol/m²/s; 3 M **Reference:** 460

PLECTONEMA : Cyanophyceae*Plectonema calothricoides* Gomont

2129 **History:** < IAM (2007) < Safferman, R. S. **Other collection strain no.:** IAM M-120; (BIU 598) **Isolator:** Allen, M. B. **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** MDM (agar); 20°C; 13-18µmol/m²/s; 3 M **Other strain no.:** Allen M931 **Reference:** 141

Plectonema radiosum Gomont

515 **History:** < Watanabe, Makoto M. **Locality:** Toyamasawa/Tochigi/Japan (1987-04-30) **Isolator:** Kasai, Fumie **Identified by:** Watanabe, Makoto M. **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** CSi; 20°C; 4-10µmol/m²/s; 3 M (20°C; 15-27µmol/m²/s) **Habitat:** Freshwater (River water) **Other strain no.:** NK-12 **References:** 221, 502, 567, 1018, 1019

PLEODORINA : Chlorophyceae

Pleodorina californica Shaw

576 **History:** < Ogasawara, Yoshikazu **Locality:** Oumi-Hachiman/Gifu/Japan (1990-08-12) **Isolator:** Ogasawara, Yoshikazu **Identified by:** Ogasawara, Yoshikazu **States:** Unialgal; Clonal; Axenic **Culture conditions:** VT; 25°C; 100-120µmol/m²/s; 1 M **Habitat:** Freshwater (Paddy water) **Reference:** 567

735 **History:** < Nozaki, Hisayoshi < UTEX **Other collection strain no.:** UTEX 809; SAG 162/1; IAM C-336 (=C-590) **Locality:** Bloomington/Indiana/U.S.A. **Isolator:** Starr, R. C. **States:** Unialgal; Clonal; Axenic[2012 Feb] **Culture conditions:** VT; 20°C; 32-40µmol/m²/s; 1 M **Habitat:** (Freshwater) **Gene data:** atpB (AB014004); psaA (AB044190); psaA (AB044191); psaA (AB044192); psaB (AB044430); psbC (AB044480); rbcL (D63439) **References:** 126, 715, 733, 738

Pleodorina indica (Iyengar) Nozaki

736 **History:** < Nozaki, Hisayoshi < UTEX **Other collection strain no.:** UTEX 1990 **Locality:** Mexico **Isolator:** Morro, S. **Identified by:** Nozaki, Hisayoshi (Reidentify) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 23°C; 180-200µmol/m²/s; 1 M **Habitat:** (Soil) **Gene data:** atpB (AB014006); psaA (AB044195); psaA (AB044196); psaA (AB044197); psaB (AB044432); psaB (AB044433); psbC (AB044483); rbcL (D86834) **References:** 716, 733, 738

Pleodorina japonica Nozaki

577 **History:** < Nozaki, Hisayoshi **Other collection strain no.:** UTEX 2523 **Locality:** Fuji/Shizuoka/Japan (1986-07-13) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-27µmol/m²/s; 1 M **Habitat:** Freshwater (Paddy water) **Characteristics:** Authentic strain; Homothallic; Dioecious; Anisogamy **Gene data:** rbcL (D63440) **Other strain no.:** 6715-7 **References:** 378, 567, 715, 724, 733, 738

Pleodorina starrii Nozaki, Ott et Coleman

1361 **History:** < Nozaki, Hisayoshi **Locality:** Lake Sagami/Kanagawa/Japan (2000-06-02) **Identified by:** Nozaki, Hisayoshi (2005) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Other water bloom; Heterothallic; Anisogamy; Male **Other strain no.:** 2000-602-P11 **Reference:** 662

1362 **History:** < Nozaki, Hisayoshi **Locality:** Lake Sagami/Kanagawa/Japan (2000-06-02) **Identified by:** Nozaki, Hisayoshi (2005) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Other water bloom; Heterothallic; Anisogamy; Female **Other strain no.:** 2000-602-P14 **Reference:** 741

1363 **History:** < Nozaki, Hisayoshi **Locality:** Lake Sagami/Kanagawa/Japan (2000-06-02) **Identified by:** Nozaki, Hisayoshi (2005) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; VTAC; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Other water bloom; Authentic strain; Heterothallic; Anisogamy; Male **Other strain no.:** 2000-602-P15

1364 **History:** < Nozaki, Hisayoshi **Locality:** Lake Tsukui/Kanagawa/Japan (2001-06-08) **Identified by:** Nozaki, Hisayoshi (2005) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Other water

- bloom; Heterothallic; Anisogamy; Male **Other strain no.:** 2001-608-P17
- 1365** **History:** < Nozaki, Hisayoshi **Locality:** Lake Tsukui/Kanagawa/Japan (2001-06-08) **Identified by:** Nozaki, Hisayoshi (2005) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Other water bloom; Heterothallic; Anisogamy; Male **Other strain no.:** 2001-608-P21
- 1366** **History:** < Nozaki, Hisayoshi **Locality:** Lake Tsukui/Kanagawa/Japan (2001-06-08) **Identified by:** Nozaki, Hisayoshi (2005) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Other water bloom; Heterothallic; Anisogamy; Female **Other strain no.:** 2001-608-P26
- 1852** **History:** < Nozaki, Hisayoshi **Locality:** Lake Tsukui/Kanagawa/Japan (2001-06-08) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi (2005-07-01) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Other water bloom; Heterothallic; Anisogamy; Male; F1 clone of NIES-1364, 1365 and 1366 **Other strain no.:** 2005-701-F1-1 **Reference:** 708
- 1853** **History:** < Nozaki, Hisayoshi **Locality:** Lake Tsukui/Kanagawa/Japan (2001-06-08) **Identified by:** Nozaki, Hisayoshi (2005-07-01) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Other water bloom; Heterothallic; Anisogamy; Male; F1 clone of NIES-1364, 1365 and 1366 **Gene data:** EF-1 like (AB272614); MID (AB272614) **Other strain no.:** 2005-701-F1-3 **Reference:** 708
- 1854** **History:** < Nozaki, Hisayoshi **Locality:** Lake Tsukui/Kanagawa/Japan (2001-06-08) **Identified by:** Nozaki, Hisayoshi (2005-07-01) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Other water bloom; Heterothallic; Anisogamy; Female; F1 clone of NIES-1364, 1365 and 1366 **Other strain no.:** 2005-701-F1-5 **Reference:** 708

PLEUROCHRYSIS : Prymnesiophyceae

Pleurochrysis haptonemofera (Inouye et Chihara) Gayral et Fresnel

- 1813** **History:** < TKB **Locality:** Yufu Isl./Okinawa/Japan (2004-12-24) **Isolator:** Chikuni, Tomoko **Identified by:** Chikuni, Tomoko (2005-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 20°C; 20-30µmol/m²/s; 1 M **Habitat:** Salt water **Other strain no.:** TKB-230

Pleurochrysis roscoffensis (Dangeard) Fresnel et Billard

Syn. *Cricosphaera roscoffensis* (Dangeard) Gayral et Fresnel

- 8** **History:** < Watanabe, Makoto M. **Locality:** Osaka Bay/Osaka/Japan (1978-09-**) **Isolator:** Yamochi, Susumu **Identified by:** Yamochi, Susumu **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** f/2; 20°C; 32-40µmol/m²/s; 1 M **Habitat:** Marine **Characteristics:** Red tide **Gene data:** CO1 (AB000117) **Other strain no.:** OCri **References:** 142, 187, 809

Pleurochrysis sp.

- 1814** **History:** < TKB **Locality:** Amami Isl./Kagoshima/Japan (2005-02-26) **Isolator:** Chikuni, Tomoko **Identified by:** Chikuni, Tomoko (2005-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 20°C; 20-30µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** TKB-231

PLEUROTAENIUM : Charophyceae

Pleurotaenium cylindricum (Turner) Schmidle var. *stuhmannii* (Hieronymus) Krieger

- 306** **History:** < Kasai, Fumie **Locality:** Niimi/Okayama/Japan (1983-09-11) **Isolator:** Kasai, Fumie **Identified by:** Kasai, Fumie **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 22°C; 60-70µmol/m²/s; 1 M **Habitat:** Freshwater (Paddy water) **Characteristics:** Homothallic **Other strain no.:** F57-18-4 **Reference:** 567

Pleurotaenium ehrenbergii (Ralfs) De Bary var. *curtum* Krieger

- 308** **History:** < IAM (1983) **Other collection strain no.:** IAM C-379 **Locality:** Wakayama/Japan

(1969-10-**) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Axenic **Culture conditions:** CA; 20°C; 8-15µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Paddy soil) **Characteristics:** Heterothallic; Mating type(-) **Other strain no.:** W-1-3 **Reference:** 567

- 311** **History:** < IAM (1983) **Other collection strain no.:** IAM C-430 **Locality:** Iriomote Isl./Okinawa/Japan (1973-06-10) **Isolator:** Ichimura, Terunobu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 20°C; 8-15µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Paddy soil) **Characteristics:** Heterothallic; Mating type(+) **Other strain no.:** R-13-19 **Reference:** 567

Pleurotaenium ehrenbergii (Ralfs) De Bary var. *ehrenbergii*

- 309** **History:** < IAM (1983) **Other collection strain no.:** IAM C-467 (=C-591) **Locality:** Iriomote Isl./Okinawa/Japan (1973-06-10) **Isolator:** Ichimura, Terunobu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 20°C; 8-15µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Paddy soil) **Characteristics:** Heterothallic; Mating type(+); Crosses with NIES-310 **Other strain no.:** R-13-27 **References:** 235, 567

- 310** **History:** < IAM (1983) **Other collection strain no.:** IAM C-468 **Locality:** Iriomote Isl./Okinawa/Japan (1973-06-10) **Isolator:** Ichimura, Terunobu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 20°C; 8-15µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Paddy soil) **Characteristics:** Heterothallic; Mating type(-); Crosses with NIES-309 **Other strain no.:** R-13-30 **References:** 235, 567

Pleurotaenium nodosum (Bailey ex Ralfs) Lundell var. *borgei* Grönblad

- 663** **History:** < Nozaki, Hisayoshi **Locality:** Miyatoko Mire/Fukushima/Japan (1993-09-13) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-27µmol/m²/s; 2 M **Habitat:** Freshwater (Bog water) **Other strain no.:** 93-913-Gon-1 **Reference:** 567

- 664** **History:** < Nozaki, Hisayoshi **Locality:** Miyatoko Mire/Fukushima/Japan (1993-09-13) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-27µmol/m²/s; 2 M **Habitat:** Freshwater (Bog water) **Other strain no.:** 93-913-Gon-3 **Reference:** 567

Pleurotaenium nodosum (Bailey ex Ralfs) Lundell var. *gutwinskii* Krieger

- 787** **History:** < Kasai, Fumie **Locality:** 4 km northwest of Melaka/Malaysia (1985-08-20) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 22°C; 55-70µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Paddy soil) **Characteristics:** Heterothallic; Crosses with NIES-788 **Other strain no.:** 85-30-9

- 788** **History:** < Kasai, Fumie **Locality:** 4 km northwest of Melaka/Malaysia (1985-08-20) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 22°C; 55-70µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Paddy soil) **Characteristics:** Heterothallic; Crosses with NIES-787 **Other strain no.:** 85-30-56

Pleurotaenium nodosum (Bailey ex Ralfs) Lundell var. *nodosum*

- 312** **History:** < Kasai, Fumie **Locality:** Higashihiroshima/Hiroshima/Japan (1983-10-19) **Isolator:** Kasai, Fumie **Identified by:** Kasai, Fumie **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CAM; 20°C; 8-15µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Pond water) **Other strain no.:** 83-24-3 **Reference:** 567

- 785** **History:** < Kasai, Fumie **Locality:** Imuta-ike Pond/Kagoshima/Japan (1986-10-09) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 22°C; 55-70µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Pond water) **Characteristics:** Heterothallic; Crosses with NIES-786 **Other strain no.:** 86-7-15

- 786** **History:** < Kasai, Fumie **Locality:** Imuta-ike Pond/Kagoshima/Japan (1986-10-09) **Isolator:**

Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 22°C; 55-70µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Pond water) **Characteristics:** Heterothallic; Crosses with NIES-785 **Other strain no.:** 86-7-16

Pleurotaenium ovatum Nordstedt

313 **History:** < Kasai, Fumie **Locality:** Niimi/Okayama/Japan (1983-09-11) **Isolator:** Kasai, Fumie **Identified by:** Kasai, Fumie **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C; 20°C; 8-15µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Paddy water) **Other strain no.:** F57-17-8 **Reference:** 567

POLYEDRIOPSIS : Chlorophyceae

Polyedriopsis spinulosa (Schmidle) Schmidle

232 **History:** < Kasai, Fumie **Locality:** Tsukuba/Ibaraki/Japan (1984-05-07) **Isolator:** Kasai, Fumie **Identified by:** Kasai, Fumie **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C; 20°C; 4-10µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Pond water) **Other strain no.:** F128 **Reference:** 567

PORPHYRIDIDIUM : Porphyridiophyceae

Porphyridium aerugineum Geitler

1957 **History:** < TAC **Locality:** Nepal (1986-09-24) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C; 20°C; 4-6µmol/m²/s; 1 M **Habitat:** Terrestrial **Other strain no.:** TAC 578 **Remarks:** Cryopreserved

1958 **History:** < TAC **Locality:** Nepal (1986-09-24) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C; 20°C; 4-6µmol/m²/s; 1 M **Habitat:** Terrestrial **Other strain no.:** TAC 579 **Remarks:** Cryopreserved

1959 **History:** < TAC **Locality:** Nepal (1986-09-24) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C; 20°C; 4-6µmol/m²/s; 1 M **Habitat:** Terrestrial **Other strain no.:** TAC 580

1960 **History:** < TAC **Locality:** Nepal (1986-09-24) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C; 20°C; 4-6µmol/m²/s; 1 M **Habitat:** Terrestrial **Other strain no.:** TAC 581 **Remarks:** Cryopreserved

Porphyridium purpureum (Bory) Drew et Ross

Syn. *Porphyridium cruentum* (Agardh) Nägeli

2138 **History:** < IAM (2007) < Fujita, Yoshihiko; Nozawa, Koji **Other collection strain no.:** IAM R-1 **Locality:** Takesako Hot Spring/Kagoshima/Japan **Isolator:** Nozawa, Koji **Identified by:** Nozawa, Koji **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 13-18µmol/m²/s; 3 M **Habitat:** Hot spring **References:** 6, 361, 470, 863, 948, 1097, 1100, 1194, 1195, 1244 **Remarks:** Cryopreserved

2139 **History:** < IAM (2007) < Murano, Fumio **Other collection strain no.:** IAM R-2 **Locality:** Botanical Garden at University of Tokyo/Tokyo/Japan **Isolator:** Murano, Fumio **Identified by:** Fukushima, Hiroshi **States:** Unialgal; Clonal; Axenic[2011 Aug] **Culture conditions:** ESM; 20°C; 13-18µmol/m²/s; 3 M **Habitat:** Terrestrial **Reference:** 863 **Remarks:** Cryopreserved

2140 **History:** < IAM (2007) < Imai **Other collection strain no.:** IAM R-3 **States:** Unialgal; Clonal; Axenic **Culture conditions:** ESM; 20°C; 13-18µmol/m²/s; 3 M **Reference:** 794 **Remarks:** Cryopreserved

Porphyridium sp.

1032 **History:** < Hatakeyama, Noriko **Locality:** Iriomote Isl./Okinawa/Japan (1990-10-16) **Isolator:** Hatakeyama, Noriko **Identified by:** Hatakeyama-Ishida, Noriko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 15-27µmol/m²/s; 2 M **Habitat:** Brackish water

- (Water) **Reference:** 142 **Remarks:** Cryopreserved
- 1033** **History:** < Hatakeyama, Noriko **Locality:** Iriomote Isl./Okinawa/Japan (1990-10-16) **Isolator:** Hatakeyama, Noriko **Identified by:** Hatakeyama-Ishida, Noriko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 15-27µmol/m²/s; 2 M **Habitat:** Brackish water (Water) **Remarks:** Cryopreserved
- 1034** **History:** < Hatakeyama, Noriko **Locality:** Florida/U.S.A. (1991-08-11) **Isolator:** Hatakeyama, Noriko **Identified by:** Hatakeyama-Ishida, Noriko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 15-27µmol/m²/s; 3 M **Habitat:** Brackish water (Sediment) **Remarks:** Cryopreserved
- 1035** **History:** < Hatakeyama, Noriko **Locality:** Florida/U.S.A. (1991-08-11) **Isolator:** Hatakeyama, Noriko **Identified by:** Hatakeyama-Ishida, Noriko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 15-27µmol/m²/s; 2 M **Habitat:** Brackish water (Sediment) **Remarks:** Cryopreserved
- 1807** **History:** < TKB **Locality:** Motobu/Okinawa/Japan (2005-01-22) **Isolator:** Yamaguchi, Haruyo **Identified by:** Nakayama, Takeshi (2005-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 20°C; 20-30µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** TKB-255 **Remarks:** Cryopreserved

POTERIOCHROMONAS : Chrysophyceae

Poteroiochromonas malhamensis (Pringsheim) Peterfi
Syn. *Ochromonas malhamensis* Pringsheim

- 2144** **History:** < IAM (2007) < SAG (2000) **Other collection strain no.:** IAM CS-7; UTEX L 1297; SAG 933-1a; ATCC 11532 **Locality:** Malham Tarn/England, Yorkshire/U.K. **Isolator:** Chen, T. Y. **States:** Unialgal; Clonal; Axenic[2012 Mar] **Culture conditions:** O (semi-solid); 20 °C ; 40-50µmol/m²/s; 14 D **Habitat:** Freshwater (Stone) **Characteristics:** Predator **Reference:** 57

PRASINODERMA : Prasinophyceae

Prasinoderma coloniale Hasegawa et Chinara

- 2582** **History:** < RCC (2009) **Other collection strain no.:** RCC 916 **Locality:** Marquesas islands (2004-10-29) **Isolator:** Vaultot, Daniel; Marie, D.; Le Gall, F. (Re-isolation) **Identified by:** Confirmed at RCC by DNA sequencing **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 22-32µmol/m²/s; 20 D **Habitat:** Marine (Seawater) **Other strain no.:** Biosope 34B2 FL2-5

PROCHLOROCOCCUS : Cyanophyceae

Prochlorococcus marinus Chisholm, Frankel, Goericke, Olson, Palenik, Waterbury, West-Johnsrud et Zettler

- 2086** **History:** < Kawachi, Masanobu < CCMP **Other collection strain no.:** CCMP 1377 **Locality:** North Atlantic (Sargasso Sea) (1988-05-**) **Isolator:** Frankel, S.; West-Johnsrud, L. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** PRO-99; 20°C; 4-10µmol/m²/s; 3 M **Habitat:** Marine (Seawater)
- 2087** **History:** < Kawachi, Masanobu < CCMP **Other collection strain no.:** CCMP 1986 **Locality:** East Mediterranean Sea **Isolator:** Vaultot, D. **Identified by:** Vaultot, D. (1991-03-01) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** PRO-99; 20°C; 18-23µmol/m²/s; 3 M **Habitat:** Marine (Seawater)

PROROCENTRUM : Dinophyceae

Prorocentrum dentatum Stein

- 682** **History:** < KAGAWA < Yoshimatsu, Sadaaki **Locality:** Hiuchi-nada/Japan (1979-12-13) **Isolator:** Yoshimatsu, Sadaaki **Identified by:** Yoshimatsu, Sadaaki **States:** Unialgal; Clonal; Non-axenic

- Culture conditions:** ESM; 20 °C ; 40-50 $\mu\text{mol}/\text{m}^2/\text{s}$; 1 M **Habitat:** Marine (Seawater)
Characteristics: Red tide **Remarks:** Fragile species to transportation stresses
- 900** **History:** < Yumoto, Kosei **Locality:** off Irago Cape/Aichi/Japan (2000-07-01) **Isolator:** Yumoto, Kosei **Identified by:** Kawachi, Masanobu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 40-50 $\mu\text{mol}/\text{m}^2/\text{s}$; 20 D **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Other strain no.:** KC37-PD **Remarks:** Fragile species to transportation stresses
- 2010** **History:** < Kawachi, Masanobu **Locality:** East China Sea (2006-06-**) **Isolator:** Kawachi, Masanobu **Identified by:** Kawachi, Masanobu (2006-06-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MNK; 20 °C ; 10-15 $\mu\text{mol}/\text{m}^2/\text{s}$; 14 D **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Other strain no.:** SY06-6 **Remarks:** Fragile species to transportation stresses
- 2011** **History:** < Kawachi, Masanobu **Locality:** East China Sea (2006-06-**) **Isolator:** Kawachi, Masanobu **Identified by:** Kawachi, Masanobu (2006-06-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MNK; 20 °C ; 10-15 $\mu\text{mol}/\text{m}^2/\text{s}$; 14 D **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Other strain no.:** SY06-8 **Remarks:** Fragile species to transportation stresses
- 2013** **History:** < Kawachi, Masanobu **Locality:** East China Sea (2006-06-**) **Isolator:** Kawachi, Masanobu **Identified by:** Kawachi, Masanobu (2006-06-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MNK; 20 °C ; 10-15 $\mu\text{mol}/\text{m}^2/\text{s}$; 14 D **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Other strain no.:** SY06-10 **Remarks:** Fragile species to transportation stresses
- 2014** **History:** < Kawachi, Masanobu **Locality:** East China Sea (2006-06-**) **Isolator:** Kawachi, Masanobu **Identified by:** Kawachi, Masanobu (2006-06-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** mIMR; 20 °C ; 10-15 $\mu\text{mol}/\text{m}^2/\text{s}$; 14 D **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Other strain no.:** SY06-11 **Remarks:** Fragile species to transportation stresses

Prorocentrum gracile Schütt

- 315** **History:** < KAGAWA **Locality:** Harima-nada/Japan **Isolator:** Yoshimatsu, Sadaaki **Identified by:** Yoshimatsu, Sadaaki **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** ESM; 20°C; 32-40 $\mu\text{mol}/\text{m}^2/\text{s}$; 1 M **Habitat:** Marine **Characteristics:** Red tide **Other strain no.:** 80 **Remarks:** Fragile species to transportation stresses

Prorocentrum lima (Ehrenberg) Dodge

- 617** **History:** < Murata, Michio **Locality:** Motobu/Okinawa/Japan (1993-06-06) **Isolator:** Kobayashi, Hidetaka **Identified by:** Fukuyo, Yasuo **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; ESM; 20°C; 32-40 $\mu\text{mol}/\text{m}^2/\text{s}$; 1 M **Habitat:** Marine (Plant) **Characteristics:** Toxic **Other strain no.:** PL-03 **Remarks:** Toxic; Fragile species to transportation stresses

Prorocentrum mexicanum Osorio-Tafall

- 618** **History:** < Murata, Michio **Locality:** Motobu/Okinawa/Japan (1993-06-06) **Isolator:** Kobayashi, Hidetaka **Identified by:** Fukuyo, Yasuo **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 32-40 $\mu\text{mol}/\text{m}^2/\text{s}$; 1 M **Habitat:** Marine (Plant) **Other strain no.:** PX-01 **Remarks:** Fragile species to transportation stresses
- 1967** **History:** < TKB **Locality:** Motobu/Okinawa/Japan (2005-01-22) **Isolator:** Yamaguchi, Haruyo **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** IMK; 20°C; 10-15 $\mu\text{mol}/\text{m}^2/\text{s}$; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** TKB-328 **Remarks:** Fragile species to transportation stresses

Prorocentrum micans Ehrenberg

- 12** **History:** < Yamochi, Susumu **Locality:** Osaka Bay/Osaka/Japan (1981-07-**) **Isolator:** Yamochi, Susumu **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** ESM; 20 °C ; 32-40 $\mu\text{mol}/\text{m}^2/\text{s}$; 1 M **Habitat:** Marine **Characteristics:** Red tide **Gene data:** CO1 (AB000134); CO1 (AB000133); psbA (AB025585) **Other strain no.:** OPm **References:** 143, 261, 262, 592,

- 1035, 1115, 1243 **Remarks:** Fragile species to transportation stresses
- 218** **History:** < KAGAWA **Locality:** Yashima Bay/Kagawa/Japan (1978-08-05) **Isolator:** Yuki, Katsuhisa **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** f/2; 20 °C ; 32-40µmol/m²/s; 1 M **Habitat:** Marine **Characteristics:** Red tide **Other strain no.:** KGW-13-7 **Remarks:** Fragile species to transportation stresses
- 316** **History:** < Sawaguchi, Tomohiro **Locality:** Matoya Bay/Mie/Japan (1984-09-01) **Isolator:** Sawaguchi, Tomohiro **Identified by:** Sawaguchi, Tomohiro **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** f/2; ESM; 20°C; 32-40µmol/m²/s; 2 M **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Other strain no.:** MB-D-4 **Remarks:** Fragile species to transportation stresses
- 601** **History:** < Honjo, Tsuneo **Locality:** Mikawa Bay/Aichi/Japan **Isolator:** Toriumi, Saburo **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 20°C; 32-40µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Remarks:** Fragile species to transportation stresses
- 608** **History:** < Iwasaki, Hideo **Locality:** Ise Bay/Mie/Japan (1978-06-**) **Isolator:** Iwasaki, Hideo **Identified by:** Steidinger, K. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 40-50µmol/m²/s; 2 M **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Remarks:** Fragile species to transportation stresses
- 1406** **History:** < TKB **Locality:** Saroma/Hokkaido/Japan (2003-10-**) **Isolator:** Chikuni, Tomoko **Identified by:** Chikuni, Tomoko **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** ESM; 20°C; 40-50µmol/m²/s; 20 D **Habitat:** Marine (Seawater) **Other strain no.:** TKB-138 (TC01) **Remarks:** Fragile species to transportation stresses

Prorocentrum minimum (Pavillard) Schiller

- 237** **History:** < Watanabe, Makoto M. **Locality:** Osaka Bay/Osaka/Japan (1982-08-03) **Isolator:** Watanabe, Makoto M. **States:** Unialgal; Clonal; Axenic[2012 Feb] **Culture conditions:** ESM; 20°C; 32-40µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Other strain no.:** OPmin **Reference:** 115 **Remarks:** Fragile species to transportation stresses
- 238** **History:** < KAGAWA **Locality:** Harima-Nada/Japan (1983-04-22) **Isolator:** Yoshimatsu, Sadaaki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; ESM; 20°C; 32-40µmol/m²/s; 1 M **Habitat:** Marine **Characteristics:** Red tide **Other strain no.:** KGW-14-2-5 **Remarks:** Unstable; Fragile species to transportation stresses

PROTOCERATIUM : Dinophyceae

Protoceratium reticulatum (Claparède et Lachmann) Butschli

- 319** **History:** < KAGAWA **Locality:** Naoshima Isl./Kagawa/Japan (1982-07-30) **Isolator:** Yoshimatsu, Sadaaki **Identified by:** Yoshimatsu, Sadaaki **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** ESM; MNK; 20°C; 40-50µmol/m²/s; 1 M **Habitat:** Marine **Characteristics:** Red tide **Other strain no.:** KGW-62 **Reference:** 1115 **Remarks:** Poor growth; Fragile species to transportation stresses

PROTODESMUS : Chlorophyceae

Protodesmus globulifer Nakahara, Tsubota et Handa

- 1703** **History:** < Nakanara, Miho **Locality:** Higashihiroshima/Hiroshima/Japan (1997-03-**) **Identified by:** Nakahara, Miho (2004-11-**) **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C (agar); 20 °C ; 4-10µmol/m²/s; 6 M (25 °C ; 70-80µmol/m²/s) **Habitat:** Brackish water (Paramecium in a reservoir) **Characteristics:** Symbiotic; Authentic strain **Gene data:** 18S rRNA (AB212094) **Other strain no.:** HP1-13-26

PROTOTHECA : Trebouxiophyceae

Prototheca portoricensis Cifferi, Ashford et Dalmau var. *ciferrii* (Negroni et Blaistin) Cifferi, Ashford et Dalmau

- 2182** **History:** < IAM (2007) < IFO < JCM **Other collection strain no.:** IAM C-177; IFO 6994; JCM 9346 **Formerly identified as:** Prototheca cifferrii Negroni et Blaisten **States:** Unialgal; Clonal; Axenic **Culture conditions:** Tre (agar); 20°C; 8-15µmol/m²/s; 3 M

PRYMNESIUM : Prymnesiophyceae

Prymnesium calathiferum Chang et Ryan

- 1330** **History:** < TKB **Locality:** Awase/Okinawa/Japan (2003-05-**) **Isolator:** Yoshida, Masaki **Identified by:** Yoshida, Masaki (2003-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 22-32µmol/m²/s; 14 D **Habitat:** Marine (Sand) **Characteristics:** Benthic **Other strain no.:** TKB-062 (ym-07)

Prymnesium parvum Carter

- 1017** **History:** < Moriya, Mayumi **Locality:** Jogashima/Kanagawa/Japan (1997-04-**) **Isolator:** Moriya, Mayumi **Identified by:** Moriya, Mayumi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 15°C; 15-22µmol/m²/s; 2 M **Habitat:** Marine (Seawater) **Other strain no.:** #22 **References:** 142, 283
- 1018** **History:** < Moriya, Mayumi **Locality:** Hirara, Shimajiri/Okinawa/Japan (2002-03-17) **Isolator:** Moriya, Mayumi **Identified by:** Moriya, Mayumi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 15°C; 15-22µmol/m²/s; 1 M **Habitat:** Brackish water (Water) **Other strain no.:** M-25
- 1812** **History:** < TKB **Locality:** Yufu Isl./Okinawa/Japan (2004-12-24) **Isolator:** Chikuni, Tomoko **Identified by:** Chikuni, Tomoko (2005-**-**) **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** f/2; 20°C; 20-30µmol/m²/s; 1 M **Habitat:** Salt water **Other strain no.:** TKB-251
- 2350** **History:** < Kawachi, Masanobu **Locality:** Hachijo Isl., Yaene Harbor/Tokyo/Japan (2003-01-15) **Isolator:** Noël, Mary-Hélène **Identified by:** Noël, Mary-Hélène **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 22°C; 10-18µmol/m²/s; 14-20 D **Habitat:** Marine (Seawater) **Characteristics:** Toxic; Epiphytic **Other strain no.:** MH 54 **Remarks:** Toxic

Prymnesium sp.

- 1397** **History:** < TKB **Locality:** Ishigaki Harbor/Okinawa/Japan (2003-12-25) **Isolator:** Okamoto, Noriko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 20°C; 40-50µmol/m²/s; 20 D **Habitat:** Marine (Seawater) **Other strain no.:** TKB-084 (nrc060)

PSEUDANABAENA : Cyanophyceae

Pseudanabaena galeata Böcher

- 512** **History:** < Yamada, Naoki **Locality:** Nagoya Castle/Aichi/Japan (1981-11-01) **Isolator:** Yamada, Naoki **Identified by:** Yamada, Naoki; Homma, Takamitsu (Reidentify) **Formerly identified as:** Phormidium tenue (C.Agardh ex Gomont) Anagnostidis et Komárek **States:** Unialgal; Non-clonal; Axenic **Culture conditions:** CT; 20°C; 4-10µmol/m²/s; 20 D (20°C; 15-27µmol/m²/s) **Habitat:** Freshwater (Pond water) **Characteristics:** Offensive taste and odor **Gene data:** 16S rRNA (AB042838) **Other strain no.:** PM-81A **References:** 221, 267, 383, 468, 469, 567, 621, 625, 796, 797, 1206, 1207, 1274 **Remarks:** Cryopreserved

Pseudanabaena sp.

- 611** **Locality:** Lake Biwa/Shiga/Japan **Identified by:** Watanabe, Makoto M.; Homma, Takamitsu (Reidentify) **Formerly identified as:** Phormidium tenue (C.Agardh ex Gomont) Anagnostidis et Komárek **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CT; 25°C; 100-120µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Gene data:** 16S rRNA (AB042842) **Other strain no.:** Bpt **References:** 151, 1077 **Remarks:** Cryopreserved

PSEUDENDACLONIUM : Ulvophyceae

Pseudendoclonium sp.

- 2501** **History:** < Inouye, Isao **Locality:** Hanamuro River/Ibaraki/Japan (2006-09-28) **Isolator:** Chikuni, Tomoko **Identified by:** Chikuni, Tomoko (2006-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C; 20°C; 8-15µmol/m²/s; 2 M **Habitat:** Freshwater (Water; Sediment) **Characteristics:** Benthic **Other strain no.:** TKB-354

PSEUDOCARTERIA : Chlorophyceae

Pseudocarteria mucosa (Korshikov) Ettl

- 522** **History:** < Suda, Shoichiro **Locality:** Izumi/Miyagi/Japan (1985-08-02) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Homothallic **Gene data:** atpB (AB084324); psaB (AB084364); rbcL (AB084335) **Other strain no.:** M-2 **References:** 567, 740, 989
- 523** **History:** < Suda, Shoichiro **Locality:** Higashiyata River/Ibaraki/Japan (1983-07-02) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Homothallic **Other strain no.:** USI-8 **References:** 567, 986, 989
- 524** **History:** < Suda, Shoichiro **Locality:** Izumi/Miyagi/Japan (1985-08-02) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Homothallic **Other strain no.:** M-4 **References:** 567, 989

PSEUDOCHATTONELLA : Dictyochophyceae

Pseudochattonella verruculosa (Hara et Chihara) Tanabe-Hosoi, Honda, Fukaya, Inagaki et Sako
Syn. *Chattonella verruculosa* Hara et Chihara; *Verrucophora verruculosa* (Hara et Chihara) Eikrem

- 670** **History:** < KAGAWA < Yoshimatsu, Sadaaki **Locality:** Harima-nada/Japan (1987-07-16) **Isolator:** Yoshimatsu, Sadaaki **Identified by:** Yoshimatsu, Sadaaki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 40-50µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Gene data:** 18S rRNA (AB217629) **References:** 37, 74, 149, 218, 245 **Remarks:** Fragile species to transportation stresses
- 850** **History:** < Sawaguchi, Tomohiro **Locality:** Shodo Isl./Kagawa/Japan (1989-01-**) **Isolator:** Sawaguchi, Tomohiro **Identified by:** Hara, Yoshiaki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; ESM; 15°C; 15-22µmol/m²/s; 20 D **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Remarks:** Fragile species to transportation stresses

PSEUDOKIRCHNERIELLA : Chlorophyceae

Pseudokirchneriella subcapitata (Korshikov) Hindák

Syn. *Ankistrodesmus subcapitata* Korshikov; *Kirchneriella subcapitata* Korshikov; *Raphidocelis subcapitata* (Korshikov) Nygaard

- 35** **History:** < Yagi, Osami **Locality:** Nitelva River/Norway **Isolator:** Skulberg, O. M. **Formerly identified as:** *Selenastrum capricornutum* (Printz) Nygaard **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 4-10µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater **Characteristics:** AGP **Other strain no.:** P-26 **References:** 170, 220, 347, 348, 355, 360, 381, 445, 567, 596, 620, 625, 630, 680, 685, 801, 814, 992, 1031, 1092, 1199, 1200, 1202, 1222, 1233 **Remarks:** Cryopreserved

PSEUDONITZSCHIA : Bacillariophyceae

Pseudonitzschia sp.

- 1383** **History:** < TKB **Locality:** Hachijo Isl./Tokyo/Japan (2002-12-13) **Isolator:** Yoshida, Masaki **Identified by:** Yoshida, Masaki (2003-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; mIMR; 15°C; 10-18µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain**

no.: TKB-101 (ym-09) **Remarks:** Poor growth

PSEUDOPEDINELLA : Dictyochophyceae

Pseudopedinella pyriformis Carter

- 1381** **History:** < TKB **Locality:** Edogawa-ku/Tokyo/Japan (2004-10-28) **Isolator:** Nakayama, Takeshi **Identified by:** Nakayama, Takeshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 15-22µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** TKB-191 (nak80)
- 1810** **History:** < TKB **Locality:** East China Sea/Japan (2004-07-28) **Isolator:** Kai, Atsushi **Identified by:** Kai, Atsushi (2005-**-**) **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** ESM; 20°C; 20-30µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** TKB-221

PSEUDOPLEUROCOCCUS : Chlorophyceae

Pseudopleurococcus printzii Vischer var. *longissimus* S.Watanabe

- 159** **History:** < Watanabe, Shin **Locality:** Kyoto/Japan (1975-03-07) **Isolator:** Watanabe, Shin **Identified by:** Watanabe, Shin **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C (agar); 20°C; 4-10µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Terrestrial (Plant (Bark of *Ulmus parviflora*)) **Characteristics:** Authentic strain **Other strain no.:** KUC6-2 **References:** 567, 1186 **Remarks:** Cryopreserved

PSEUDOSCOURFIELDIA : Prasinophyceae

Pseudoscourfieldia marina (Thronsen) Manton

- 1419** **History:** < TKB **Locality:** East China Sea/Japan (2004-07-28) **Isolator:** Nakayama, Takeshi **Identified by:** Nakayama, Takeshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 20°C; 20-30µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Gene data:** psbB (AB561053); psbC (AB561061) **Other strain no.:** TKB-144 (nak33)
- 1420** **History:** < TKB **Locality:** Motobu, Sesoko/Okinawa/Japan (2004-11-08) **Isolator:** Nakayama, Takeshi **Identified by:** Nakayama, Takeshi **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** MNK; 20°C; 20-30µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** TKB-212 (nak99)

PSEUDOTREBOUXIA : Trebouxiophyceae

Pseudotrebouxia corticola Archibald

- 2183** **History:** < IAM (2007) < BIU (UTEX; 1965) **Other collection strain no.:** IAM C-194; ASIB IB326; UTEX 909 **Isolator:** Ahmadjian, V. **Identified by:** Ahmadjian, V. **Formerly identified as:** *Trebouxia arboricola* Puymaly **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Reference:** 18

PTEROMONAS : Chlorophyceae

Pteromonas aculeata Lemmermann

- 738** **History:** < Nozaki, Hisayoshi **Locality:** Shinobazu-no-ike Pond/Tokyo/Japan (1996-10-17) **Isolator:** Tanaka, Shin-ichiro **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 20°C; 15-27µmol/m²/s; 2 M **Habitat:** Freshwater (Pond water) **Other strain no.:** 970603-PtAcl **Reference:** 1061
- 860** **History:** < Nozaki, Hisayoshi **Locality:** Darstein/Germany (1997-07-31) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 15-22µmol/m²/s; 2 M **Habitat:** Freshwater (Ditch water) **Other strain no.:** 970801-2

Pteromonas angulosa (Carter) Lemmermann

- 739** **History:** < Nozaki, Hisayoshi **Locality:** Shinobazu-no-ike Pond/Tokyo/Japan (1996-11-13) **Isolator:** Tanaka, Shin-ichiro **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Axenic[2012 Nov] **Culture conditions:** MG; 20°C; 15-27µmol/m²/s; 2 M **Habitat:** Freshwater (Pond water) **Other strain no.:** 970603-PtAng **Reference:** 1061
- 861** **History:** < Nozaki, Hisayoshi **Locality:** Germany **Identified by:** Knieritz, L. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 15-22µmol/m²/s; 2 M **Gene data:** atpB (AB014038); psaB (B084371); psaB (B084372); rbcL (AJ001887) **Other strain no.:** KR 91/2 **References:** 189, 738, 740
- 862** **History:** < Nozaki, Hisayoshi **Locality:** Germany **Identified by:** Krienitz, L. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 15-22µmol/m²/s; 2 M **Gene data:** rbcL (AJ001888) **Other strain no.:** KR 91/3 **Reference:** 189

Pteromonas multipyrenoidea Iyenger

- 740** **History:** < Nozaki, Hisayoshi **Locality:** Shinobazu-no-ike Pond/Tokyo/Japan (1996-11-13) **Isolator:** Tanaka, Shin-ichiro **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Axenic[2012 Nov] **Culture conditions:** MG; 20°C; 15-27µmol/m²/s; 2 M **Habitat:** Freshwater (Pond water) **Other strain no.:** 970603-PtMul **Reference:** 1061

PTEROSPERMA : Prasinophyceae*Pterosperma cristatum* Schiller

- 221** **History:** < Suda, Shoichiro **Locality:** Harima-Nada/Japan (1983-02-**) **Isolator:** Suda, Shoichiro **Identified by:** Inouye, Isao **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** f/2; ESM; 20°C; 32-40µmol/m²/s; 1 M **Habitat:** Marine (Sediment) **Characteristics:** Red tide **Other strain no.:** H-88-1 **References:** 490, 1115 **Remarks:** Fragile species to transportation stresses
- 626** **History:** < Sawaguchi, Tomohiro **Locality:** Seto Inland Sea/Kagawa/Japan (1989-02-14) **Isolator:** Sawaguchi, Tomohiro **Identified by:** Inouye, Isao **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 15°C; 20-30µmol/m²/s; 20 D **Habitat:** Marine (Seawater) **Gene data:** psbB (AB561056); psbC (AB561064) **Other strain no.:** 89KGW-1 **Remarks:** Fragile species to transportation stresses
- 936** **History:** < Yoshii, Yukie **Locality:** Oku-Matsushima/Miyagi/Japan (1998-03-**) **Isolator:** Yoshii, Yukie **Identified by:** Inouye, Isao **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 40-50µmol/m²/s; 20 D **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Other strain no.:** Pt **References:** 392, 1260 **Remarks:** Fragile species to transportation stresses

PYRAMIMONAS : Prasinophyceae*Pyramimonas* aff. *amylifera* Conrad

- 251** **History:** < KAGAWA **Locality:** Yashima Bay/Kagawa/Japan (1982-10-14) **Isolator:** Yoshimatsu, Sadaaki **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** f/2; ESM; 20°C; 32-40µmol/m²/s; 1 M **Habitat:** Marine **Characteristics:** Red tide **Other strain no.:** KGW-64-3 **References:** 138, 1115
- 320** **History:** < Suda, Shoichiro **Locality:** Onagawa Bay/Miyagi/Japan (1984-08-28) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** f/2; 20°C; 32-40µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Other strain no.:** 8280G47-5

Pyramimonas cordata McFadden

- 1421** **History:** < TKB **Locality:** Chiba Harbor/Chiba/Japan (2004-07-**) **Isolator:** Nakayama, Takeshi **Identified by:** Nakayama, Takeshi **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** f/2; 20°C; 20-30µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** TKB-130 (nak24)
- 1422** **History:** < TKB **Locality:** Amami Isl./Kagoshima/Japan (2004-10-14) **Isolator:** Nakayama, Takeshi **Identified by:** Nakayama, Takeshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 20°C; 20-30µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:**

TKB-203 (nak92)

- 1423** **History:** < TKB **Locality:** Takahama Canal/Tokyo/Japan (2004-12-03) **Isolator:** Nakayama, Takeshi **Identified by:** Nakayama, Takeshi **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** f/2; 20°C; 20-30µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** TKB-218 (nak104)

Pyramimonas dissomata Butcher ex McFadden, Hill et Wetherbee

- 1819** **History:** < TKB **Locality:** Isonoura Beach/Wakayama/Japan (2005-03-30) **Isolator:** Okamoto, Noriko **Identified by:** Okamoto, Noriko (2005-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 20°C; 20-30µmol/m²/s; 1 M **Habitat:** Marine (Sand) **Other strain no.:** TKB-226

Pyramimonas grossii Parke

- 1424** **History:** < TKB **Locality:** East China Sea/Japan (2004-07-31) **Isolator:** Nakayama, Takeshi **Identified by:** Nakayama, Takeshi **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** f/2; 20°C; 20-30µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** TKB-141 (nak30)
- 1425** **History:** < TKB **Locality:** Amami Isl./Kagoshima/Japan (2004-10-14) **Isolator:** Nakayama, Takeshi **Identified by:** Nakayama, Takeshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 20°C; 15-22µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** TKB-202 (nak91)
- 1820** **History:** < TKB **Locality:** Onahama Harbor/Fukushima/Japan (2004-07-07) **Isolator:** Chikuni, Tomoko **Identified by:** Chikuni, Tomoko (2005-**-**) **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** f/2; 20°C; 20-30µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** TKB-248

Pyramimonas parkeae Norris et Pearson

- 254** **History:** < Suda, Shoichiro **Locality:** Hachijo Isl./Tokyo/Japan (1984-04-17) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** ESM; 20°C; 32-40µmol/m²/s; 1 M **Habitat:** Marine (Water) **Characteristics:** Red tide **Other strain no.:** 8-25-2 **References:** 138, 396, 432, 434, 890, 1014

Pyramimonas propulsa Moestrup et Hill

- 1821** **History:** < TKB **Locality:** Isonoura Beach/Wakayama/Japan (2005-03-30) **Isolator:** Okamoto, Noriko **Identified by:** Okamoto, Noriko (2005-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 20°C; 20-30µmol/m²/s; 1 M **Habitat:** Marine (Sand) **Other strain no.:** TKB-223
- 1822** **History:** < TKB **Locality:** Kanegahama/Miyazaki/Japan (2005-02-12) **Isolator:** Kai, Atsushi **Identified by:** Kai, Atsushi (2005-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 20°C; 20-30µmol/m²/s; 1 M **Habitat:** Marine (Sand) **Other strain no.:** TKB-246
- 1823** **History:** < TKB **Locality:** Kesenuma Harbor/Miyagi/Japan (2005-08-30) **Isolator:** Chikuni, Tomoko **Identified by:** Nakayama, Takeshi (2005-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 20-30µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** TKB-250

Pyramimonas sp.

- 1426** **History:** < TKB **Locality:** Isonoura Beach/Wakayama/Japan (2003-11-**) **Isolator:** Okamoto, Noriko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 20°C; 20-30µmol/m²/s; 20 D **Habitat:** Marine (Seawater) **Other strain no.:** TKB-086 (nrc062)
- 1427** **History:** < TKB **Locality:** East China Sea/Japan (2004-07-28) **Isolator:** Nakayama, Takeshi **Identified by:** Nakayama, Takeshi **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** ESM; 20°C; 20-30µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** TKB-143 (nak32)

PYROBOTRYS : Chlorophyceae

Pyrobotrys squarrosa (Korshikov) Korshikov

Syn. Chlamydobotrys squamata Korshikov; Uva squamata (Korshikov) Fott

- 2564** **History:** < Nakada, Takashi **Other collection strain no.:** NBRC 107039 **Locality:** Otsuka-minami/Toyama/Japan (2005-09-23) **Isolator:** Nakada, Takashi **Identified by:** Nakada, Takashi (2009-11-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** mAC; 20°C; 32-40µmol/m²/s; 1 M **Habitat:** Freshwater (Sediment) **Characteristics:** Mixotrophic; Resting spore forming **Gene data:** 18S rRNA (AB542919); psaB (AB542924); rbcL (AB542927) **Other strain no.:** KrCl905 **Reference:** 611

PYROCYSTIS : Dinophyceae*Pyrocystis lunura* (Schütt) Schütt

- 609** **History:** < Nakamura, Hideshi **Locality:** Japan **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** f/2; 20°C; 40-50µmol/m²/s; 1 M **Habitat:** Marine **Reference:** 1188 **Remarks:** Fragile species to transportation stresses

RAPHIDIOPHRYS : Centrohelea*Raphidiophrys contractilis* Kinoshita et al.

- 2498** **History:** < Suzaki, Toshinobu **Locality:** Shukkeien Park/Hiroshima/Japan (1995-**-**) **Isolator:** Suzaki, Toshinobu **Identified by:** Suzaki, Toshinobu (1995-**-**) **Culture conditions:** Helio; 20°C; 13-18µmol/m²/s; 7-14 D **Habitat:** Brackish water **Other strain no.:** HSR

RAPHIDIOPSIS : Cyanophyceae*Raphidiopsis curvata* F.E. Fritsch et F.Rich

- 932** **History:** < Otsuka, Shigeto **Locality:** Shinobazu-no-ike Pond/Tokyo/Japan (2000-07-04) **Isolator:** Otsuka, Shigeto **Identified by:** Otsuka, Shigeto **States:** Unialgal; Clonal; Axenic[2011 Sept] **Culture conditions:** CT; 25 °C ; 20-30µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Cyanobacterial water bloom (aoko) **Other strain no.:** RAP1 **Reference:** 139

Raphidiopsis sp.

- 1729** **History:** < Li, Renhui **Locality:** Shinobazu-no-ike Pond, Ueno Park/Tokyo/Japan (1998-10-**) **Isolator:** Li, Renhui **Identified by:** Li, Renhui (1998-10-**) **States:** Unialgal **Culture conditions:** MG; 20 °C ; 12-22µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko); Resting spore forming **Other strain no.:** Rap J1

RAPHIDONEMA : Trebouxiophyceae*Raphidonema nivale* Lagerheim

- 2290** **History:** < IAM (2007) < Holm-Hansen, O. **Other collection strain no.:** IAM C-166 **Locality:** Wright Dry Valley/Antarctica **Isolator:** Holm-Hansen, O. **Identified by:** Confirmed at NIES by DNA sequencing **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Habitat:** (Sand) **Gene data:** 18S rRNA (AB488604) **Other strain no.:** Holm-Hansen W-35

RHIZOCHROMULINA : Dictyochophyceae*Rhizochromulina* sp.

- 1382** **History:** < TKB **Locality:** Isonoura Beach/Wakayama/Japan (2002-09-**) **Isolator:** Okamoto, Noriko **Identified by:** Okamoto, Noriko **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** ESM (agar); 20 °C ; 40-50µmol/m²/s; 6 M **Habitat:** Marine (Seawater) **Characteristics:** Benthic **Other strain no.:** TKB-042 (nrc029)

RHIZOSOLENIA : Bacillariophyceae

Rhizosolenia sp.

- 2669** **History:** < Hagiwara, Tomiji **Locality:** Chiba/Japan (2009-02-09) **Isolator:** Hagiwara, Tomiji **Identified by:** Hagiwara, Tomiji (2009-10-06) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 15°C; 10-18µmol/m²/s; 1 M **Habitat:** Marine (Seawater)

RHODELLA : Rhodellophyceae*Rhodella* sp.

- 1036** **History:** < Hatakeyama, Noriko **Locality:** Iriomote Isl./Okinawa/Japan (1990-10-16) **Isolator:** Hatakeyama, Noriko **Identified by:** Hatakeyama-Ishida, Noriko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 15-27µmol/m²/s; 2 M **Habitat:** Brackish water (Water) **Reference:** 142 **Remarks:** Cryopreserved
- 1037** **History:** < Hatakeyama, Noriko **Locality:** Iriomote Isl./Okinawa/Japan (1990-10-16) **Isolator:** Hatakeyama, Noriko **Identified by:** Hatakeyama-Ishida, Noriko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 15-27µmol/m²/s; 2 M **Habitat:** Brackish water (Water) **Remarks:** Cryopreserved
- 1972** **History:** < Sato, Mayumi **Locality:** Ishigaki Isl., Urasoko Bay/Okinawa/Japan (2004-02-19) **Isolator:** Sato, Mayumi **Identified by:** Yokoyama, Akiko (2007-02-20) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 15-22µmol/m²/s; 2 M **Habitat:** Marine (Seawater) **Other strain no.:** M-182

RHODOMONAS : Cryptophyceae*Rhodomonas atrosea* Butcher ex Hill et Wetherbee

Syn. *Chroomonas atrosea* Butcher

- 699** **History:** < Erata, Mayumi < Hara, Yoshiaki < CCAP **Other collection strain no.:** CCAP 978/6a **Locality:** Isle of Wight/U.K. **Identified by:** Butcher, R. W. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 15°C; 20-30µmol/m²/s; 1 M **Habitat:** Marine **Characteristics:** Authentic strain **Gene data:** 18S rRNA (AB240957) **Other strain no.:** M07 **References:** 85, 142

Rhodomonas baltica Karsten

Syn. *Cryptomonas pseudobaltica* Butcher

- 700** **History:** < Erata, Mayumi < Hara, Yoshiaki < CCAP **Other collection strain no.:** CCAP 979/9 **Locality:** Channel Isls./U.K. (1961-**-**) **Identified by:** Butcher, R. W. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 15°C; 20-30µmol/m²/s; 1 M **Habitat:** Marine **Characteristics:** Authentic strain **Gene data:** 18S rRNA (AB241128) **Other strain no.:** M06 **Reference:** 85

Rhodomonas chrysoidea Butcher ex Hill et Wetherbee

Syn. *Cryptomonas chrysoidea* Butcher

- 701** **History:** < Erata, Mayumi < Hara, Yoshiaki < CCAP **Other collection strain no.:** CCAP 979/8 **Locality:** River Colne/Essex/U.K. (1953-**-**) **Identified by:** Butcher, R. W. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 15°C; 20-30µmol/m²/s; 1 M **Habitat:** Brackish water **Characteristics:** Authentic strain **Gene data:** 18S rRNA (AB240958); Nuclear actin-1 (AB126020); Nuclear actin-2 (AB126021); Nucleomorph actin (AB126026) **Other strain no.:** M03 **Reference:** 85

Rhodomonas duplex Hill et Wetherbee

- 765** **History:** < Erata, Mayumi **Locality:** Yaga/Okinawa/Japan (1986-**-**) **Isolator:** Inouye, Isao **Identified by:** Erata, Mayumi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 15°C; 20-30µmol/m²/s; 1 M **Habitat:** Marine **Gene data:** 18S rRNA (AB240960); Nuclear actin (AB126022); Nucleomorph actin (AB126027) **Other strain no.:** M14

Rhodomonas falcata Butcher ex Hill et Wetherbee

Syn. *Chroomonas falcata* Butcher

- 702** **History:** < Erata, Mayumi < Hara, Yoshiaki < CCAP **Other collection strain no.:** CCAP 978/5a

Locality: Aberystwyth/Wales/U.K. (1956-**-**) **Identified by:** Butcher, R. W. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 15°C; 20-30µmol/m²/s; 1 M **Habitat:** Marine **Characteristics:** Authentic strain **Gene data:** 18S rRNA (AB240959) **Other strain no.:** M10 **Reference:** 85

Rhodomonas salina (Wislouch) Hill et Wetherbee

1006 History: < Moriya, Mayumi **Locality:** Hirara, Shimajiri/Okinawa/Japan (2002-03-17) **Isolator:** Moriya, Mayumi **Identified by:** Moriya, Mayumi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 15°C; 20-30µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** M-40

1375 History: < TKB **Locality:** Tokyo Bay/Kanagawa/Japan (2003-09-**) **Isolator:** Kai, Atsushi **Identified by:** Kai, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2 + NH₄Cl; 20°C; 15-22µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** TKB-122 (AK-15)

Rhodomonas sp.

1005 History: < Moriya, Mayumi **Locality:** Shinjo Beach/Okinawa/Japan (2002-03-17) **Isolator:** Moriya, Mayumi **Identified by:** Moriya, Mayumi **Formerly identified as:** *Rhodomonas chrysoidea* Butcher ex Hill et Wetherbee **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 15°C; 20-30µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** M-23

1730 History: < Inouye, Isao < CCMP 768 **Other collection strain no.:** CCMP 768 **Locality:** North Island/New Zealand (1983-01-**) **Isolator:** Chang, F. **Identified by:** Hill, D. R. A. (1984-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 20°C; 15-22µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Characteristics:** Prey for *Kathablepharis* sp. (NIES-1731) **Gene data:** fbaC1mRNA (AY699824) **Reference:** 89

2332 History: < Hatakeyama, Noriko **Locality:** Shizugawa Bay/Miyagi/Japan (1991-11-**) **Isolator:** Hatakeyama, Noriko **Identified by:** Hatakeyama, Noriko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; WESM; 20°C; 15-27µmol/m²/s; 1 M **Habitat:** Marine (Sediment) **Other strain no.:** Shiz-5

ROYA : Charophyceae

Roya anglica G.S. West

2291 History: < IAM (2007) < UTEX (1996) **Other collection strain no.:** IAM C-592 (=C-332); UTEX 934 **Locality:** North Carolina/U.S.A. **Isolator:** Fox, E. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 8-15µmol/m²/s; 3 M **Characteristics:** Hydrogen evolution **Reference:** 38

RUBRATELLA : Foraminifera

Rubratella sp.

1445 History: < TKB **Locality:** Hachijo Isl./Tokyo/Japan (2002-12-13) **Isolator:** Yoshida, Masaki **Identified by:** Tsuchiya, Masashi (2006-**-**) **States:** Mixed; Clonal; Non-axenic **Culture conditions:** mIMR (*Pseudonitzschia* sp. NIES-1383 should be cultured in advance as a prey); 15°C; 10-18µmol/m²/s; 2 M **Habitat:** Marine (Sand) **Characteristics:** Heterotrophic; Benthic **Other strain no.:** TKB-100 (ym-08)

RUSALKA : Chlorophyceae

Rusalka fusiformis (Matvienko) Nakada

Syn. *Chlorogonium fusiforme* Matvienko

123 History: < IAM (1983) **Other collection strain no.:** IAM C-349 (=C-569) **Locality:** Lake Shinsen-numa/Hokkaido/Japan (1964-07-30) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu; Nozaki, Hisayoshi; Nakada, Takashi (Reidentify) **Formerly identified as:**

Chlorogonium metamorphum Skuja (in IAM) **States:** Unialgal; Clonal; Axenic **Culture conditions:** AF-6; 20°C; 4-10µmol/m²/s; 2 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater **Characteristics:** Homothallic; Authentic strain; Type specimen (NIES-50007, Epitype) **Gene data:** atpB (AB084329); psaB (AB084370); rbcL (AB010242) **Other strain no.:** MKF-14 **References:** 235, 567, 610, 711, 737, 740

SALPINGOECA : Choanoflagellata

Salpingoeca infusio Kent

1442 History: < TKB **Locality:** Tokyo Bay/Kanagawa/Japan (2003-05-**) **Isolator:** Nakayama, Takeshi **Identified by:** Nakayama, Takeshi **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** SUY 1/10 + Wheat; 15 °C ; 0µmol/m²/s; 2 M **Habitat:** Marine (Seawater) **Characteristics:** Phagotrophic **Other strain no.:** TKB-117 (nak13)

SANDONA : Sarcomonadea

Sandona aestiva Howe, Bass, Vickerman, Chao et Cavalier-Smith

2419 History: < Howe, Alexis T. **Locality:** Wytham Wood/U.K. (2006-**-**) **Isolator:** Howe, Alexis T. **Identified by:** Howe, Alexis T. (2006-**-**) **Culture conditions:** AF-6 + Wheat; 20°C ; 0µmol/m²/s; 2-3 M **Habitat:** Terrestrial (Soil) **Characteristics:** Heterotrophic; Authentic strain; Resting spore forming **Other strain no.:** WA81 **Reference:** 225

Sandona dimutans Howe, Bass, Vickerman, Chao et Cavalier-Smith

2421 History: < Howe, Alexis T. **Locality:** U.K. (2006-**-**) **Isolator:** Vickerman, Keith **Identified by:** Vickerman, Keith (2006-**-**) **Culture conditions:** AF-6 + Wheat; 20°C; 0µmol/m²/s; 2-3 M **Habitat:** Terrestrial (Plant (Piece of moss)) **Characteristics:** Heterotrophic; Authentic strain; Resting spore forming **Other strain no.:** G11 **Reference:** 225

Sandona disimilis Howe, Bass, Vickerman, Chao et Cavalier-Smith

2422 History: < Howe, Alexis T. **Locality:** Wytham Wood/U.K. (2006-**-**) **Isolator:** Howe, Alexis T. **Identified by:** Howe, Alexis T. (2006-**-**) **Culture conditions:** AF-6 + Wheat; 20°C ; 0µmol/m²/s; 2-3 M **Habitat:** Terrestrial (Soil) **Characteristics:** Heterotrophic; Authentic strain; Resting spore forming **Other strain no.:** W4 **Reference:** 225

Sandona erratica Howe, Bass, Vickerman, Chao et Cavalier-Smith

2508 History: < Howe, Alexis T. **Locality:** U.K. (2006-**-**) **Isolator:** Howe, Alexis T. **Identified by:** Howe, Alexis T. (2006-**-**) **Culture conditions:** AF-6 + Wheat; 20°C; 0µmol/m²/s; 2-3 M **Habitat:** Terrestrial (Plant (Ivy leaf)) **Characteristics:** Heterotrophic; Authentic strain; Resting spore forming **Other strain no.:** IVY16

Sandona pentamutans Howe, Bass, Vickerman, Chao et Cavalier-Smith

2423 History: < Howe, Alexis T. **Locality:** Wytham Wood/U.K. (2006-**-**) **Isolator:** Howe, Alexis T. **Identified by:** Howe, Alexis T. (2006-**-**) **Culture conditions:** AF-6 + Wheat; 20°C ; 0µmol/m²/s; 2-3 M **Habitat:** Terrestrial (Soil) **Characteristics:** Heterotrophic; Authentic strain; Resting spore forming **Other strain no.:** WA60a **Reference:** 225

Sandona similis Howe, Bass, Vickerman, Chao et Cavalier-Smith

2424 History: < Howe, Alexis T. **Locality:** Wytham Wood/U.K. (2006-**-**) **Isolator:** Howe, Alexis T. **Identified by:** Howe, Alexis T. (2006-**-**) **Culture conditions:** AF-6 + Wheat; 20°C ; 0µmol/m²/s; 2-3 M **Habitat:** Terrestrial (Soil) **Characteristics:** Heterotrophic; Authentic strain; Resting spore forming **Other strain no.:** WA57 **Reference:** 225

Sandona tetramutans Howe, Bass, Vickerman, Chao et Cavalier-Smith

2425 History: < Howe, Alexis T. **Locality:** Wytham Wood/U.K. (2006-**-**) **Isolator:** Howe, Alexis T. **Identified by:** Howe, Alexis T. (2006-**-**) **Culture conditions:** AF-6 + Wheat; 20°C ; 0µmol/m²/s; 2-3 M **Habitat:** Terrestrial (Soil) **Characteristics:** Heterotrophic; Authentic strain; Resting spore forming **Other strain no.:** WA46a **Reference:** 225

Sandona tetrasimilis Howe, Bass, Vickerman, Chao et Cavalier-Smith

2426 **History:** < Howe, Alexis T. **Locality:** Wytham Wood/U.K. (2006-**-**) **Isolator:** Howe, Alexis T. **Identified by:** Howe, Alexis T. (2006-**-**) **Culture conditions:** AF-6 + Wheat; 20 °C; 0 μmol/m²/s; 2-3 M **Habitat:** Terrestrial (Soil) **Characteristics:** Heterotrophic; Authentic strain; Resting spore forming **Other strain no.:** WA36 **Reference:** 225

Sandona ubiquita Howe, Bass, Vickerman, Chao et Cavalier-Smith

2427 **History:** < Howe, Alexis T. **Locality:** Wytham Wood/U.K. (2006-**-**) **Isolator:** Howe, Alexis T. **Identified by:** Howe, Alexis T. (2006-**-**) **Culture conditions:** AF-6 + Wheat; 20 °C; 0 μmol/m²/s; 2-3 M **Habitat:** Terrestrial (Soil) **Characteristics:** Heterotrophic; Authentic strain; Resting spore forming **Other strain no.:** W36 **Reference:** 225

2428 **History:** < Howe, Alexis T. **Locality:** Wytham Wood/U.K. (2006-**-**) **Isolator:** Howe, Alexis T. **Identified by:** Howe, Alexis T. (2006-**-**) **Culture conditions:** URO-H + Wheat; 20 °C; 0 μmol/m²/s; 2-3 M **Habitat:** Terrestrial (Soil) **Characteristics:** Heterotrophic; Resting spore forming; genetic variant a **Other strain no.:** W73 **Reference:** 225

2429 **History:** < Howe, Alexis T. **Locality:** Wytham Wood/U.K. (2006-**-**) **Isolator:** Howe, Alexis T. **Identified by:** Howe, Alexis T. (2006-**-**) **Culture conditions:** AF-6 + Wheat; 20 °C; 0 μmol/m²/s; 2-3 M **Habitat:** Terrestrial (Soil) **Characteristics:** Heterotrophic; Resting spore forming; genetic variant b **Other strain no.:** W68 **Reference:** 225

2430 **History:** < Howe, Alexis T. **Locality:** Wytham Wood/U.K. (2006-**-**) **Isolator:** Howe, Alexis T. **Identified by:** Howe, Alexis T. (2006-**-**) **Culture conditions:** AF-6 + Wheat; 20 °C; 0 μmol/m²/s; 2-3 M **Habitat:** Terrestrial (Soil) **Characteristics:** Heterotrophic; Resting spore forming; genetic variant c **Other strain no.:** B13 **Reference:** 225

SCENEDESMUS : Chlorophyceae*Scenedesmus acuminatus* (Lageraeim) Chodat var. *tetradesmoides* G.M. Smith

92 **History:** < Hiwatari, Takehiko **Locality:** Lake Kasumigaura/Ibaraki/Japan (1983-08-26) **Isolator:** Hiwatari, Takehiko **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Axenic **Culture conditions:** CT; 20 °C; 8-15 μmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Other strain no.:** K-S-1 **References:** 567, 1187 **Remarks:** Cryopreserved

Scenedesmus acutus Meyen

94 **History:** < Yuri, Akira **Locality:** Kosaka River/Akita/Japan (1983-04-19) **Isolator:** Yuri, Akira **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20 °C; 4-10 μmol/m²/s; 3 M (25 °C; 70-80 μmol/m²/s) **Habitat:** Freshwater (River water) **Other strain no.:** 2-2-3-1 **References:** 567, 1134, 1187 **Remarks:** Cryopreserved

95 **History:** < Suda, Shoichiro **Locality:** Tsukuba/Ibaraki/Japan (1983-05-20) **Isolator:** Suda, Shoichiro **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20 °C; 4-10 μmol/m²/s; 3 M (25 °C; 70-80 μmol/m²/s) **Habitat:** Freshwater (Pond water) **Other strain no.:** Aq-S-1 **References:** 207, 567, 1159 **Remarks:** Cryopreserved

120 **History:** < Suda, Shoichiro **Locality:** inside NIES/Ibaraki/Japan (1983-05-20) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20 °C; 4-10 μmol/m²/s; 3 M (25 °C; 70-80 μmol/m²/s) **Habitat:** Freshwater (Pond water) **Other strain no.:** Aq-S-2 **References:** 567, 1159 **Remarks:** Cryopreserved

2269 **History:** < IAM (2007) < Watanabe, Atsushi **Other collection strain no.:** IAM C-64 **Isolator:** Watanabe, Atsushi **Identified by:** Fukushima, Hiroshi **States:** Unialgal; Clonal; Axenic [2013 Jan] **Culture conditions:** C (agar); 20 °C; 8-15 μmol/m²/s; 3 M

2270 **History:** < IAM (2007) < Tsuzuki, Mikio (1988) < Avramova, S. T. (1982) < Semenenko, V. (?) **Other collection strain no.:** IAM C-537 **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C (agar); 20 °C; 8-15 μmol/m²/s; 3 M

Scenedesmus basiliensis Chodat

2271 **History:** < IAM (2007) < Watanabe, Atsushi **Other collection strain no.:** IAM C-65 **Isolator:** Watanabe, Atsushi **Identified by:** Fukushima, Hiroshi **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M

2272 **History:** < IAM (2007) < Watanabe, Atsushi **Other collection strain no.:** IAM C-66 **Isolator:** Watanabe, Atsushi **Identified by:** Fukushima, Hiroshi **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M

Scenedesmus bijuga (Turpin) Lagerheim

2273 **History:** < IAM (2007) **Other collection strain no.:** IAM C-347 **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **References:** 628, 864

Scenedesmus chlorelloides Chodat

2274 **History:** < IAM (2007) < Watanabe, Atsushi **Other collection strain no.:** IAM C-67 **Isolator:** Watanabe, Atsushi **Identified by:** Fukushima, Hiroshi **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **References:** 628, 864

Scenedesmus coelastroides (Bohlin) Schmidle

2275 **History:** < IAM (2007) < Watanabe, Atsushi **Other collection strain no.:** IAM C-68 **Isolator:** Watanabe, Atsushi **Identified by:** Fukushima, Hiroshi **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M

Scenedesmus costulatus Chodat

2276 **History:** < IAM (2007) < Watanabe, Atsushi **Other collection strain no.:** IAM C-69 **Isolator:** Watanabe, Atsushi **Identified by:** Fukushima, Hiroshi **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M

Scenedesmus dimorphus (Turpin) Kützing

93 **History:** < Kasai, Fumie **Locality:** Lake Kasumigaura/Ibaraki/Japan (1983-07-22) **Isolator:** Kasai, Fumie **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 4-10µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Lake water) **Other strain no.:** F-18-1 **References:** 567, 1159

119 **History:** < Hiwatari, Takehiko **Locality:** Ozegahara/Gunma/Japan (1983-08-29) **Isolator:** Suda, Shoichiro **Identified by:** Hiwatari, Takehiko **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 20°C; 8-15µmol/m²/s; 2 M **Habitat:** Freshwater (Bog water) **Other strain no.:** OZ-29 **Reference:** 567 **Remarks:** Cryopreserved

Scenedesmus obliquus (Turpin) Kützing

2279 **History:** < IAM (2007) < UTEX (1989-07-04) **Other collection strain no.:** IAM C-521 (=C-72); CCAP 276/6A; SAG 276-6; UTEX 393 **Isolator:** Gaffron, H. **States:** Unialgal; Clonal; Axenic[2012 Mar] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Other strain no.:** Gaffron D-3 **References:** 38, 628, 863, 864

2280 **History:** < IAM (2007) < Tsuzuki, Mikio (1988) < Oh-Hama, Takeshi < Senger, H. (1965) < Bishop, N. < Gaffron, H. **Other collection strain no.:** IAM C-538 **Isolator:** Gaffron, H. **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Other strain no.:** Gaffron D-3 **References:** 447, 560, 765, 766, 767, 768, 1101

SCHIZOCLADIA : Schizocladiphyceae

Schizocladia ischiensis Henry, Okuda et Kawai

1044 **History:** < Kawai, Hiroshi **Locality:** Ischia Isl./Italy (1987-10-21) **Isolator:** Henry, Eric C. **Identified by:** Kawai, Hiroshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 4-10µmol/m²/s; 3 M **Habitat:** Marine (Plant) **Characteristics:** Authentic strain **Gene data:** 18S rRNA (AB085614); rbcL (AB085615) **Other strain no.:** KU-333 **References:** 137, 380

SCHROEDERIA : Chlorophyceae

Schroederia setigera (Schröder) Lemmermann

- 246** **History:** < Kasai, Fumie **Locality:** Lake Kasumigaura/Ibaraki/Japan (1983-08-23) **Isolator:** Kasai, Fumie **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 25°C; 100-120µmol/m²/s; 20 D **Habitat:** Freshwater (Lake water) **Other strain no.:** F47-3 **Reference:** 567

SCRIPPSIELLA : Dinophyceae*Scrippsiella* sp.

- 2016** **History:** < Noël, Mary-Hélène **Locality:** Seto Inland Sea/Japan (2005-05-12) **Isolator:** Noël, Mary-Hélène **Identified by:** Noël, Mary-Hélène (2005-12-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MNK; 20°C; 10-15µmol/m²/s; 20 D **Habitat:** Marine (Sediment) **Other strain no.:** MHW26 **Remarks:** Fragile species to transportation stresses
- 2017** **History:** < Noël, Mary-Hélène **Locality:** Seto Inland Sea/Japan (2005-05-12) **Isolator:** Noël, Mary-Hélène **Identified by:** Noël, Mary-Hélène (2005-12-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MNK; 20°C; 10-15µmol/m²/s; 20 D **Habitat:** Marine (Sediment) **Other strain no.:** MHW27 **Remarks:** Fragile species to transportation stresses
- 2018** **History:** < Noël, Mary-Hélène **Locality:** Seto Inland Sea/Japan (2005-05-12) **Isolator:** Noël, Mary-Hélène **Identified by:** Noël, Mary-Hélène (2005-12-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MNK; 20°C; 10-15µmol/m²/s; 20 D **Habitat:** Marine (Sediment) **Other strain no.:** MHW29 **Remarks:** Fragile species to transportation stresses
- 2019** **History:** < Noël, Mary-Hélène **Locality:** Seto Inland Sea/Japan (2005-05-12) **Isolator:** Noël, Mary-Hélène **Identified by:** Noël, Mary-Hélène (2005-12-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MNK; 20°C; 10-15µmol/m²/s; 20 D **Habitat:** Marine (Sediment) **Other strain no.:** MHW30 **Remarks:** Fragile species to transportation stresses
- 2020** **History:** < Noël, Mary-Hélène **Locality:** Seto Inland Sea/Japan (2005-05-12) **Isolator:** Noël, Mary-Hélène **Identified by:** Noël, Mary-Hélène (2005-12-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MNK; 20°C; 10-15µmol/m²/s; 20 D **Habitat:** Marine (Sediment) **Other strain no.:** MHW31 **Remarks:** Fragile species to transportation stresses
- 2021** **History:** < Noël, Mary-Hélène **Locality:** Kobe/Hyogo/Japan (2005-09-13) **Isolator:** Noël, Mary-Hélène **Identified by:** Noël, Mary-Hélène (2005-12-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MNK; 20°C; 10-15µmol/m²/s; 20 D **Habitat:** Marine (Sediment) **Other strain no.:** MHW35 **Remarks:** Fragile species to transportation stresses
- 2022** **History:** < Noël, Mary-Hélène **Locality:** Kobe/Hyogo/Japan (2005-09-13) **Isolator:** Noël, Mary-Hélène **Identified by:** Noël, Mary-Hélène (2006-01-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MNK; 20°C; 10-15µmol/m²/s; 20 D **Habitat:** Marine (Sediment) **Other strain no.:** MHW36 **Remarks:** Fragile species to transportation stresses

Scrippsiella sweeneyae Balech

- 684** **History:** < KAGAWA < Yoshimatsu, Sadaaki **Locality:** Bisan-Seto/Japan (1982-07-30) **Isolator:** Yoshimatsu, Sadaaki **Identified by:** Yoshimatsu, Sadaaki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20 °C ; 40-50µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Characteristics:** Red tide **Gene data:** 5.8S rRNA (AY499520) **Remarks:** Fragile species to transportation stresses

Scrippsiella trochoidea (Stein) Loeblich III

- 369** **History:** < Sawaguchi, Tomohiro **Locality:** Hachinohe Harbor/Aomori/Japan (1985-08-26) **Isolator:** Sawaguchi, Tomohiro **Identified by:** Sawaguchi, Tomohiro **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** ESM; 20°C; 40-50µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Characteristics:** Red tide; Homothallic **Gene data:** 5.8S rRNA (AY499530); CO1 (AB000135); GapDH (AB106702); GapDH (AB106703) **Other strain no.:** HHSS-1 **References:** 262, 592, 676, 1032, 1243 **Remarks:** Unstable; Fragile species to transportation stresses
- 2015** **History:** < Noël, Mary-Hélène **Locality:** Seto Inland Sea/Japan (2005-05-12) **Isolator:** Noël,

Mary-Hélène **Identified by:** Noël, Mary-Hélène (2005-12-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MNK; 20°C; 10-15µmol/m²/s; 20 D **Habitat:** Marine (Sediment) **Other strain no.:** MHW28 **Remarks:** Fragile species to transportation stresses

SCYTONEMA : Cyanophyceae

Scytonema javanicum Bornet et Flahault

1956 **History:** < TAC **Locality:** Tsukuba Botanical Garden/Ibaraki/Japan **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Non-axenic **Culture conditions:** C (agar); 20°C; 4-6µmol/m²/s; 1 M **Habitat:** Terrestrial **Other strain no.:** TAC 582

Scytonema sp.

2130 **History:** < IAM (2007) < Katoh, Hiroshi **Other collection strain no.:** IAM M-291 **Locality:** Himeji/Hyogo/Japan (2002-**-**) **Isolator:** Katoh, Hiroshi **Identified by:** Katoh, Hiroshi **States:** Unialgal; Clonal; Axenic[2012 Feb] **Culture conditions:** BG-11 (agar); 20°C; 13-18µmol/m²/s; 3 M **Habitat:** Terrestrial **Characteristics:** Drought tolerance **Other strain no.:** HK-06

SELLAPHORA : Bacillariophyceae

Sellaphora seminulum (Grunow) D.G. Mann

Syn. *Navicula seminulum* Grunow

1353 **History:** < Mayama, Shigeki **Locality:** Taizoin Temple/Kyoto/Japan (2002-09-22) **Isolator:** Mayama, Shigeki **Identified by:** Mayama, Shigeki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CSi/5; 20 °C ; 15-27µmol/m²/s; 2 M **Habitat:** Freshwater (Pool sediment) **Characteristics:** Epilithic

SKELETONEMA : Bacillariophyceae

Skeletonema marinoi-dohrnii complex

16 **History:** < Watanabe, Makoto M. **Locality:** Harima-Nada/Japan (1982-02-**) **Isolator:** Watanabe, Makoto M. **Identified by:** Watanabe, Makoto M. **Formerly identified as:** *Skeletonema costatum* (Greville) Cleve **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 10 °C ; 6-12µmol/m²/s; 1 M **Habitat:** Marine (Sediment) **Characteristics:** Red tide; DNA sequencing indicates this strain is included in *Skeletonema marinoi/dohrnii* clade **Gene data:** 18S rRNA (AB488607) **Other strain no.:** H-53-3 **References:** 408, 446, 838, 916, 1021

17 **History:** < Watanabe, Makoto M. **Locality:** Harima-Nada/Japan (1983-02-**) **Isolator:** Watanabe, Makoto M. **Identified by:** Watanabe, Makoto M. **Formerly identified as:** *Skeletonema costatum* (Greville) Cleve **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 10 °C ; 6-12µmol/m²/s; 1 M **Habitat:** Marine (Sediment) **Characteristics:** Red tide; DNA sequencing indicates this strain is included in *Skeletonema marinoi/dohrnii* clade **Gene data:** 18S rRNA (AB488608) **Other strain no.:** H-90-2 **References:** 446, 576

223 **History:** < KAGAWA **Locality:** Shodo Isl./Kagawa/Japan (1979-07-12) **Isolator:** Yuki, Katsuhisa **Formerly identified as:** *Skeletonema costatum* (Greville) Cleve **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 10°C; 6-12µmol/m²/s; 1 M **Habitat:** Marine **Characteristics:** Red tide; DNA sequencing indicates this strain is included in *Skeletonema marinoi/dohrnii* clade **Gene data:** 18S rRNA (AB488609) **Other strain no.:** KGW-26 **Reference:** 446

323 **History:** < Osaka Pref. Fish. Exp. St. **Locality:** Osaka Bay/Osaka/Japan (1985-01-21) **Isolator:** Yamochi, Susumu **Identified by:** Yamochi, Susumu **Formerly identified as:** *Skeletonema costatum* (Greville) Cleve **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** f/2; 10 °C ; 6-12µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Characteristics:** Red tide; DNA sequencing indicates this strain is included in *Skeletonema marinoi/dohrnii* clade **Gene data:** 18S rRNA (AB488610); chloroplast genome (AJ132263); chloroplast genome (AJ132264); chloroplast genome (AJ132265); chloroplast genome (AJ132266); ycf24 (AJ132267) **Other strain no.:** Sk-85w **References:** 115, 137, 289, 434, 446, 802, 1012

- 324** **History:** < Osaka Pref. Fish. Exp. St. **Locality:** Osaka Bay/Hyogo/Japan (1985-07-02) **Isolator:** Yamochi, Susumu **Identified by:** Yamochi, Susumu **Formerly identified as:** *Skeletonema costatum* (Greville) Cleve **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** f/2; 10°C; 6-12µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Characteristics:** Red tide; DNA sequencing indicates this strain is included in *Skeletonema marinoi/dohrnii* clade **Gene data:** 18S rRNA (AB488611) **Other strain no.:** Sk-85su **References:** 115, 446, 604, 803, 812

SPHAEROZOSMA : Charophyceae

Sphaeroszoma sp.

- 2306** **History:** < Suda, Shoichiro **Locality:** Lake Ozenuma/Fukushima/Japan (1983-08-30) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CA; 20°C; 8-15µmol/m²/s; 3 M (25°C; 60-70µmol/m²/s) **Habitat:** Freshwater (Lake water) **Other strain no.:** OZ-N-1-12

SPINOCLOSTERIUM : Charophyceae

Spinoclosterium cuspidatum (Bailey ex Ralfs) Hirano

- 325** **History:** < Ichimura, Terunobu **Locality:** Higashihiroshima/Hiroshima/Japan (1983-10-19) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** SW; 20°C; 8-15µmol/m²/s; 4 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Pond water) **Characteristics:** Homothallic **Other strain no.:** 83-24-19 **Reference:** 238

SPIRULINA : Cyanophyceae

Spirulina subsalsa Oersted ex Gomont

- 27** **History:** < IAM (1983) **Other collection strain no.:** IAM M-183 (=M-223) **States:** Unialgal; Clonal; Axenic **Culture conditions:** MA; 25°C; 20-30µmol/m²/s; 1 M **Gene data:** 16S rRNA (AB003166) **References:** 214, 235, 280, 281, 282, 477, 567, 1187
- 527** **History:** < IAM (1983) **Other collection strain no.:** IAM M-182 **Locality:** Hokkaido/Japan (1976-04-**) **Isolator:** Watanabe, Makoto M.; Ichimura, Terunobu **Identified by:** Watanabe, Makoto M. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 25°C; 20-30µmol/m²/s; 1 M **Habitat:** Marine **References:** 235, 567
- 598** **History:** < Hagiwara, Tomiji **Locality:** Chiyoda-ku/Tokyo/Japan (1989-10-02) **Isolator:** Hagiwara, Tomiji **Identified by:** Hagiwara, Tomiji **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** CB; CSi; 20°C; 8-15µmol/m²/s; 2 M (25°C; 60-70µmol/m²/s) **Habitat:** Freshwater (Pond water) **Other strain no.:** KO-39 **References:** 139, 567

SPUMELLA : Chrysophyceae

Spumella sp.

- 1846** **History:** < TKB **Locality:** Tsukuba, Namiki/Ibaraki/Japan (2002-09-11) **Isolator:** Yubuki, Naoji **Identified by:** Yubuki, Naoji **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** URO + Wheat; 15°C; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Phagotrophic **Other strain no.:** TKB-010 (NY0108) **Reference:** 1271

STAURASTRUM : Charophyceae

Staurastrum dorsidentiferum W. et G.S. West

- 665** **History:** < Ishida, Yuzaburo **Locality:** Lake Biwa/Shiga/Japan (1986-09-**) **Isolator:** Ohara, S. **Identified by:** Nakanishi, Masami **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 25°C; 100-120µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Other strain no.:** NB **References:** 14, 567, 760, 1203, 1204

Staurastrum inconspicuum Nordstedt

- 390** **History:** < Kasai, Fumie **Locality:** Ozegahara/Gunma/Japan (1983-08-29) **Isolator:** Kasai, Fumie **States:** Unialgal; Clonal; Axenic **Culture conditions:** CAM; 20°C; 8-15µmol/m²/s; 3 M (20°C; 15-27µmol/m²/s) **Habitat:** Freshwater (Bog water) **Other strain no.:** 34-10' **Reference:** 567

Staurastrum levanderi Grönblad

- 841** **History:** < Gontcharov, A. **Locality:** Namiki-ike Pond/Ibaraki/Japan (1998-07-24) **Isolator:** Gontcharov, A. **Identified by:** Gontcharov, A. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C; 20°C; 8-15µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Pond water) **Reference:** 127

Staurastrum paradoxum Meyen

- 528** **History:** < Watanabe, Michiko H. **Locality:** Lake Kasumigaura/Ibaraki/Japan (1982-12-**) **Isolator:** Watanabe, Michiko H. **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C; 20°C; 8-15µmol/m²/s; 2 M (20°C; 22-32µmol/m²/s) **Habitat:** Freshwater (Lake water) **Other strain no.:** Kas-K-3 **Reference:** 567

Staurastrum tsukubicum Gontcharov et M.M. Watanabe

- 842** **History:** < Gontcharov, A. **Locality:** Tsukuba/Ibaraki/Japan (1997-12-07) **Isolator:** Gontcharov, A. **Identified by:** Gontcharov, A. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C; 20°C; 8-15µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** (Freshwater) **Characteristics:** Authentic strain **Reference:** 127

STAURODESMUS : Charophyceae*Staurodesmus dejectum* (Brébisson ex Ralfs) Teiling

Syn. *Staurastrum dejectum* Brébisson ex Ralfs

- 224** **History:** < TAC **Locality:** Lake Yamanaka/Yamanashi/Japan (1981-10-26) **Isolator:** Watanabe, Masayuki **Identified by:** Watanabe, Masayuki **States:** Unialgal; Clonal; Axenic[2012 Nov] **Culture conditions:** AF-6; 20°C; 8-15µmol/m²/s; 2 M (20°C; 22-32µmol/m²/s) **Habitat:** Freshwater **Other strain no.:** TAC 53-1 (TAN-53-1) **Reference:** 567

STICHOCOCCUS : Trebouxiophyceae*Stichococcus ampulliformis* S.Handa

- 996** **History:** < Handa, Shinji **Locality:** Taishakukyo Valley/Hiroshima/Japan (1987-12-13) **Isolator:** Handa, Shinji **Identified by:** Handa, Shinji **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C (agar); 20°C; 4-10µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Terrestrial (Plant (Bark of *Cephalotaxus harringtonia*)) **Characteristics:** Epiphytic; Authentic strain **Gene data:** 18S rRNA (AB087559) **Other strain no.:** Handa-299(f) **Reference:** 146 **Remarks:** Cryopreserved

Stichococcus bacillaris Nägeli

- 529** **History:** < Kasai, Fumie **Locality:** Watarase River/Gunma/Japan (1987-08-15) **Isolator:** Kasai, Fumie **Identified by:** Kasai, Fumie; Confirmed at NIES by DNA sequencing **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** C; 15°C; 15-22µmol/m²/s; 3 M **Habitat:** Freshwater (River water) **Gene data:** 18S rRNA (AB488606) **Other strain no.:** AT2-16 **References:** 567, 1018 **Remarks:** Cryopreserved
- 530** **History:** < Kasai, Fumie **Locality:** Watarase River/Gunma/Japan (1987-08-15) **Isolator:** Kasai, Fumie **Identified by:** Kasai, Fumie; Confirmed at NIES by DNA sequencing **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** C; 15°C; 15-22µmol/m²/s; 3 M **Habitat:** Freshwater (River water) **Gene data:** 18S rRNA (AB488605) **Other strain no.:** AT5-17 **References:** 567, 1018, 1019 **Remarks:** Cryopreserved
- 2184** **History:** < IAM (2007) < Holm-Hansen, O. **Other collection strain no.:** IAM C-170 **Locality:** Marble Point/Antarctica **Isolator:** Holm-Hansen, O. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Habitat:** Freshwater **Other strain no.:**

Holm-Hansen M-13-d **Remarks:** Cryopreserved

STIGEOCLONIUM : Chlorophyceae

Stigeoclonium aestivale (Hazen) Collins

- 531** **History:** < Kasai, Fumie **Locality:** Miyata River/Ibaraki/Japan (1987-03-25) **Isolator:** Kasai, Fumie **Identified by:** Kasai, Fumie **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** C; 20°C; 8-15µmol/m²/s; 3 M **Habitat:** Freshwater (River water) **Other strain no.:** 2st-3-12 **References:** 567, 1017, 1018

Stigeoclonium fasciculare Kützing var. *fasciculare*

- 532** **History:** < Kasai, Fumie **Locality:** Lake Mashu/Hokkaido/Japan (1987-08-**) **Isolator:** Kasai, Fumie **Identified by:** Kasai, Fumie **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C; 10°C; 6-12µmol/m²/s; 3 M (10°C; 10-15µmol/m²/s) **Habitat:** Freshwater (Lake water) **Other strain no.:** M-2 **References:** 567, 1018

Stigeoclonium sp.

- 454** **History:** < Kasai, Fumie **Locality:** Shirai River/Hokkaido/Japan (1987-10-**) **Isolator:** Kasai, Fumie **Identified by:** Kasai, Fumie **Formerly identified as:** *Draparnaldia plumosa* (Vaucher) Agardh **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** C; 10°C; 6-12µmol/m²/s; 3 M (10°C; 10-15µmol/m²/s) **Habitat:** Freshwater (River water) **Other strain no.:** 2Tst-2-1 **References:** 567, 1018

STIGONEMA : Cyanophyceae

Stigonema ocellatum (Dillwyn) Thuret ex Bornet et Flahault

- 2131** **History:** < IAM (2007) < SAG **Other collection strain no.:** IAM M-252; SAG D48.90 **Locality:** Allgäu/Germany (2003-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 13-18µmol/m²/s; 3 M **Habitat:** Freshwater **Other strain no.:** A. Zehnder 232

SYMBIODINIUM : Dinophyceae

Symbiodinium sp. (Clade A)

- 2638** **History:** < Suda, Shoichiro **Locality:** Bise/Okinawa/Japan (2004-08-17) **Isolator:** Suda, Shoichiro **Identified by:** Hirose, Mamiko (2008-02-05) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** IMK; 20°C; 8-15µmol/m²/s; 3 M **Habitat:** Marine (Sand) **Characteristics:** Benthic **Gene data:** 28S-ITS (EU106366) **Other strain no.:** Bise07 **References:** 206, 1122 **Remarks:** Fragile species to transportation stresses
- 2639** **History:** < Suda, Shoichiro **Locality:** Ohdo Beach/Okinawa/Japan (2004-08-30) **Isolator:** Suda, Shoichiro **Identified by:** Hirose, Mamiko (2008-02-05) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** IMK; 20°C; 8-15µmol/m²/s; 3 M **Habitat:** Marine (Sand) **Characteristics:** Benthic **Gene data:** 28S-ITS (EU106365) **Other strain no.:** Odo06 **References:** 206, 1122 **Remarks:** Fragile species to transportation stresses
- 2640** **History:** < Suda, Shoichiro **Locality:** Oku/Okinawa/Japan (2003-08-14) **Isolator:** Suda, Shoichiro **Identified by:** Hirose, Mamiko (2008-02-05) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** IMK; 20°C; 8-15µmol/m²/s; 3 M **Habitat:** Marine (Sand) **Characteristics:** Benthic **Gene data:** 28S-ITS (EU106351) **Other strain no.:** Oku01 **References:** 206, 1122 **Remarks:** Fragile species to transportation stresses
- 2641** **History:** < Suda, Shoichiro **Locality:** Oku/Okinawa/Japan (2003-08-14) **Isolator:** Suda, Shoichiro **Identified by:** Hirose, Mamiko (2008-02-05) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** IMK; 20°C; 8-15µmol/m²/s; 3 M **Habitat:** Marine (Sand) **Characteristics:** Benthic **Gene data:** 28S-ITS (EU106353) **Other strain no.:** Oku03 **Reference:** 206 **Remarks:** Fragile species to transportation stresses
- 2642** **History:** < Suda, Shoichiro **Locality:** Oku/Okinawa/Japan (2003-08-14) **Isolator:** Suda, Shoichiro **Identified by:** Hirose, Mamiko (2008-02-05) **States:** Unialgal; Clonal; Non-axenic **Culture**

conditions: IMK; 20°C; 8-15µmol/m²/s; 3 M **Habitat:** Marine (Sand) **Characteristics:** Benthic
Gene data: 28S-ITS (EU106355) **Other strain no.:** Oku05 **References:** 206, 1122 **Remarks:**
 Fragile species to transportation stresses

- 2643** **History:** < Suda, Shoichiro **Locality:** Oku/Okinawa/Japan (2003-08-14) **Isolator:** Suda, Shoichiro
Identified by: Hirose, Mamiko (2008-02-05) **States:** Unialgal; Clonal; Non-axenic **Culture**
conditions: IMK; 20°C; 8-15µmol/m²/s; 3 M **Habitat:** Marine (Sand) **Characteristics:** Benthic
Gene data: 28S-ITS (EU106361) **Other strain no.:** Oku12 **Reference:** 206 **Remarks:** Fragile
 species to transportation stresses

SYMBIOMONAS : Bicoecea

Symbiomonas scintillans Guillou et Chrétiennot-Dinet

- 2589** **History:** < RCC (2009) **Other collection strain no.:** RCC 24; CCMP 1950 **Locality:** Equatorial
 Pacific (1994-11-26) **Isolator:** Vaulot, Daniel; Guillou, L. (Re-isolation) **Identified by:** Guillou, L.
States: Unialgal; Clonal; Non-axenic **Culture conditions:** Rice; 20°C; 15-20µmol/m²/s; 1 M
Habitat: Marine (Seawater) **Characteristics:** Heterotrophic **Other strain no.:** OLI120SDA

SYMPLOCA : Cyanophyceae

Symploca muscorum (Agardh) Gomont

- 2132** **History:** < IAM (2007) **Other collection strain no.:** IAM M-133 **States:** Unialgal; Clonal;
 Non-axenic **Culture conditions:** MDM (agar); 20°C; 13-18µmol/m²/s; 3 M

SYNECHOCOCCUS : Cyanophyceae

Synechococcus sp.

- 937** **History:** < Takamura, Noriko **Locality:** Lake Junsainuma/Hokkaido/Japan (1991-06-20) **Isolator:**
 Takamura, Noriko **Identified by:** Takamura, Noriko **States:** Unialgal **Culture conditions:** CB;
 15 °C ; 15-22µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Gene data:** cpcBA-IGS
 (AF223433) **Other strain no.:** JUS 1 **Reference:** 856 **Remarks:** Cryopreserved
- 938** **History:** < Takamura, Noriko **Locality:** Lake Harutori/Hokkaido/Japan (1991-05-15) **Isolator:**
 Takamura, Noriko **Identified by:** Takamura, Noriko **States:** Unialgal **Culture conditions:** CB;
 15°C; 15-22µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Characteristics:** Euryhaline **Gene**
data: cpcBA-IGS (AF223434) **Other strain no.:** HAR 3 **Reference:** 856 **Remarks:**
 Cryopreserved
- 939** **History:** < Takamura, Noriko **Locality:** Lake Harutori/Hokkaido/Japan (1991-05-15) **Isolator:**
 Takamura, Noriko **Identified by:** Takamura, Noriko **States:** Unialgal **Culture conditions:** CB;
 15°C; 15-22µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Characteristics:** Euryhaline **Gene**
data: cpcBA-IGS (AF223438) **Other strain no.:** HAR 10 **Reference:** 856 **Remarks:**
 Cryopreserved
- 940** **History:** < Takamura, Noriko **Locality:** Lake Harutori/Hokkaido/Japan (1991-05-29) **Isolator:**
 Takamura, Noriko **Identified by:** Takamura, Noriko **States:** Unialgal **Culture conditions:** C;
 15 °C ; 15-22µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Gene data:** cpcBA-IGS
 (AF223452) **Other strain no.:** HIM 1 **Reference:** 856 **Remarks:** Cryopreserved
- 941** **History:** < Takamura, Noriko **Locality:** Lake Teganuma/Chiba/Japan (1991-06-04) **Isolator:**
 Takamura, Noriko **Identified by:** Takamura, Noriko **States:** Unialgal **Culture conditions:** C;
 15 °C ; 15-22µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Gene data:** cpcBA-IGS
 (AF223439) **Other strain no.:** TEG 1 **Reference:** 856 **Remarks:** Cryopreserved
- 942** **History:** < Takamura, Noriko **Locality:** Lake Ushikunuma/Ibaraki/Japan (1991-06-04) **Isolator:**
 Takamura, Noriko **Identified by:** Takamura, Noriko **States:** Unialgal **Culture conditions:** C;
 15 °C ; 15-22µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Gene data:** cpcBA-IGS
 (AF223440) **Other strain no.:** USK 1 **Reference:** 856 **Remarks:** Cryopreserved
- 943** **History:** < Takamura, Noriko **Locality:** Lake Kojima/Okayama/Japan (1991-07-09) **Isolator:**

- Takamura, Noriko **Identified by:** Takamura, Noriko **States:** Unialgal **Culture conditions:** C; 15 °C; 15-22µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Gene data:** cpcBA-IGS (AF223441) **Other strain no.:** KOJ 1 **Reference:** 856 **Remarks:** Cryopreserved
- 944** **History:** < Takamura, Noriko **Locality:** Lake Abashiri/Hokkaido/Japan (1991-05-10) **Isolator:** Takamura, Noriko **Identified by:** Takamura, Noriko **States:** Unialgal **Culture conditions:** C; 15 °C; 15-22µmol/m²/s; 2 M **Habitat:** Brackish water (Water) **Gene data:** cpcBA-IGS (AF223453) **Other strain no.:** ABS 10 **Reference:** 856 **Remarks:** Cryopreserved
- 945** **History:** < Takamura, Noriko **Locality:** Lake Biwa, North Basin/Shiga/Japan (1990-09-12) **Isolator:** Takamura, Noriko **Identified by:** Takamura, Noriko **States:** Unialgal **Culture conditions:** C; 15 °C; 15-22µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Gene data:** 16S rRNA (AF216951); cpcBA-IGS (AF223428); rpoC1 (AF245124) **Other strain no.:** B 1 **Reference:** 856 **Remarks:** Cryopreserved
- 946** **History:** < Takamura, Noriko **Locality:** Lake Kasumigaura/Ibaraki/Japan (1991-02-06) **Isolator:** Takamura, Noriko **Identified by:** Takamura, Noriko **States:** Unialgal **Culture conditions:** C; 15 °C; 15-22µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Gene data:** cpcBA-IGS (AF223443) **Other strain no.:** 2K 11 **References:** 856, 1077 **Remarks:** Cryopreserved
- 947** **History:** < Takamura, Noriko **Locality:** Lake Sagami/Kanagawa/Japan (1991-04-11) **Isolator:** Takamura, Noriko **Identified by:** Takamura, Noriko **States:** Unialgal **Culture conditions:** C; 15 °C; 15-22µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Gene data:** cpcBA-IGS (AF223444) **Other strain no.:** SA 1 **Reference:** 856 **Remarks:** Cryopreserved
- 948** **History:** < Takamura, Noriko **Locality:** Lake Abashiri/Hokkaido/Japan (1991-05-10) **Isolator:** Takamura, Noriko **Identified by:** Takamura, Noriko **States:** Unialgal **Culture conditions:** C; 15 °C; 15-22µmol/m²/s; 2 M **Habitat:** Brackish water (Water) **Gene data:** cpcBA-IGS (AF223454) **Other strain no.:** ABS 11 **Reference:** 856 **Remarks:** Cryopreserved
- 949** **History:** < Takamura, Noriko **Locality:** Lake Ushikunuma/Ibaraki/Japan (1991-06-04) **Isolator:** Takamura, Noriko **Identified by:** Takamura, Noriko **States:** Unialgal **Culture conditions:** CB; 15 °C; 15-22µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Gene data:** cpcBA-IGS (AF223455) **Other strain no.:** USK 2 **Reference:** 856 **Remarks:** Cryopreserved
- 950** **History:** < Takamura, Noriko **Locality:** Lough Neagh/Northern Ireland/U.K. (1991-03-09) **Isolator:** Takamura, Noriko **Identified by:** Takamura, Noriko **States:** Unialgal **Culture conditions:** C; 15 °C; 10-18µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Gene data:** cpcBA-IGS (AF223448) **Other strain no.:** LN 3 **Reference:** 856 **Remarks:** Cryopreserved
- 951** **History:** < Takamura, Noriko **Locality:** Lake Akan/Hokkaido/Japan (1991-05-14) **Isolator:** Takamura, Noriko **Identified by:** Takamura, Noriko **States:** Unialgal **Culture conditions:** C; 15 °C; 10-18µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Gene data:** 16S rRNA (AF216952); cpcB, cpcA (AF223429); rpoC1 (AF245125) **Other strain no.:** AKN 3 **Reference:** 856 **Remarks:** Cryopreserved
- 952** **History:** < Takamura, Noriko **Locality:** Lake Kizaki/Nagano/Japan (1991-05-15) **Isolator:** Takamura, Noriko **Identified by:** Takamura, Noriko **States:** Unialgal **Culture conditions:** CB; 15 °C; 10-18µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Gene data:** cpcBA-IGS (AF223449) **Other strain no.:** KIZ 5/3 **Reference:** 856 **Remarks:** Cryopreserved
- 953** **History:** < Takamura, Noriko **Locality:** Lake Biwa, North Basin/Shiga/Japan (1990-09-12) **Isolator:** Takamura, Noriko **Identified by:** Takamura, Noriko **States:** Unialgal **Culture conditions:** C; 15 °C; 10-18µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko) **Gene data:** 16S rRNA (AF216953); cpcBA-IGS (AF223430) **Other strain no.:** B 10 **Reference:** 856 **Remarks:** Cryopreserved
- 954** **History:** < Takamura, Noriko **Locality:** Lake Biwa, North Basin/Shiga/Japan (1990-09-12) **Isolator:** Takamura, Noriko **Identified by:** Takamura, Noriko **States:** Unialgal **Culture conditions:** C; 15 °C; 10-18µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko) **Gene data:** cpcBA-IGS (AF223456) **Other strain no.:** B 8 **Reference:** 856 **Remarks:** Cryopreserved

- 955** **History:** < Takamura, Noriko **Locality:** Lake Kizaki/Nagano/Japan (1991-04-15) **Isolator:** Takamura, Noriko **Identified by:** Takamura, Noriko **States:** Unialgal **Culture conditions:** C; 15 °C ; 10-18µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Gene data:** cpcBA-IGS (AF223445) **Other strain no.:** KIZ 5/1 **References:** 392, 393, 856 **Remarks:** Cryopreserved
- 956** **History:** < Takamura, Noriko **Locality:** Lake Nojiri/Nagano/Japan (1991-05-09) **Isolator:** Takamura, Noriko **Identified by:** Takamura, Noriko **States:** Unialgal **Culture conditions:** CT; 15 °C ; 10-18µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko) **Gene data:** cpcBA-IGS (AF223450) **Other strain no.:** NOJ 1 **Reference:** 856 **Remarks:** Cryopreserved
- 957** **History:** < Takamura, Noriko **Locality:** Lake Biwa, North Basin/Shiga/Japan (1991-06-14) **Isolator:** Takamura, Noriko **Identified by:** Takamura, Noriko **States:** Unialgal **Culture conditions:** C; 15 °C ; 10-18µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko) **Gene data:** 16S rRNA (AF216954); cpcBA-IGS (AF223431) **Other strain no.:** B 11 **Reference:** 856 **Remarks:** Cryopreserved
- 958** **History:** < Takamura, Noriko **Locality:** Lake Biwa, North Basin/Shiga/Japan (1990-09-12) **Isolator:** Takamura, Noriko **Identified by:** Takamura, Noriko **States:** Unialgal **Culture conditions:** C; 15 °C ; 10-18µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko) **Gene data:** cpcBA-IGS (AF223435) **Other strain no.:** B 4 **Reference:** 856 **Remarks:** Cryopreserved
- 959** **History:** < Takamura, Noriko **Locality:** Lake Biwa, North Basin/Shiga/Japan (1990-09-12) **Isolator:** Takamura, Noriko **Identified by:** Takamura, Noriko **States:** Unialgal **Culture conditions:** C; 15 °C ; 10-18µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Characteristics:** Cyanobacterial water bloom (aoko) **Gene data:** 16S rRNA (AF216955); cpcBA-IGS (AF223432) **Other strain no.:** B 3 **Reference:** 856 **Remarks:** Cryopreserved
- 960** **History:** < Takamura, Noriko **Locality:** Lake Tsukui/Kanagawa/Japan (1991-04-11) **Isolator:** Takamura, Noriko **Identified by:** Takamura, Noriko **States:** Unialgal **Culture conditions:** C; 15 °C ; 10-18µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Gene data:** cpcBA-IGS (AF223436) **Other strain no.:** TSU 3 **Reference:** 856 **Remarks:** Cryopreserved
- 961** **History:** < Takamura, Noriko **Locality:** Lake Kasumigaura/Ibaraki/Japan (1991-02-06) **Isolator:** Takamura, Noriko **Identified by:** Takamura, Noriko **States:** Unialgal **Culture conditions:** C; 15 °C ; 10-18µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Gene data:** cpcBA-IGS (AF223446) **Other strain no.:** 2K 12 **References:** 856, 1077 **Remarks:** Cryopreserved
- 962** **History:** < Takamura, Noriko **Locality:** Lake Ohnuma/Hokkaido/Japan (1991-06-20) **Isolator:** Takamura, Noriko **Identified by:** Takamura, Noriko **States:** Unialgal **Culture conditions:** CB; 15 °C ; 10-18µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Gene data:** cpcBA-IGS (AF223442) **Other strain no.:** ONM 3 **Reference:** 856 **Remarks:** Cryopreserved
- 963** **History:** < Takamura, Noriko **Locality:** Lake Nakatsuna/Nagano/Japan (1991-05-15) **Isolator:** Takamura, Noriko **Identified by:** Takamura, Noriko **States:** Unialgal **Culture conditions:** C; 15 °C ; 10-18µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Gene data:** cpcBA-IGS (AF223447) **Other strain no.:** NT 5 **Reference:** 856 **Remarks:** Cryopreserved
- 964** **History:** < Takamura, Noriko **Locality:** Lake Megami/Nagano/Japan (1991-05-09) **Isolator:** Takamura, Noriko **Identified by:** Takamura, Noriko **States:** Unialgal **Culture conditions:** C; 15 °C ; 10-18µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Gene data:** cpcBA-IGS (AF223437) **Other strain no.:** Me 5 **Reference:** 856 **Remarks:** Cryopreserved
- 965** **History:** < Takamura, Noriko **Locality:** Lake Misuzu/Nagano/Japan (1991-05-15) **Isolator:** Takamura, Noriko **Identified by:** Takamura, Noriko **States:** Unialgal **Culture conditions:** C; 15 °C ; 10-18µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Gene data:** cpcBA-IGS (AF223451) **Other strain no.:** MSZ 2 **Reference:** 856 **Remarks:** Cryopreserved
- 969** **History:** < Tezuka, Naoaki **Locality:** East China Sea (1998-06-01) **Isolator:** Tezuka, Naoaki **Identified by:** Tezuka, Naoaki **States:** Unialgal; Clonal; Axenic **Culture conditions:** ESM; 20 °C ; 40-50µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Gene data:** 16S rRNA (AF448060); rpoC1

- (AF448082) **Other strain no.:** 1002 **Remarks:** Cryopreserved
- 970** **History:** < Tezuka, Naoaki **Locality:** Tokunoshima Isl./Kagoshima (1998-08-28) **Isolator:** Tezuka, Naoaki **Identified by:** Tezuka, Naoaki **States:** Unialgal; Clonal; Axenic **Culture conditions:** ESM; 20°C; 40-50µmol/m²/s; 1 M **Habitat:** Marine (Tidal flat sand water) **Gene data:** 16S rRNA (AF448073) **Other strain no.:** T71 **Remarks:** Cryopreserved
- 971** **History:** < Tezuka, Naoaki **Locality:** Tokunoshima Isl./Kagoshima (1998-08-28) **Isolator:** Tezuka, Naoaki **Identified by:** Tezuka, Naoaki **States:** Unialgal; Clonal; Axenic **Culture conditions:** ESM; 20°C; 40-50µmol/m²/s; 1 M **Habitat:** Marine (Tidal flat sand water) **Characteristics:** Euryhaline **Gene data:** 16S rRNA (AF448061); rpoC1 (AF448083) **Other strain no.:** T7cc1 **Remarks:** Cryopreserved
- 972** **History:** < Tezuka, Naoaki **Locality:** Iriomote Isl./Okinawa/Japan (1998-11-05) **Isolator:** Tezuka, Naoaki **Identified by:** Tezuka, Naoaki **States:** Unialgal; Clonal; Axenic **Culture conditions:** ESM; 20°C; 40-50µmol/m²/s; 1 M **Habitat:** Marine (Tidal flat seawater) **Characteristics:** Euryhaline **Gene data:** 16S rRNA (AF448079); rpoC1 (AF448117) **Other strain no.:** IR11 **Remarks:** Cryopreserved
- 973** **History:** < Tezuka, Naoaki **Locality:** Iriomote Isl., Urauchi River/Okinawa/Japan (1998-11-05) **Isolator:** Tezuka, Naoaki **Identified by:** Tezuka, Naoaki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C + 10% Seawater; 20°C; 40-50µmol/m²/s; 1 M **Habitat:** Marine (Tidal flat sediment) **Gene data:** 16S rRNA (AF448062) **Other strain no.:** 48 **Remarks:** Cryopreserved
- 974** **History:** < Tezuka, Naoaki **Locality:** Irimomote Isl., Funaura/Okinawa/Japan (1998-11-06) **Isolator:** Tezuka, Naoaki **Identified by:** Tezuka, Naoaki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 40-50µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Gene data:** rpoC1 (AF448101) **Other strain no.:** 58E8 **Remarks:** Cryopreserved
- 975** **History:** < Tezuka, Naoaki **Locality:** Irimomote Isl., Funaura/Okinawa/Japan (1998-11-06) **Isolator:** Tezuka, Naoaki **Identified by:** Tezuka, Naoaki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 40-50µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Gene data:** rpoC1 (AF448099) **Other strain no.:** 58g6 **Remarks:** Cryopreserved
- 976** **History:** < Tezuka, Naoaki **Locality:** Irimomote Isl., Funaura/Okinawa/Japan (1998-11-06) **Isolator:** Tezuka, Naoaki **Identified by:** Tezuka, Naoaki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 40-50µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Gene data:** rpoC1 (AF448100) **Other strain no.:** 59 **Remarks:** Cryopreserved
- 977** **History:** < Tezuka, Naoaki **Locality:** Taiyo/Ibaraki/Japan (1999-01-08) **Isolator:** Tezuka, Naoaki **Identified by:** Tezuka, Naoaki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 40-50µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Gene data:** rpoC1 (AF448105) **Other strain no.:** taiyo **Remarks:** Cryopreserved
- 978** **History:** < Tezuka, Naoaki **Locality:** Iriomote Isl., Urauchi/Okinawa/Japan (1999-02-04) **Isolator:** Tezuka, Naoaki **Identified by:** Tezuka, Naoaki **States:** Unialgal; Clonal; Axenic **Culture conditions:** C + 10% Seawater; 20°C; 40-50µmol/m²/s; 1 M **Habitat:** Marine (Tidal flat sediment) **Characteristics:** Euryhaline **Gene data:** 16S rRNA (AF448063); rpoC1 (AF448084) **Other strain no.:** UBR **Remarks:** Cryopreserved
- 979** **History:** < Tezuka, Naoaki **Locality:** Iriomote Isl., Urauchi/Okinawa/Japan (1999-02-04) **Isolator:** Tezuka, Naoaki **Identified by:** Tezuka, Naoaki **States:** Unialgal; Clonal; Axenic **Culture conditions:** ESM; 20°C; 40-50µmol/m²/s; 1 M **Habitat:** Marine (Tidal flat sediment) **Gene data:** 16S rRNA (AF448074); rpoC1 (AF448109) **Other strain no.:** UH7 **Remarks:** Cryopreserved
- 980** **History:** < Tezuka, Naoaki **Locality:** Iriomote Isl., Komi/Okinawa/Japan (1999-06-30) **Isolator:** Tezuka, Naoaki **Identified by:** Tezuka, Naoaki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 40-50µmol/m²/s; 1 M **Habitat:** Marine (Tidal flat sediment) **Gene data:** rpoC1 (AF448097) **Other strain no.:** kom **Remarks:** Cryopreserved
- 981** **History:** < Tezuka, Naoaki **Locality:** Iriomote Isl., Hoshidate/Okinawa/Japan (1999-07-01) **Isolator:** Tezuka, Naoaki **Identified by:** Tezuka, Naoaki **States:** Unialgal; Clonal; Axenic **Culture conditions:** ESM; 20°C; 40-50µmol/m²/s; 1 M **Habitat:** Marine (Tidal flat sediment) **Gene data:**

- 16S rRNA (AF448064); rpoC1 (AF448085) **Other strain no.:** Hos **Remarks:** Cryopreserved
- 982** **History:** < Tezuka, Naoaki **Locality:** Iriomote Isl., Hoshidate/Okinawa/Japan (1999-07-01) **Isolator:** Tezuka, Naoaki **Identified by:** Tezuka, Naoaki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 40-50µmol/m²/s; 1 M **Habitat:** Marine (Tidal flat sediment) **Gene data:** rpoC1 (AF448113) **Other strain no.:** Hosso **Remarks:** Cryopreserved
- 983** **History:** < Tezuka, Naoaki **Locality:** Sagami Bay/Shizuoka/Japan (1999-07-11) **Isolator:** Tezuka, Naoaki **Identified by:** Tezuka, Naoaki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 40-50µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Gene data:** rpoC1 (AF448104) **Other strain no.:** St235 **Remarks:** Cryopreserved
- 984** **History:** < Tezuka, Naoaki **Locality:** Takori River/Nagasaki/Japan (1999-08-02) **Isolator:** Tezuka, Naoaki **Identified by:** Tezuka, Naoaki **States:** Unialgal; Clonal; Axenic **Culture conditions:** C + 10% Seawater; 20°C; 40-50µmol/m²/s; 1 M **Habitat:** Marine (Tidal flat sediment) **Gene data:** 16S rRNA (AF448066); rpoC1 (AF448087) **Other strain no.:** TAG **Remarks:** Cryopreserved
- 985** **History:** < Tezuka, Naoaki **Locality:** Miyake Isl./Tokyo/Japan (1999-11-29) **Isolator:** Tezuka, Naoaki **Identified by:** Tezuka, Naoaki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 40-50µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Gene data:** rpoC1 (AF448102) **Other strain no.:** miyaR **Remarks:** Cryopreserved
- 986** **History:** < Tezuka, Naoaki **Locality:** Iriomote Isl., Ohara/Okinawa/Japan (1998-11-06) **Isolator:** Tezuka, Naoaki **Identified by:** Tezuka, Naoaki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 40-50µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** 74 **Remarks:** Cryopreserved
- 987** **History:** < Tezuka, Naoaki **Locality:** Futtsu/Chiba/Japan (1999-06-15) **Isolator:** Tezuka, Naoaki **Identified by:** Tezuka, Naoaki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 40-50µmol/m²/s; 1 M **Habitat:** Marine (Tidal flat sediment) **Other strain no.:** FUT **Remarks:** Cryopreserved
- 988** **History:** < Tezuka, Naoaki **Locality:** Miyake Isl./Tokyo/Japan (1999-11-25) **Isolator:** Tezuka, Naoaki **Identified by:** Tezuka, Naoaki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 40-50µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** miyaY **Remarks:** Cryopreserved
- 1341** **History:** < Crosbie, Nicholas D. **Locality:** Lake Mondsee/Austria (2001-**-**) **Isolator:** Crosbie, Nicholas, D. **Identified by:** Crosbie, Nicholas D. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 15°C; 10-18µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Gene data:** 16S rRNA (AY151248); cpcBA-IGS (AY151212) **Other strain no.:** MW10#1 **References:** 59, 60 **Remarks:** Cryopreserved
- 1342** **History:** < Crosbie, Nicholas D. **Locality:** Lake Mondsee/Austria (2001-**-**) **Isolator:** Crosbie, Nicholas, D. **Identified by:** Crosbie, Nicholas D. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 15°C; 10-18µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Gene data:** 16S rRNA (AY151232); cpcBA-IGS (AY151215) **Other strain no.:** MW15#2 **References:** 59, 60 **Remarks:** Cryopreserved
- 1343** **History:** < Crosbie, Nicholas D. **Locality:** Lake Hallstättersee/Austria (2001-**-**) **Isolator:** Crosbie, Nicholas, D. **Identified by:** Crosbie, Nicholas D. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 15°C; 10-18µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Gene data:** 16S rRNA (AY151240) **Other strain no.:** MW72C6 **References:** 59, 60 **Remarks:** Cryopreserved
- 1344** **History:** < Crosbie, Nicholas D. **Locality:** Lake Hallstättersee/Austria (2001-**-**) **Isolator:** Crosbie, Nicholas, D. **Identified by:** Crosbie, Nicholas D. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 15°C; 10-18µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Gene data:** 16S rRNA (AY151250) **Other strain no.:** MW73B4 **References:** 59, 60 **Remarks:** Cryopreserved
- 1345** **History:** < Crosbie, Nicholas D. **Locality:** Lake Hallstättersee/Austria (2001-**-**) **Isolator:** Crosbie, Nicholas, D. **Identified by:** Crosbie, Nicholas D. **States:** Unialgal; Clonal; Non-axenic

- Culture conditions:** CB; 15°C; 10-18µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Gene data:** 16S rRNA (AY151245) **Other strain no.:** MW76B2 **References:** 59, 60 **Remarks:** Cryopreserved
- 1346** **History:** < Crosbie, Nicholas D. **Locality:** Lake Hallstättersee/Austria (2001-**-**) **Isolator:** Crosbie, Nicholas, D. **Identified by:** Crosbie, Nicholas D. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 15°C; 10-18µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Gene data:** 16S rRNA (AY151246); cpcBA-IGS (AY151217) **Other strain no.:** MW77D1 **References:** 59, 60 **Remarks:** Cryopreserved
- 1347** **History:** < Crosbie, Nicholas D. **Locality:** Lake Mondsee/Austria (2001-**-**) **Isolator:** Crosbie, Nicholas, D. **Identified by:** Crosbie, Nicholas D. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CB; 15°C; 10-18µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Gene data:** 16S rRNA (AY224199); cpcBA-IGS (AY224205) **Other strain no.:** MH301 **References:** 59, 60 **Remarks:** Cryopreserved
- 1348** **History:** < Crosbie, Nicholas D. **Locality:** Lake Mondsee/Austria (2001-**-**) **Isolator:** Crosbie, Nicholas, D. **Identified by:** Crosbie, Nicholas D. **States:** Unialgal; Clonal; Axenic **Culture conditions:** CB; 15°C; 10-18µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Gene data:** 16S rRNA (AY224198); cpcBA-IGS (AY224206) **Other strain no.:** MH305 **References:** 59, 60 **Remarks:** Cryopreserved

SYNURA : Chrysophyceae

Synura petersenii Korshikov

- 233** **History:** < Suda, Shoichiro **Locality:** Higashiyata River/Ibaraki/Japan (1983-07-02) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 20°C; 15-22µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Gene data:** psbC (GU325377) **Other strain no.:** USI-10 **Reference:** 973
- 1007** **History:** < Moriya, Mayumi **Locality:** Bibi River/Hokkaido/Japan (1999-11-**) **Isolator:** Moriya, Mayumi **Identified by:** Moriya, Mayumi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 15°C; 15-22µmol/m²/s; 2 M **Habitat:** Freshwater (River water) **Other strain no.:** #73 **Reference:** 36

Synura sphagnicola (Korshikov) Korshikov

- 695** **History:** < Nozaki, Hisayoshi **Locality:** Miyatoko Mire/Fukushima/Japan (1992-04-27) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 15-22µmol/m²/s; 1 M **Habitat:** Freshwater (Stream water) **Other strain no.:** 92-520-S-6
- 696** **History:** < Nozaki, Hisayoshi **Locality:** Miyatoko Mire/Fukushima/Japan (1992-10-01) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 15-22µmol/m²/s; 1 M **Habitat:** Freshwater (Stream water) **Other strain no.:** 92-1001-S-2 **Reference:** 565

Synura spinosa Korshikov

- 234** **History:** < Suda, Shoichiro **Locality:** Tsuchiura/Ibaraki/Japan (1983-07-22) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 20°C; 15-22µmol/m²/s; 2 M **Habitat:** Freshwater (Pond water) **Other strain no.:** SIS-1 **Reference:** 973

TABELLARIA : Bacillariophyceae

Tabellaria flocculosa (Roth) Kützing

- 225** **History:** < Watanabe, Makoto M. **Locality:** Ozegahara/Fukushima/Japan (1983-08-30) **Isolator:** Watanabe, Makoto M. **Identified by:** Watanabe, Makoto M. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** CSi; 15°C; 20-30µmol/m²/s; 2 M **Habitat:** Freshwater (Bog water) **Other strain no.:** OZ-43-4 **Reference:** 838

TABRIS : Chlorophyceae

Tabris heimii (Bourrelly) Nakada
Syn. *Chlorogonium heimii* Bourrelly

- 2294** **History:** < Nakada, Takashi **Locality:** Lake Okegaya-numa/Shizuoka/Japan (2004-07-23) **Isolator:** Nakada, Takashi **Identified by:** Nakada, Takashi (2007-12-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** mAC; 20°C; 32-40µmol/m²/s; 14 D **Habitat:** Freshwater (Sediment) **Characteristics:** Mixotrophic; Authentic strain **Gene data:** 18S rRNA (AB451189); psaB (AB451216); rbcL (B451194) **Other strain no.:** IwCl-10 **Reference:** 609
- 2295** **History:** < Nakada, Takashi **Locality:** Lake Okegaya-numa/Shizuoka/Japan (2004-07-23) **Isolator:** Nakada, Takashi **Identified by:** Nakada, Takashi (2007-12-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** mAC; 20°C; 32-40µmol/m²/s; 14 D **Habitat:** Freshwater (Sediment) **Characteristics:** Mixotrophic **Other strain no.:** IwCl-12 **Reference:** 609

TETRABAENA : Chlorophyceae

Tetrabaena socialis (Dujardin) Nozaki et Ito
Syn. *Gonium sociale* (Dujardin) Warming

- 691** **History:** < Nozaki, Hisayoshi **Locality:** King George Isl./Antarctica (1990-12-**) **Isolator:** Ohtani, Shuji **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Axenic **Culture conditions:** AF-6; 10°C; 15-20µmol/m²/s; 1 M **Habitat:** Snow **Characteristics:** Cryophilic **Other strain no.:** KG-4-8th **References:** 567, 739
- 1437** **History:** < TKB **Locality:** Hyotaro-ike Pond/Ibaraki/Japan (2003-01-**) **Isolator:** Nakayama, Takeshi **Identified by:** Nakayama, Takeshi **Formerly identified as:** *Basichlamys sacculifera* (Scherffel) Skuja **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** AF-6; 15°C; 22-32µmol/m²/s; 2 M **Habitat:** Freshwater (Pond water) **Characteristics:** Benthic **Other strain no.:** TKB-051 (nak-06)

Tetrabaena socialis (Dujardin) Nozaki et Ito var. *socialis*
Syn. *Gonium sociale* (Dujardin) Warming var. *sociale*

- 571** **History:** < Nozaki, Hisayoshi **Locality:** Yokohama, Kohoku-ku/Kanagawa/Japan (1982-08-24) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-27µmol/m²/s; 1 M **Habitat:** Freshwater (Pond sediment) **Characteristics:** Homothallic; Isogamy **Gene data:** atpB (AB014014); psaA (AB044415); psaB (AB044466); psbC (AB044525); rbcL (D63443) **Other strain no.:** 21028-4 **References:** 567, 696, 714, 715, 733, 738, 739, 740

TETRACYSTIS : Chlorophyceae

Tetracystis chlorococcoides (Korshikov) S.Watanabe

- 155** **History:** < Watanabe, Shin **Locality:** Mt. Eboshidake/Nagasaki/Japan (1975-08-15) **Isolator:** Watanabe, Shin **Identified by:** Watanabe, Shin **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 4-10µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Terrestrial (Soil) **Other strain no.:** 3-EBO-1 **References:** 567, 1186

TETRAHYMENA : Oligohymenophorea

Tetrahymena pyriformis Ehrenberg

- 403** **History:** < Sudo, Ryuichi **Locality:** Lake Kasumigaura/Ibaraki/Japan (1976-08-**) **Isolator:** Sudo, Ryuichi **Identified by:** Sudo, Ryuichi **Culture conditions:** LE; URO + Wheat; 10°C; 0µmol/m²/s; 20 D (20°C) **Habitat:** Freshwater **Characteristics:** Other water bloom **Other strain no.:** Tetra-1 **Reference:** 293 **Remarks:** Fragile species to transportation stresses

TETRASELMIS : Prasinophyceae

Tetraselmis cordiformis (Carter) Stein

- 18** **History:** < Watanabe, Makoto M. **Locality:** Shimokubo Dam/Gunma/Japan (1980-04-**) **Isolator:** Watanabe, Makoto M. **Identified by:** Inouye, Isao **States:** Unialgal; Clonal; Axenic [2012 Feb] **Culture conditions:** C; 20°C; 32-40µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Other water bloom **Other strain no.:** SM-6-9 **References:** 138, 1159
- 533** **History:** < Suda, Shoichiro **Locality:** Mitsukaido/Ibaraki/Japan (1985-07-03) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 20°C; 22-32µmol/m²/s; 20 D **Habitat:** Freshwater (Pond water) **Other strain no.:** KY-20-1 **Reference:** 1014

Tetraselmis levis Butcher

- 1430** **History:** < TKB **Locality:** Ishigaki Isl./Okinawa/Japan (2003-12-**) **Isolator:** Kai, Atsushi **Identified by:** Kai, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2 + NH₄Cl; 20°C; 20-30µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** TKB-121 (AK-14)

Tetraselmis sp.

- 1429** **History:** < TKB **Locality:** Ishigaki Harbor/Okinawa/Japan (2003-12-25) **Isolator:** Okamoto, Noriko **Identified by:** Okamoto, Noriko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 20°C; 20-30µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** TKB-083 (nrc059)
- 1431** **History:** < TKB **Locality:** Amachi Beach/Okinawa/Japan (2003-12-**) **Isolator:** Okamoto, Noriko **Identified by:** Okamoto, Noriko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 20°C; 20-30µmol/m²/s; 20 D **Habitat:** Marine (Seawater) **Characteristics:** Benthic **Other strain no.:** TKB-091 (nrc067)
- 1432** **History:** < TKB **Locality:** Wakayama/Japan (2002-07-**) **Isolator:** Okamoto, Noriko **Identified by:** Okamoto, Noriko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 20-30µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** TKB-043 (nrc030-035)
- 1433** **History:** < TKB **Locality:** Isonoura Beach/Wakayama/Japan (2003-06-**) **Isolator:** Okamoto, Noriko **Identified by:** Okamoto, Noriko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 20-30µmol/m²/s; 20 D **Habitat:** Marine (Sand and seawater) **Other strain no.:** TKB-073 (nrc052*)
- 1434** **History:** < TKB **Locality:** Ishigaki Harbor/Okinawa/Japan (2003-12-**) **Isolator:** Okamoto, Noriko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 20°C; 20-30µmol/m²/s; 20 D **Habitat:** Marine (Seawater) **Other strain no.:** TKB-095 (nrc)

Tetraselmis striata Butcher

- 1019** **History:** < Moriya, Mayumi **Locality:** Nagahama/Hiroshima/Japan (2001-03-**) **Isolator:** Moriya, Mayumi **Identified by:** Moriya, Mayumi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 32-40µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** #96

Tetraselmis verrucosa (Butcher) Parke

- 1836** **History:** < TKB **Locality:** Naha/Okinawa/Japan (2005-01-22) **Isolator:** Yamaguchi, Haruyo **Identified by:** Yamaguchi, Haruyo (2006-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 20°C; 20-30µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** TKB-276

THALASSIONEMA : Bacillariophyceae

Thalassionema nitzschioides (Grunow) Hustedt

- 534** **History:** < Sawaguchi, Tomohiro **Locality:** Matoya Bay/Mie/Japan (1984-09-01) **Isolator:** Sawaguchi, Tomohiro **Identified by:** Sawaguchi, Tomohiro **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 15°C; 20-30µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** MBB-6 **Reference:** 838

THAUMATOMASTIX : Imbricacea*Thaumatomastix* sp.

- 1443** **History:** < TKB **Locality:** Hachijo Isl./Tokyo/Japan (2002-12-13) **Isolator:** Yubuki, Naoji **Identified by:** Yubuki, Naoji **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** BESM2; 15°C; 0µmol/m²/s; 20 D **Habitat:** Marine (Seawater) **Characteristics:** Heterotrophic **Other strain no.:** TKB-023 (NY0134) **Reference:** 137
- 2378** **History:** < TKB **Locality:** Tokyo Bay/Chiba/Japan (2007-02-25) **Isolator:** Yabuki, Akinori **Identified by:** Yabuki, Akinori (2007-**-**) **Culture conditions:** ESM; 20°C; 0µmol/m²/s; 14 D **Habitat:** Marine (Seawater) **Characteristics:** Phagotrophic; Benthic **Other strain no.:** TKB-345

THERMOSYNECHOCOCCUS : Cyanophyceae*Thermosynechococcus elongatus* Katoh, Itoh, Shen et IkeuchiSyn. *Synechococcus elongatus*

- 2133** **History:** < IAM (2007) **Other collection strain no.:** IAM M-273 **Locality:** Beppu Hot Spring/Oita/Japan **States:** Unialgal; Clonal; Axenic[2012 Mar] **Culture conditions:** BG-11 (agar); 55°C; 8-15µmol/m²/s; 3 M **Habitat:** Hot spring **Characteristics:** Thermophilic (opt. 57°C) **Other strain no.:** BP-1 **Remarks:** Fragile species to temperature changes

Thermosynechococcus vulcanus Katoh, Itoh, Shen et Ikeuchi nom. nud.Syn. *Synechococcus vulcanus*

- 2134** **History:** < IAM (2007) **Other collection strain no.:** IAM M-293 **Locality:** Yunomine Hot Spring/Wakayama/Japan **States:** Unialgal; Clonal; Axenic[2012 Mar] **Culture conditions:** BG-11 (agar); 55°C; 8-15µmol/m²/s; 3 M **Habitat:** Hot spring **Characteristics:** Thermophilic (opt. 57°C) **Remarks:** Fragile species to temperature changes

THORACOSPHAERA : Dinophyceae*Thoracosphaera heimii* (Lohmann) Kamptner

- 1325** **History:** < Kawachi, Masanobu **Locality:** Hachijo Isl., Yaene Harbor/Tokyo/Japan (2002-01-23) **Isolator:** Noël, Mary-Hélène **Identified by:** Noël, Mary-Hélène **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** mIMR; MNK; 20°C; 25-40µmol/m²/s; 20 D **Habitat:** Marine (Seawater) **Other strain no.:** MH 36 **Remarks:** Fragile species to transportation stresses
- 1326** **History:** < Kawachi, Masanobu **Locality:** East China Sea (2003-08-06) **Isolator:** Noël, Mary-Hélène **Identified by:** Noël, Mary-Hélène **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** mIMR; MNK; 20°C; 25-40µmol/m²/s; 20 D **Habitat:** Marine (Seawater) **Other strain no.:** MH 78 **Remarks:** Fragile species to transportation stresses

THOREA : Florideophyceae*Thorea gaudichaudii* C.Agardh

- 1473** **History:** < Higa, Atsushi **Locality:** Okinawa Isl./Okinawa/Japan (2002-03-16) **Isolator:** Higa, Atsushi **Identified by:** Kamura, Shintoku; Kumano, Shigeru (2002-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophytes differentiated from sporophytes in culture; Monoecious; CR+EN **Other strain no.:** IK1 **Reference:** 142
- 1474** **History:** < Higa, Atsushi **Locality:** Nugusuku-ga/Okinawa/Japan (2002-03-17) **Isolator:** Higa, Atsushi **Identified by:** Kamura, Shintoku; Kumano, Shigeru (2002-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophytes differentiated from sporophytes in culture; Monoecious; CR+EN **Other strain no.:** NUG-1
- 1475** **History:** < Ishimoto, Miwa **Locality:** Nugusuku-ga/Okinawa/Japan (2002-07-10) **Isolator:** Ishimoto, Miwa **Identified by:** Kawachi, Masanobu **States:** Unialgal; Clonal; Non-axenic **Culture**

- conditions:** Bold 3N; 20 °C ; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Monoecious; CR+EN **Other strain no.:** NUG-4
- 1476 History:** < Ishimoto, Miwa **Locality:** Nugusuku-ga/Okinawa/Japan (2002-07-10) **Isolator:** Ishimoto, Miwa **Identified by:** Kawachi, Masanobu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20 °C ; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Monoecious; CR+EN **Other strain no.:** NUG-5
- 1477 History:** < Ishimoto, Miwa **Locality:** Nugusuku-ga/Okinawa/Japan (2002-07-10) **Isolator:** Ishimoto, Miwa **Identified by:** Kawachi, Masanobu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20 °C ; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Monoecious; CR+EN **Other strain no.:** NUG-2
- 1478 History:** < Ishimoto, Miwa **Locality:** Nugusuku-ga/Okinawa/Japan (2002-07-10) **Isolator:** Ishimoto, Miwa **Identified by:** Kawachi, Masanobu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20 °C ; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Monoecious; CR+EN **Other strain no.:** NUG-3
- 1479 History:** < Higa, Atsushi **Locality:** Nju-ga/Okinawa/Japan (2004-02-19) **Isolator:** Higa, Atsushi **Identified by:** Kamura, Shintoku (2004-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20 °C ; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophytes differentiated from sporophytes in culture; Monoecious; CR+EN **Other strain no.:** UJU-1
- 1480 History:** < Higa, Atsushi **Locality:** Nju-ga/Okinawa/Japan (2004-02-19) **Isolator:** Higa, Atsushi **Identified by:** Kamura, Shintoku (2004-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20 °C ; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophytes differentiated from sporophytes in culture; Monoecious; CR+EN **Other strain no.:** UJU-2
- 1481 History:** < Higa, Atsushi **Locality:** Nju-ga/Okinawa/Japan (2004-02-19) **Isolator:** Higa, Atsushi **Identified by:** Kamura, Shintoku (2004-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20 °C ; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophytes differentiated from sporophytes in culture; Monoecious; CR+EN **Other strain no.:** UJU-3
- 1482 History:** < Higa, Atsushi **Locality:** Nju-ga/Okinawa/Japan (2004-02-19) **Isolator:** Higa, Atsushi **Identified by:** Kamura, Shintoku (2004-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20 °C ; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophytes differentiated from sporophytes in culture; Monoecious; CR+EN **Other strain no.:** UJU-4
- 1751 History:** < Higa, Atsushi **Locality:** Nju-ga/Okinawa/Japan (2005-03-23) **Isolator:** Higa, Atsushi **Identified by:** Kamura, Shintoku (2005-03-23) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20 °C ; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophytes differentiated from sporophytes in culture; Monoecious; CR+EN **Other strain no.:** 03nj2-1
- 1752 History:** < Higa, Atsushi **Locality:** Nju-ga/Okinawa/Japan (2005-03-23) **Isolator:** Higa, Atsushi **Identified by:** Kamura, Shintoku (2005-03-23) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20 °C ; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophytes differentiated from sporophytes in culture; Monoecious; CR+EN **Other strain no.:** 03nj221
- 1753 History:** < Higa, Atsushi **Locality:** Nju-ga/Okinawa/Japan (2005-03-23) **Isolator:** Higa, Atsushi **Identified by:** Kamura, Shintoku (2005-03-23) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20 °C ; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophytes differentiated from sporophytes in culture; Monoecious; CR+EN **Other strain no.:** 03nj6
- 1754 History:** < Higa, Atsushi **Locality:** Nju-ga/Okinawa/Japan (2005-03-23) **Isolator:** Higa, Atsushi **Identified by:** Kamura, Shintoku (2005-03-23) **States:** Unialgal; Clonal; Non-axenic **Culture**

- conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophytes differentiated from sporophytes in culture; Monoecious; CR+EN **Other strain no.:** 03nj811
- 1755** **History:** < Higa, Atsushi **Locality:** Nju-ga/Okinawa/Japan (2005-03-23) **Isolator:** Higa, Atsushi **Identified by:** Kamura, Shintoku (2005-03-23) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophytes differentiated from sporophytes in culture; Monoecious; CR+EN **Other strain no.:** 03nj91
- 1756** **History:** < Higa, Atsushi **Locality:** Nju-ga/Okinawa/Japan (2005-03-23) **Isolator:** Higa, Atsushi **Identified by:** Kamura, Shintoku (2005-03-23) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophytes differentiated from sporophytes in culture; Monoecious; CR+EN **Other strain no.:** 03nj10
- 1757** **History:** < Higa, Atsushi **Locality:** Kucha-ga/Okinawa/Japan (2005-03-23) **Isolator:** Higa, Atsushi **Identified by:** Kamura, Shintoku (2005-03-23) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophytes differentiated from sporophytes in culture; Monoecious; CR+EN **Other strain no.:** 03KC2
- 1758** **History:** < Higa, Atsushi **Locality:** Kucha-ga/Okinawa/Japan (2005-03-23) **Isolator:** Higa, Atsushi **Identified by:** Kamura, Shintoku (2005-03-23) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophytes differentiated from sporophytes in culture; Monoecious; CR+EN **Other strain no.:** 03KC3
- 1759** **History:** < Higa, Atsushi **Locality:** Kucha-ga/Okinawa/Japan (2005-03-23) **Isolator:** Higa, Atsushi **Identified by:** Kamura, Shintoku (2005-03-23) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophytes differentiated from sporophytes in culture; Monoecious; CR+EN **Other strain no.:** 03KC4
- 1760** **History:** < Higa, Atsushi **Locality:** Kucha-ga/Okinawa/Japan (2005-03-23) **Isolator:** Higa, Atsushi **Identified by:** Kamura, Shintoku (2005-03-23) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophytes differentiated from sporophytes in culture; Monoecious; CR+EN **Other strain no.:** 03KC5
- 1761** **History:** < Higa, Atsushi **Locality:** Shikinaen, Ikutoku-sen Spring/Okinawa/Japan (2005-03-23) **Isolator:** Higa, Atsushi **Identified by:** Kamura, Shintoku (2005-03-23) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophytes differentiated from sporophytes in culture; Monoecious; CR+EN **Other strain no.:** 03si3
- 1762** **History:** < Higa, Atsushi **Locality:** Shikinaen, Ikutoku-sen Spring/Okinawa/Japan (2005-03-23) **Isolator:** Higa, Atsushi **Identified by:** Kamura, Shintoku (2005-03-23) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophytes differentiated from sporophytes in culture; Monoecious; CR+EN **Other strain no.:** 03si51
- 1763** **History:** < Higa, Atsushi **Locality:** Shikinaen, Ikutoku-sen Spring/Okinawa/Japan (2005-03-23) **Isolator:** Higa, Atsushi **Identified by:** Kamura, Shintoku (2005-03-23) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophytes differentiated from sporophytes in culture; Monoecious; CR+EN **Other strain no.:** 03si11
- 1764** **History:** < Higa, Atsushi **Locality:** Shikinaen, Ikutoku-sen Spring/Okinawa/Japan (2005-03-23) **Isolator:** Higa, Atsushi **Identified by:** Kamura, Shintoku (2005-03-23) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophytes differentiated from sporophytes in culture; Monoecious;

- CR+EN **Other strain no.:** 03si12
- 1765** **History:** < Higa, Atsushi **Locality:** Shikinaen, Ikutoku-sen Spring/Okinawa/Japan (2005-03-23) **Isolator:** Higa, Atsushi **Identified by:** Kamura, Shintoku (2005-03-23) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophytes differentiated from sporophytes in culture; Monoecious; CR+EN **Other strain no.:** 03si13
- 1766** **History:** < Higa, Atsushi **Locality:** Shikinaen, Ikutoku-sen Spring/Okinawa/Japan (2005-03-23) **Isolator:** Higa, Atsushi **Identified by:** Kamura, Shintoku (2005-03-23) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophytes differentiated from sporophytes in culture; Monoecious; CR+EN **Other strain no.:** 03sii
- 1767** **History:** < Higa, Atsushi **Locality:** Ohkubo-ga/Okinawa/Japan (2005-06-29) **Isolator:** Higa, Atsushi **Identified by:** Higa, Atsushi (2005-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophytes differentiated from sporophytes in culture; Monoecious; CR+EN **Other strain no.:** OB1
- 1768** **History:** < Higa, Atsushi **Locality:** Ohkubo-ga/Okinawa/Japan (2005-06-29) **Isolator:** Higa, Atsushi **Identified by:** Higa, Atsushi (2005-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophytes differentiated from sporophytes in culture; Monoecious; CR+EN **Other strain no.:** OB2
- 1769** **History:** < Higa, Atsushi **Locality:** Ohkubo-ga/Okinawa/Japan (2005-06-29) **Isolator:** Higa, Atsushi **Identified by:** Higa, Atsushi (2005-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophytes differentiated from sporophytes in culture; Monoecious; CR+EN **Other strain no.:** OB3
- 1770** **History:** < Higa, Atsushi **Locality:** Yafu-ga/Okinawa/Japan (2005-06-29) **Isolator:** Higa, Atsushi **Identified by:** Higa, Atsushi (2005-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophytes differentiated from sporophytes in culture; Monoecious; CR+EN **Other strain no.:** YF1
- 1771** **History:** < Higa, Atsushi **Locality:** Yafu-ga/Okinawa/Japan (2005-06-29) **Isolator:** Higa, Atsushi **Identified by:** Higa, Atsushi (2005-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophytes differentiated from sporophytes in culture; Monoecious; CR+EN **Other strain no.:** YF2
- 1772** **History:** < Higa, Atsushi **Locality:** Kucha-ga/Okinawa/Japan (2005-06-29) **Isolator:** Higa, Atsushi **Identified by:** Higa, Atsushi (2005-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophytes differentiated from sporophytes in culture; Monoecious; CR+EN **Other strain no.:** 06KC1
- 2032** **History:** < Higa, Atsushi **Locality:** Nugusuku-ga/Okinawa/Japan (2006-**-**) **Isolator:** Higa, Atsushi **Identified by:** Kamura, Shintoku (2006-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophytes differentiated from sporophytes in culture; Monoecious; CR+EN **Other strain no.:** 06nu1
- 2033** **History:** < Higa, Atsushi **Locality:** Nugusuku-ga/Okinawa/Japan (2006-**-**) **Isolator:** Higa, Atsushi **Identified by:** Kamura, Shintoku (2006-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophytes differentiated from sporophytes in culture; Monoecious; CR+EN **Other strain no.:** 06nu2
- 2034** **History:** < Higa, Atsushi **Locality:** Nugusuku-ga/Okinawa/Japan (2006-**-**) **Isolator:** Higa,

- Atsushi **Identified by:** Kamura, Shintoku (2006-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophytes differentiated from sporophytes in culture; Monoecious; CR+EN **Other strain no.:** 06nu3
- 2035** **History:** < Higa, Atsushi **Locality:** Nugusuku-ga/Okinawa/Japan (2006-**-**) **Isolator:** Higa, Atsushi **Identified by:** Kamura, Shintoku (2006-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophytes differentiated from sporophytes in culture; Monoecious; CR+EN **Other strain no.:** 06nu4
- 2036** **History:** < Higa, Atsushi **Locality:** Nugusuku-ga/Okinawa/Japan (2006-**-**) **Isolator:** Higa, Atsushi **Identified by:** Kamura, Shintoku (2006-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophytes differentiated from sporophytes in culture; Monoecious; CR+EN **Other strain no.:** 06nu5
- 2037** **History:** < Higa, Atsushi **Locality:** Nugusuku-ga/Okinawa/Japan (2006-**-**) **Isolator:** Higa, Atsushi **Identified by:** Kamura, Shintoku (2006-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophytes differentiated from sporophytes in culture; Monoecious; CR+EN **Other strain no.:** 06nu6
- 2038** **History:** < Higa, Atsushi **Locality:** Nugusuku-ga/Okinawa/Japan (2006-**-**) **Isolator:** Higa, Atsushi **Identified by:** Kamura, Shintoku (2006-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophytes differentiated from sporophytes in culture; Monoecious; CR+EN **Other strain no.:** 06nu7
- 2039** **History:** < Higa, Atsushi **Locality:** Nugusuku-ga/Okinawa/Japan (2006-**-**) **Isolator:** Higa, Atsushi **Identified by:** Kamura, Shintoku (2006-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophytes differentiated from sporophytes in culture; Monoecious; CR+EN **Other strain no.:** 06nu8
- 2040** **History:** < Higa, Atsushi **Locality:** Nugusuku-ga/Okinawa/Japan (2006-**-**) **Isolator:** Higa, Atsushi **Identified by:** Kamura, Shintoku (2006-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophytes differentiated from sporophytes in culture; Monoecious; CR+EN **Other strain no.:** 06nu9
- 2041** **History:** < Higa, Atsushi **Locality:** Nugusuku-ga/Okinawa/Japan (2006-**-**) **Isolator:** Higa, Atsushi **Identified by:** Kamura, Shintoku (2006-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophytes differentiated from sporophytes in culture; Monoecious; CR+EN **Other strain no.:** 06nu10
- 2042** **History:** < Higa, Atsushi **Locality:** Nugusuku-ga/Okinawa/Japan (2006-**-**) **Isolator:** Higa, Atsushi **Identified by:** Kamura, Shintoku (2006-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophytes differentiated from sporophytes in culture; Monoecious; CR+EN **Other strain no.:** 06nu11
- Thorea hispida* (Thore) Desvaux
- 1572** **History:** < Kawachi, Masanobu **Locality:** Inawashiro, Kawakami/Fukushima/Japan (2001-10-22) **Isolator:** Iwaki, Hiroyuki **Identified by:** Suzawa, Yuzuru **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Monoecious; CR+EN **Other strain no.:** KAW-1 **Remarks:** Cryopreserved
- 1573** **History:** < Higa, Atsushi **Locality:** Sugao-numa/Ibaraki/Japan (2004-01-**) **Isolator:** Higa, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s;

- 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; CR+EN **Other strain no.:** sg1 **Remarks:** Cryopreserved
- 1574** **History:** < Ishimoto, Miwa **Locality:** Inawashiro, Kawakami/Fukushima/Japan (2002-09-25) **Isolator:** Ishimoto, Miwa **Identified by:** Suzawa, Yuzuru **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Monoecious; CR+EN **Other strain no.:** KAW-3 **Remarks:** Cryopreserved
- 1575** **History:** < Ishimoto, Miwa **Locality:** Inawashiro, Kawakami/Fukushima/Japan (2002-09-25) **Isolator:** Ishimoto, Miwa **Identified by:** Suzawa, Yuzuru **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Monoecious; CR+EN **Other strain no.:** KAW-4 **Remarks:** Cryopreserved
- 1576** **History:** < Higa, Atsushi **Locality:** Higashinire River/Ibaraki/Japan (2004-05-16) **Isolator:** Higa, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; Female; CR+EN **Other strain no.:** HN51
- 1577** **History:** < Higa, Atsushi **Locality:** Inawashiro, Kawakami/Fukushima/Japan (2004-05-10) **Isolator:** Higa, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Monoecious; CR+EN **Other strain no.:** kwu2 **Remarks:** Cryopreserved
- 1578** **History:** < Higa, Atsushi **Locality:** Inawashiro, Kawakami/Fukushima/Japan (2004-05-10) **Isolator:** Higa, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Monoecious; CR+EN **Other strain no.:** kwu3 **Remarks:** Cryopreserved
- 1579** **History:** < Higa, Atsushi **Locality:** Inawashiro, Kawakami/Fukushima/Japan (2004-05-10) **Isolator:** Higa, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Monoecious; CR+EN **Other strain no.:** kwd3 **Remarks:** Cryopreserved
- 1580** **History:** < Higa, Atsushi **Locality:** Inawashiro, Kawakami/Fukushima/Japan (2004-05-10) **Isolator:** Higa, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Monoecious; CR+EN **Other strain no.:** kwu4 **Remarks:** Cryopreserved
- 1582** **History:** < Higa, Atsushi **Locality:** Inawashiro, Kawakami/Fukushima/Japan (2004-05-10) **Isolator:** Higa, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Monoecious; CR+EN **Other strain no.:** kwd4 **Remarks:** Cryopreserved
- 1583** **History:** < Higa, Atsushi **Locality:** Inawashiro, Kawakami/Fukushima/Japan (2004-05-10) **Isolator:** Higa, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Monoecious; CR+EN **Other strain no.:** kwd7 **Remarks:** Cryopreserved
- 1584** **History:** < Higa, Atsushi **Locality:** Sugao-numa/Ibaraki/Japan (2004-05-16) **Isolator:** Higa, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; CR+EN **Other strain no.:** sg3
- 2043** **History:** < Higa, Atsushi **Locality:** Sugao-numa/Ibaraki/Japan (2006-05-17) **Isolator:** Higa, Atsushi **Identified by:** Kumano, Shigeru (2006-05-17) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; CR+EN **Other strain no.:** 06sg3
- 2044** **History:** < Higa, Atsushi **Locality:** Sugao-numa/Ibaraki/Japan (2006-05-17) **Isolator:** Higa, Atsushi **Identified by:** Kumano, Shigeru (2006-05-17) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:**

Epilithic; Gametophyte; Dioecious; CR+EN **Other strain no.:** 06sg5

Thorea okadae Yamada

- 1483** **History:** < Kawachi, Masanobu **Locality:** Naka River/Ibaraki/Japan (2000-**-**) **Isolator:** Iwaki, Hiroyuki **Identified by:** Kumano, Shigeru **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15 °C ; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; Male; VU **Other strain no.:** NAK-8
- 1484** **History:** < Kawachi, Masanobu **Locality:** Naka River/Ibaraki/Japan (2000-**-**) **Isolator:** Iwaki, Hiroyuki **Identified by:** Kumano, Shigeru **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15 °C ; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; Male; VU **Other strain no.:** NAK-13 **Remarks:** Cryopreserved
- 1485** **History:** < Kawachi, Masanobu **Locality:** Naka River/Ibaraki/Japan (2001-04-28) **Isolator:** Iwaki, Hiroyuki **Identified by:** Miyashita, Mamoru **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15 °C ; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; Female; VU **Other strain no.:** NAK-21
- 1486** **History:** < Kawachi, Masanobu **Locality:** Naka River/Ibaraki/Japan (2001-04-28) **Isolator:** Iwaki, Hiroyuki **Identified by:** Miyashita, Mamoru **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15 °C ; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; Female; VU **Other strain no.:** NAK-23 **Remarks:** Cryopreserved
- 1487** **History:** < Kawachi, Masanobu **Locality:** Naka River/Ibaraki/Japan (2000-**-**) **Isolator:** Iwaki, Hiroyuki **Identified by:** Kumano, Shigeru **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15 °C ; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; Male; VU **Other strain no.:** NAK-6 **Remarks:** Cryopreserved
- 1488** **History:** < Kawachi, Masanobu **Locality:** Naka River/Ibaraki/Japan (2000-**-**) **Isolator:** Iwaki, Hiroyuki **Identified by:** Kumano, Shigeru **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15 °C ; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; Male; VU **Other strain no.:** NAK-7 **Remarks:** Cryopreserved
- 1489** **History:** < Kawachi, Masanobu **Locality:** Naka River/Ibaraki/Japan (2001-05-11) **Isolator:** Iwaki, Hiroyuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15 °C ; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; Female; VU **Other strain no.:** NAK-31 **Remarks:** Cryopreserved
- 1490** **History:** < Kawachi, Masanobu **Locality:** Kikuchi River/Kumamoto/Japan (2001-11-**) **Isolator:** Iwaki, Hiroyuki **Identified by:** Suzawa, Yuzuru; Iwaki, Hiroyuki **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15 °C ; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; VU **Other strain no.:** KIK-1 **Remarks:** Cryopreserved
- 1491** **History:** < Ishimoto, Miwa **Locality:** Kikuchi River, Nakagawa Bridge/Kumamoto/Japan (2002-04-19) **Isolator:** Ishimoto, Miwa **Identified by:** Miyashita, Mamoru; Higa, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15 °C ; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; Female; VU **Other strain no.:** KIK-33
- 1492** **History:** < Ishimoto, Miwa **Locality:** Kikuchi River, Bunda Bridge/Kumamoto/Japan (2002-04-19) **Isolator:** Ishimoto, Miwa **Identified by:** Miyashita, Mamoru; Higa, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15 °C ; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Dioecious; Female; VU **Other strain no.:** KIK-41 **Remarks:** Cryopreserved
- 1493** **History:** < Ishimoto, Miwa **Locality:** Yahagi River/Aichi/Japan (2002-05-19) **Isolator:** Ishimoto, Miwa **Identified by:** Suzawa, Yuzuru **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15 °C ; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; Female; VU **Other strain no.:** YAH-5

- 1494** **History:** < Ishimoto, Miwa **Locality:** Yahagi River/Aichi/Japan (2002-05-19) **Isolator:** Ishimoto, Miwa **Identified by:** Suzawa, Yuzuru **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15 °C ; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; Female; VU **Other strain no.:** YAH-6 **Remarks:** Cryopreserved
- 1495** **History:** < Ishimoto, Miwa **Locality:** Kikuchi River, Nakagawa Bridge/Kumamoto/Japan (2002-04-19) **Isolator:** Ishimoto, Miwa **Identified by:** Miyashita, Mamoru; Higa, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15 °C ; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; Female; VU **Other strain no.:** KIK-25 **Remarks:** Cryopreserved
- 1496** **History:** < Ishimoto, Miwa **Locality:** Yahagi River/Aichi/Japan (2001-**-**) **Isolator:** Ishimoto, Miwa **Identified by:** Suzawa, Yuzuru **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15 °C ; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; VU **Other strain no.:** YAH-1 **Remarks:** Cryopreserved
- 1497** **History:** < Ishimoto, Miwa **Locality:** Yahagi River/Aichi/Japan (2001-**-**) **Isolator:** Ishimoto, Miwa **Identified by:** Suzawa, Yuzuru **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15 °C ; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; VU **Other strain no.:** YAH-2 **Remarks:** Cryopreserved
- 1498** **History:** < Ishimoto, Miwa **Locality:** Kikuchi River, Bunda Bridge/Kumamoto/Japan (2002-04-19) **Isolator:** Ishimoto, Miwa **Identified by:** Miyashita, Mamoru; Higa, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15 °C ; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; Female; VU **Other strain no.:** KIK-35 **Remarks:** Cryopreserved
- 1499** **History:** < Ishimoto, Miwa **Locality:** Yahagi River/Aichi/Japan (2001-**-**) **Isolator:** Ishimoto, Miwa **Identified by:** Suzawa, Yuzuru **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15 °C ; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; VU **Other strain no.:** YAH-3 **Remarks:** Cryopreserved
- 1500** **History:** < Ishimoto, Miwa **Locality:** Yahagi River/Aichi/Japan (2002-05-19) **Isolator:** Ishimoto, Miwa **Identified by:** Suzawa, Yuzuru **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15 °C ; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; Male; VU **Other strain no.:** YAH-4
- 1501** **History:** < Ishimoto, Miwa **Locality:** Kikuchi River/Kumamoto/Japan (2002-04-19) **Isolator:** Ishimoto, Miwa **Identified by:** Miyashita, Mamoru; Higa, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15 °C ; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; Female; VU **Other strain no.:** KIK-21 **Remarks:** Cryopreserved
- 1502** **History:** < Ishimoto, Miwa **Locality:** Kikuchi River, Bunda Bridge/Kumamoto/Japan (2003-04-23) **Isolator:** Ishimoto, Miwa **Identified by:** Higa, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15 °C ; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; Male; VU **Other strain no.:** KIK-48
- 1503** **History:** < Ishimoto, Miwa **Locality:** Kikuchi River, Bunda Bridge/Kumamoto/Japan (2003-04-24) **Isolator:** Ishimoto, Miwa **Identified by:** Higa, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15 °C ; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; Female; VU **Other strain no.:** KIK-53 **Remarks:** Cryopreserved
- 1504** **History:** < Ishimoto, Miwa **Locality:** Kikuchi River, Bunda Bridge/Kumamoto/Japan (2003-04-24) **Isolator:** Ishimoto, Miwa **Identified by:** Higa, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15 °C ; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; Female; VU **Other strain no.:** KIK-54 **Remarks:** Cryopreserved
- 1505** **History:** < Ishimoto, Miwa **Locality:** Kikuchi River, Bunda Bridge/Kumamoto/Japan (2003-04-24) **Isolator:** Ishimoto, Miwa **Identified by:** Higa, Atsushi **States:** Unialgal; Clonal;

- Non-axenic **Culture conditions:** Bold 3N; 15°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater
Characteristics: Epilithic; Gametophyte; Dioecious; Female; VU **Other strain no.:** KIK-57
Remarks: Cryopreserved
- 1506** **History:** < Ishimoto, Miwa **Locality:** Kikuchi River, Bunda Bridge/Kumamoto/Japan (2003-04-24) **Isolator:** Ishimoto, Miwa **Identified by:** Higa, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater
Characteristics: Epilithic; Gametophyte; Dioecious; Female; VU **Other strain no.:** KIK-58
Remarks: Cryopreserved
- 1507** **History:** < Ishimoto, Miwa **Locality:** Kikuchi River, Bunda Bridge/Kumamoto/Japan (2003-04-24) **Isolator:** Ishimoto, Miwa **Identified by:** Higa, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater
Characteristics: Epilithic; Sporophyte; Dioecious; VU **Other strain no.:** KIK-67
- 1508** **History:** < Ishimoto, Miwa **Locality:** Kikuchi River, Bunda Bridge/Kumamoto/Japan (2003-04-24) **Isolator:** Ishimoto, Miwa **Identified by:** Higa, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater
Characteristics: Epilithic; Sporophyte; Dioecious; VU **Other strain no.:** KIK-68 **Remarks:** Cryopreserved
- 1509** **History:** < Ishimoto, Miwa **Locality:** Kikuchi River, Bunda Bridge/Kumamoto/Japan (2003-04-24) **Isolator:** Ishimoto, Miwa **Identified by:** Higa, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater
Characteristics: Epilithic; Sporophyte; Dioecious; VU **Other strain no.:** KIK-69 **Remarks:** Cryopreserved
- 1510** **History:** < Ishimoto, Miwa **Locality:** Kikuchi River, Bunda Bridge/Kumamoto/Japan (2003-04-24) **Isolator:** Ishimoto, Miwa **Identified by:** Higa, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater
Characteristics: Epilithic; Sporophyte; Dioecious; VU **Other strain no.:** KIK-70 **Remarks:** Cryopreserved
- 1511** **History:** < Ishimoto, Miwa **Locality:** Kikuchi River, Bunda Bridge/Kumamoto/Japan (2003-04-24) **Isolator:** Ishimoto, Miwa **Identified by:** Higa, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater
Characteristics: Epilithic; Sporophyte; Dioecious; VU **Other strain no.:** KIK-71 **Remarks:** Cryopreserved
- 1512** **History:** < Ishimoto, Miwa **Locality:** Kikuchi River, Bunda Bridge/Kumamoto/Japan (2003-04-24) **Isolator:** Ishimoto, Miwa **Identified by:** Higa, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater
Characteristics: Epilithic; Sporophyte; Dioecious; VU **Other strain no.:** KIK-72 **Remarks:** Cryopreserved
- 1513** **History:** < Ishimoto, Miwa **Locality:** Kikuchi River, Bunda Bridge/Kumamoto/Japan (2003-04-24) **Isolator:** Ishimoto, Miwa **Identified by:** Higa, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater
Characteristics: Epilithic; Sporophyte; Dioecious; VU **Other strain no.:** KIK-73 **Remarks:** Cryopreserved
- 1514** **History:** < Ishimoto, Miwa **Locality:** Kikuchi River, Bunda Bridge/Kumamoto/Japan (2003-04-24) **Isolator:** Ishimoto, Miwa **Identified by:** Higa, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater
Characteristics: Epilithic; Sporophyte; Dioecious; VU **Other strain no.:** KIK-74 **Remarks:** Cryopreserved
- 1515** **History:** < Ishimoto, Miwa **Locality:** Kikuchi River, Bunda Bridge/Kumamoto/Japan (2003-04-24) **Isolator:** Ishimoto, Miwa **Identified by:** Higa, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater
Characteristics: Epilithic; Sporophyte; Dioecious; VU **Other strain no.:** KIK-75 **Remarks:** Cryopreserved

- 1516** **History:** < Ishimoto, Miwa **Locality:** Kikuchi River, Bunda Bridge/Kumamoto/Japan (2003-04-24) **Isolator:** Ishimoto, Miwa **Identified by:** Higa, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Sporophyte; Dioecious; VU **Other strain no.:** KIK-76 **Reference:** 142
- 1517** **History:** < Ishimoto, Miwa **Locality:** Kikuchi River, Bunda Bridge/Kumamoto/Japan (2003-04-24) **Isolator:** Ishimoto, Miwa **Identified by:** Higa, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Sporophyte; Dioecious; VU **Other strain no.:** KIK-77 **Remarks:** Cryopreserved
- 1518** **History:** < Ishimoto, Miwa **Locality:** Kikuchi River, Bunda Bridge/Kumamoto/Japan (2003-04-24) **Isolator:** Ishimoto, Miwa **Identified by:** Higa, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Sporophyte; Dioecious; VU **Other strain no.:** KIK-78 **Remarks:** Cryopreserved
- 1519** **History:** < Ishimoto, Miwa **Locality:** Kikuchi River, Bunda Bridge/Kumamoto/Japan (2003-04-24) **Isolator:** Ishimoto, Miwa **Identified by:** Higa, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Sporophyte; Dioecious; VU **Other strain no.:** KIK-79 **Remarks:** Cryopreserved
- 1520** **History:** < Ishimoto, Miwa **Locality:** Kikuchi River, Bunda Bridge/Kumamoto/Japan (2003-04-24) **Isolator:** Ishimoto, Miwa **Identified by:** Higa, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Sporophyte; Dioecious; VU **Other strain no.:** KIK-80 **Remarks:** Cryopreserved
- 1521** **History:** < Ishimoto, Miwa **Locality:** Kikuchi River, Bunda Bridge/Kumamoto/Japan (2003-04-24) **Isolator:** Ishimoto, Miwa **Identified by:** Higa, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Sporophyte; Dioecious; VU **Other strain no.:** KIK-81 **Remarks:** Cryopreserved
- 1522** **History:** < Ishimoto, Miwa **Locality:** Kikuchi River, Bunda Bridge/Kumamoto/Japan (2003-04-24) **Isolator:** Ishimoto, Miwa **Identified by:** Higa, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Sporophyte; Dioecious; VU **Other strain no.:** KIK-82 **Remarks:** Cryopreserved
- 1523** **History:** < Ishimoto, Miwa **Locality:** Kikuchi River, Bunda Bridge/Kumamoto/Japan (2003-04-24) **Isolator:** Ishimoto, Miwa **Identified by:** Higa, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Sporophyte; Dioecious; VU **Other strain no.:** KIK-83 **Remarks:** Cryopreserved
- 1524** **History:** < Ishimoto, Miwa **Locality:** Kikuchi River, Bunda Bridge/Kumamoto/Japan (2003-04-24) **Isolator:** Ishimoto, Miwa **Identified by:** Higa, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Sporophyte; Dioecious; VU **Other strain no.:** KIK-84 **Remarks:** Cryopreserved
- 1525** **History:** < Ishimoto, Miwa **Locality:** Kikuchi River, Kikuchigawa Bridge/Kumamoto/Japan (2003-04-23) **Isolator:** Ishimoto, Miwa **Identified by:** Higa, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; VU **Other strain no.:** KIK-49
- 1526** **History:** < Ishimoto, Miwa **Locality:** Kikuchi River, Takashima Bridge/Kumamoto/Japan (2003-04-23) **Isolator:** Ishimoto, Miwa **Identified by:** Higa, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; VU **Other strain no.:** KIK-50

- 1527** **History:** < Ishimoto, Miwa **Locality:** Kikuchi River, Takashima Bridge/Kumamoto/Japan (2003-04-23) **Isolator:** Ishimoto, Miwa **Identified by:** Higa, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; VU **Other strain no.:** KIK-51
- 1528** **History:** < Higa, Atsushi **Locality:** Kuma River, Meuba Bridge/Kumamoto/Japan (2004-01-24) **Isolator:** Higa, Atsushi **Identified by:** Suzawa, Yuzuru (2004-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; Male; VU **Other strain no.:** k2 **Remarks:** Cryopreserved
- 1529** **History:** < Higa, Atsushi **Locality:** Kuma River, Meuba Bridge/Kumamoto/Japan (2004-01-24) **Isolator:** Higa, Atsushi **Identified by:** Suzawa, Yuzuru (2004-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; Male; VU **Other strain no.:** k9 **Remarks:** Cryopreserved
- 1530** **History:** < Higa, Atsushi **Locality:** Kuma River, Meuba Bridge/Kumamoto/Japan (2004-01-24) **Isolator:** Higa, Atsushi **Identified by:** Suzawa, Yuzuru (2004-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; VU **Other strain no.:** k10 **Remarks:** Cryopreserved
- 1531** **History:** < Higa, Atsushi **Locality:** Kuma River, Meuba Bridge/Kumamoto/Japan (2004-01-24) **Isolator:** Higa, Atsushi **Identified by:** Suzawa, Yuzuru (2004-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; VU **Other strain no.:** k14 **Remarks:** Cryopreserved
- 1532** **History:** < Higa, Atsushi **Locality:** Kuma River, Meuba Bridge/Kumamoto/Japan (2004-01-24) **Isolator:** Higa, Atsushi **Identified by:** Suzawa, Yuzuru (2004-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; Male; VU **Other strain no.:** k22 **Remarks:** Cryopreserved
- 1533** **History:** < Ishimoto, Miwa **Locality:** Naka River/Ibaraki/Japan (2003-05-29) **Isolator:** Ishimoto, Miwa **Identified by:** Higa, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15 °C ; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; Female; VU **Other strain no.:** NAK-32 **Remarks:** Cryopreserved
- 1534** **History:** < Higa, Atsushi **Locality:** Ohyodo River, Dainomaru Bridge/Miyazaki/Japan (2004-01-22) **Isolator:** Higa, Atsushi **Identified by:** Suzawa, Yuzuru (2004-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; VU **Other strain no.:** oh8 **Remarks:** Cryopreserved
- 1535** **History:** < Higa, Atsushi **Locality:** Ohyodo River, Dainomaru Bridge/Miyazaki/Japan (2004-01-22) **Isolator:** Higa, Atsushi **Identified by:** Suzawa, Yuzuru (2004-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; Male; VU **Other strain no.:** oh13
- 1536** **History:** < Higa, Atsushi **Locality:** Sendai River, Shimomasaki Bridge/Miyazaki/Japan (2004-01-20) **Isolator:** Higa, Atsushi **Identified by:** Suzawa, Yuzuru (2004-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; VU **Other strain no.:** s2 **Remarks:** Cryopreserved
- 1537** **History:** < Higa, Atsushi **Locality:** Sendai River, Shimomasaki Bridge/Miyazaki/Japan (2004-01-20) **Isolator:** Higa, Atsushi **Identified by:** Suzawa, Yuzuru (2004-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; Male; VU **Other strain**

- no.: s6 **Remarks:** Cryopreserved
- 1538** **History:** < Higa, Atsushi **Locality:** Sendai River, Shimomasaki Bridge/Miyazaki/Japan (2004-01-20) **Isolator:** Higa, Atsushi **Identified by:** Suzawa, Yuzuru (2004-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; VU **Other strain no.:** s7 **Remarks:** Cryopreserved
- 1539** **History:** < Higa, Atsushi **Locality:** Sendai River, Shimomasaki Bridge/Miyazaki/Japan (2004-01-20) **Isolator:** Higa, Atsushi **Identified by:** Suzawa, Yuzuru (2004-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; VU **Other strain no.:** s11 **Remarks:** Cryopreserved
- 1540** **History:** < Higa, Atsushi **Locality:** Sendai River, Shimomasaki Bridge/Miyazaki/Japan (2004-01-20) **Isolator:** Higa, Atsushi **Identified by:** Suzawa, Yuzuru (2004-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; Male; VU **Other strain no.:** s12
- 1541** **History:** < Higa, Atsushi **Locality:** Sendai River, Shimomasaki Bridge/Miyazaki/Japan (2004-01-20) **Isolator:** Higa, Atsushi **Identified by:** Suzawa, Yuzuru (2004-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; VU **Other strain no.:** s13 **Remarks:** Cryopreserved
- 1542** **History:** < Higa, Atsushi **Locality:** Sendai River, Shimomasaki Bridge/Miyazaki/Japan (2004-01-20) **Isolator:** Higa, Atsushi **Identified by:** Suzawa, Yuzuru (2004-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; Male; VU **Other strain no.:** s14 **Remarks:** Cryopreserved
- 1543** **History:** < Higa, Atsushi **Locality:** Chikugo River, Chikugo Bridge/Fukuoka/Japan (2004-01-25) **Isolator:** Higa, Atsushi **Identified by:** Suzawa, Yuzuru (2004-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; Male; VU **Other strain no.:** chh2
- 1544** **History:** < Higa, Atsushi **Locality:** Chikugo River, Chikugo Bridge/Fukuoka/Japan (2004-01-25) **Isolator:** Higa, Atsushi **Identified by:** Suzawa, Yuzuru (2004-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; Male; VU **Other strain no.:** ch2 **Remarks:** Cryopreserved
- 1545** **History:** < Higa, Atsushi **Locality:** Yakata River, Ukishima Bridge/Kumamoto/Japan (2004-01-24) **Isolator:** Higa, Atsushi **Identified by:** Suzawa, Yuzuru (2004-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; VU **Other strain no.:** yg1 **Remarks:** Cryopreserved
- 1546** **History:** < Higa, Atsushi **Locality:** Yakata River, Ukishima Bridge/Kumamoto/Japan (2004-01-24) **Isolator:** Higa, Atsushi **Identified by:** Suzawa, Yuzuru (2004-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; Male; VU **Other strain no.:** yg9
- 1547** **History:** < Ishimoto, Miwa **Locality:** Yabe River/Fukuoka/Japan (2002-11-15) **Isolator:** Ishimoto, Miwa **Identified by:** Miyashita, Mamoru; Kawachi, Masanobu; Higa, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; VU **Other strain no.:** YBE-3 **Remarks:** Cryopreserved
- 1548** **History:** < Higa, Atsushi **Locality:** Yabe River, Funagoyaonsen Bridge/Fukuoka/Japan (2004-01-20) **Isolator:** Higa, Atsushi **Identified by:** Suzawa, Yuzuru (2004-**-**) **States:**

- Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; Male; VU **Other strain no.:** YB2
- 1549** **History:** < Ishimoto, Miwa **Locality:** Kikuchi River, Takashima Bridge/Kumamoto/Japan (2003-04-22) **Isolator:** Ishimoto, Miwa **Identified by:** Higa, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; Female; VU **Other strain no.:** KIK-52
- 1550** **History:** < Ishimoto, Miwa **Locality:** Kikuchi River/Kumamoto/Japan (2003-04-24) **Isolator:** Ishimoto, Miwa **Identified by:** Higa, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Dioecious; VU **Other strain no.:** KIK-59 **Remarks:** Cryopreserved
- 1551** **History:** < Ishimoto, Miwa **Locality:** Kikuchi River/Kumamoto/Japan (2003-04-24) **Isolator:** Ishimoto, Miwa **Identified by:** Higa, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Dioecious; VU **Other strain no.:** KIK-60 **Remarks:** Cryopreserved
- 1552** **History:** < Ishimoto, Miwa **Locality:** Kikuchi River/Kumamoto/Japan (2003-04-24) **Isolator:** Ishimoto, Miwa **Identified by:** Higa, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Dioecious; Female; VU **Other strain no.:** KIK-61 **Remarks:** Cryopreserved
- 1553** **History:** < Ishimoto, Miwa **Locality:** Kikuchi River, Yamaga Weir/Kumamoto/Japan (2003-04-24) **Isolator:** Ishimoto, Miwa **Identified by:** Higa, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Dioecious; VU **Other strain no.:** KIK-65
- 1554** **History:** < Higa, Atsushi **Locality:** Amori River, Wakaayu Bridge/Kagoshima/Japan (2004-01-23) **Isolator:** Higa, Atsushi **Identified by:** Suzawa, Yuzuru (2004-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; VU **Other strain no.:** AM2
- 1555** **History:** < Higa, Atsushi **Locality:** Kuma River, Meuba Bridge/Kumamoto/Japan (2004-01-24) **Isolator:** Higa, Atsushi **Identified by:** Suzawa, Yuzuru (2004-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; Male; VU **Other strain no.:** k5 **Remarks:** Cryopreserved
- 1556** **History:** < Higa, Atsushi **Locality:** Kuma River, Meuba Bridge/Kumamoto/Japan (2004-01-24) **Isolator:** Higa, Atsushi **Identified by:** Suzawa, Yuzuru (2004-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; VU **Other strain no.:** k8 **Remarks:** Cryopreserved
- 1558** **History:** < Higa, Atsushi **Locality:** Kuma River, Meuba Bridge/Kumamoto/Japan (2004-01-24) **Isolator:** Higa, Atsushi **Identified by:** Suzawa, Yuzuru (2004-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; Male; VU **Other strain no.:** k12 **Remarks:** Cryopreserved
- 1559** **History:** < Higa, Atsushi **Locality:** Kuma River, Meuba Bridge/Kumamoto/Japan (2004-01-24) **Isolator:** Higa, Atsushi **Identified by:** Suzawa, Yuzuru (2004-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; Female; VU **Other strain no.:** k18
- 1560** **History:** < Higa, Atsushi **Locality:** Kuma River, Meuba Bridge/Kumamoto/Japan (2004-01-24) **Isolator:** Higa, Atsushi **Identified by:** Suzawa, Yuzuru (2004-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; Male; VU **Other strain no.:** k20 **Remarks:** Cryopreserved

- 1561** **History:** < Higa, Atsushi **Locality:** Kuma River, Meuba Bridge/Kumamoto/Japan (2004-01-24) **Isolator:** Higa, Atsushi **Identified by:** Suzawa, Yuzuru (2004-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 15°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; Male; VU **Other strain no.:** k23 **Remarks:** Cryopreserved
- 1562** **History:** < Higa, Atsushi **Locality:** Kuma River, Meuba Bridge/Kumamoto/Japan (2004-01-24) **Isolator:** Higa, Atsushi **Identified by:** Suzawa, Yuzuru (2004-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; Male; VU **Other strain no.:** k25 **Remarks:** Cryopreserved
- 1563** **History:** < Higa, Atsushi **Locality:** Ohyodo River, Dainomaru Bridge/Miyazaki/Japan (2004-01-22) **Isolator:** Higa, Atsushi **Identified by:** Suzawa, Yuzuru (2004-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; VU **Other strain no.:** oh6 **Remarks:** Cryopreserved
- 1564** **History:** < Higa, Atsushi **Locality:** Ohyodo River, Dainomaru Bridge/Miyazaki/Japan (2004-01-22) **Isolator:** Higa, Atsushi **Identified by:** Suzawa, Yuzuru (2004-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; VU **Other strain no.:** oh7 **Remarks:** Cryopreserved
- 1565** **History:** < Higa, Atsushi **Locality:** Ohyodo River, Dainomaru Bridge/Miyazaki/Japan (2004-01-22) **Isolator:** Higa, Atsushi **Identified by:** Suzawa, Yuzuru (2004-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; Male; VU **Other strain no.:** oh23 **Remarks:** Cryopreserved
- 1566** **History:** < Higa, Atsushi **Locality:** Sendai River, Shimomasaki Bridge/Miyazaki/Japan (2004-01-20) **Isolator:** Higa, Atsushi **Identified by:** Suzawa, Yuzuru (2004-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; Male; VU **Other strain no.:** s5 **Remarks:** Cryopreserved
- 1568** **History:** < Higa, Atsushi **Locality:** Chikugo River, Chikugo Bridge/Fukuoka/Japan (2004-01-25) **Isolator:** Higa, Atsushi **Identified by:** Suzawa, Yuzuru (2004-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; Male; VU **Other strain no.:** ch13 **Remarks:** Cryopreserved
- 1569** **History:** < Higa, Atsushi **Locality:** Chikugo River, Chikugo Bridge/Fukuoka/Japan (2004-01-25) **Isolator:** Higa, Atsushi **Identified by:** Suzawa, Yuzuru (2004-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; Male; VU **Other strain no.:** ch15
- 1570** **History:** < Higa, Atsushi **Locality:** Chikugo River, Chikugo Bridge/Fukuoka/Japan (2004-01-25) **Isolator:** Higa, Atsushi **Identified by:** Suzawa, Yuzuru (2004-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; Male; VU **Other strain no.:** ch21 **Remarks:** Cryopreserved
- 1571** **History:** < Higa, Atsushi **Locality:** Yakata River, Ukishima Bridge/Kumamoto/Japan (2004-01-24) **Isolator:** Higa, Atsushi **Identified by:** Suzawa, Yuzuru (2004-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; Male; VU **Other strain no.:** yg4 **Remarks:** Cryopreserved
- 1773** **History:** < Higa, Atsushi **Locality:** Amori River, Wakaayu Bridge/Kagoshima/Japan (2004-01-23) **Isolator:** Higa, Atsushi **Identified by:** Suzawa, Yuzuru (2004-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater

- 1799** **History:** < Higa, Atsushi **Locality:** Naka River/Ibaraki/Japan (2003-05-**) **Isolator:** Higa, Atsushi **Identified by:** Kumano, Shigeru (2003-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Sporophyte; Dioecious; VU **Other strain no.:** IB26 **Remarks:** Cryopreserved
- 1800** **History:** < Higa, Atsushi **Locality:** Naka River/Ibaraki/Japan (2003-05-**) **Isolator:** Higa, Atsushi **Identified by:** Kumano, Shigeru (2003-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Sporophyte; Dioecious; VU **Other strain no.:** IB27 **Remarks:** Cryopreserved
- 1801** **History:** < Higa, Atsushi **Locality:** Naka River/Ibaraki/Japan (2003-05-**) **Isolator:** Higa, Atsushi **Identified by:** Kumano, Shigeru (2003-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Sporophyte; Dioecious; VU **Other strain no.:** IB28 **Remarks:** Cryopreserved
- 1802** **History:** < Higa, Atsushi **Locality:** Naka River/Ibaraki/Japan (2003-05-**) **Isolator:** Higa, Atsushi **Identified by:** Kumano, Shigeru (2003-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Sporophyte; Dioecious; VU **Other strain no.:** IB29 **Remarks:** Cryopreserved
- 1803** **History:** < Higa, Atsushi **Locality:** Naka River/Ibaraki/Japan (2003-05-**) **Isolator:** Higa, Atsushi **Identified by:** Kumano, Shigeru (2003-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Sporophyte; Dioecious; VU **Other strain no.:** IB30 **Remarks:** Cryopreserved
- 2045** **History:** < Higa, Atsushi **Locality:** Yasumuro River/Hyogo/Japan (2006-01-24) **Isolator:** Higa, Atsushi **Identified by:** Sugino, Nobuyoshi (2006-01-24) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; VU **Other strain no.:** ym1 **Remarks:** Cryopreserved
- 2046** **History:** < Higa, Atsushi **Locality:** Yasumuro River/Hyogo/Japan (2006-01-24) **Isolator:** Higa, Atsushi **Identified by:** Sugino, Nobuyoshi (2006-01-24) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; VU **Other strain no.:** ym2 **Remarks:** Cryopreserved
- 2047** **History:** < Higa, Atsushi **Locality:** Yasumuro River/Hyogo/Japan (2006-01-24) **Isolator:** Higa, Atsushi **Identified by:** Sugino, Nobuyoshi (2006-01-24) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; VU **Other strain no.:** ym3 **Remarks:** Cryopreserved
- 2048** **History:** < Higa, Atsushi **Locality:** Yasumuro River/Hyogo/Japan (2006-01-24) **Isolator:** Higa, Atsushi **Identified by:** Sugino, Nobuyoshi (2006-01-24) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; Male; VU **Other strain no.:** ym6 **Remarks:** Cryopreserved
- 2049** **History:** < Higa, Atsushi **Locality:** Yasumuro River/Hyogo/Japan (2006-01-24) **Isolator:** Higa, Atsushi **Identified by:** Sugino, Nobuyoshi (2006-01-24) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; VU **Other strain no.:** ym8 **Remarks:** Cryopreserved
- 2050** **History:** < Higa, Atsushi **Locality:** Yasumuro River/Hyogo/Japan (2006-01-24) **Isolator:** Higa, Atsushi **Identified by:** Sugino, Nobuyoshi (2006-01-24) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; VU **Other strain no.:** ym9 **Remarks:** Cryopreserved
- 2051** **History:** < Higa, Atsushi **Locality:** Kuma River, Meuba Bridge/Kumamoto/Japan (2006-03-30) **Isolator:** Higa, Atsushi **Identified by:** Kumano, Shigeru (2006-03-30) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; Female; VU **Other strain no.:** 06k1
- 2052** **History:** < Higa, Atsushi **Locality:** Kuma River, Meuba Bridge/Kumamoto/Japan (2006-03-30) **Isolator:** Higa, Atsushi **Identified by:** Kumano, Shigeru (2006-03-30) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater

- Characteristics:** Epilithic; Gametophyte; Dioecious; Female; VU **Other strain no.:** 06k3
Remarks: Cryopreserved
- 2053** **History:** < Higa, Atsushi **Locality:** Kuma River, Meuba Bridge/Kumamoto/Japan (2006-03-30) **Isolator:** Higa, Atsushi **Identified by:** Kumano, Shigeru (2006-03-30) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; Female; VU **Other strain no.:** 06k4
Remarks: Cryopreserved
- 2054** **History:** < Higa, Atsushi **Locality:** Kuma River, Meuba Bridge/Kumamoto/Japan (2006-03-30) **Isolator:** Higa, Atsushi **Identified by:** Kumano, Shigeru (2006-03-30) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; Female; VU **Other strain no.:** 06k6
Remarks: Cryopreserved
- 2055** **History:** < Higa, Atsushi **Locality:** Sendai River, Aratatenjin Bridge/Kagoshima/Japan (2006-03-30) **Isolator:** Higa, Atsushi **Identified by:** Kumano, Shigeru (2006-03-29) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; Female; VU **Other strain no.:** AT1 **Remarks:** Cryopreserved
- 2056** **History:** < Higa, Atsushi **Locality:** Sendai River, Aratatenjin Bridge/Kagoshima/Japan (2006-03-30) **Isolator:** Higa, Atsushi **Identified by:** Kumano, Shigeru (2006-03-29) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; Female; VU **Other strain no.:** AT2
- 2057** **History:** < Higa, Atsushi **Locality:** Sendai River, Aratatenjin Bridge/Kagoshima/Japan (2006-03-30) **Isolator:** Higa, Atsushi **Identified by:** Kumano, Shigeru (2006-03-29) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Sporophyte; Dioecious; VU **Other strain no.:** ATC2-1 **Remarks:** Cryopreserved
- 2058** **History:** < Higa, Atsushi **Locality:** Sendai River, Aratatenjin Bridge/Kagoshima/Japan (2006-03-30) **Isolator:** Higa, Atsushi **Identified by:** Kumano, Shigeru (2006-03-29) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Sporophyte; Dioecious; VU **Other strain no.:** ATC2-2 **Remarks:** Cryopreserved
- 2059** **History:** < Higa, Atsushi **Locality:** Sendai River, Aratatenjin Bridge/Kagoshima/Japan (2006-03-30) **Isolator:** Higa, Atsushi **Identified by:** Kumano, Shigeru (2006-03-29) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; Female; VU **Other strain no.:** AT3 **Remarks:** Cryopreserved
- 2060** **History:** < Higa, Atsushi **Locality:** Sendai River, Aratatenjin Bridge/Kagoshima/Japan (2006-03-30) **Isolator:** Higa, Atsushi **Identified by:** Kumano, Shigeru (2006-03-29) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; Female; VU **Other strain no.:** AT4 **Remarks:** Cryopreserved
- 2061** **History:** < Higa, Atsushi **Locality:** Sendai River, Aratatenjin Bridge/Kagoshima/Japan (2006-03-30) **Isolator:** Higa, Atsushi **Identified by:** Kumano, Shigeru (2006-03-29) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Gametophyte; Dioecious; Female; VU **Other strain no.:** AT5 **Remarks:** Cryopreserved
- 2062** **History:** < Higa, Atsushi **Locality:** Yasumuro River/Hyogo/Japan (2006-05-25) **Isolator:** Higa, Atsushi **Identified by:** Sugino, Nobuyoshi (2006-05-25) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:** Epilithic; Sporophyte; Dioecious; VU **Other strain no.:** 06ym1 **Remarks:** Cryopreserved
- 2063** **History:** < Higa, Atsushi **Locality:** Yasumuro River/Hyogo/Japan (2006-05-25) **Isolator:** Higa,

- Atsushi **Identified by:** Sugino, Nobuyoshi (2006-05-25) **States:** Unialgal; Clonal; Non-axenic
Culture conditions: Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:**
 Epilithic; Sporophyte; Dioecious; VU **Other strain no.:** 06ym2 **Remarks:** Cryopreserved
- 2064** **History:** < Higa, Atsushi **Locality:** Yasumuro River/Hyogo/Japan (2006-05-25) **Isolator:** Higa,
 Atsushi **Identified by:** Sugino, Nobuyoshi (2006-03-30) **States:** Unialgal; Clonal; Non-axenic
Culture conditions: Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:**
 Epilithic; Sporophyte; Dioecious; VU **Other strain no.:** 06ym3 **Remarks:** Cryopreserved
- 2065** **History:** < Higa, Atsushi **Locality:** Yasumuro River/Hyogo/Japan (2006-05-25) **Isolator:** Higa,
 Atsushi **Identified by:** Sugino, Nobuyoshi (2006-05-25) **States:** Unialgal; Clonal; Non-axenic
Culture conditions: Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:**
 Epilithic; Sporophyte; Dioecious; VU **Other strain no.:** 06ym4 **Remarks:** Cryopreserved
- 2066** **History:** < Higa, Atsushi **Locality:** Yasumuro River/Hyogo/Japan (2006-05-25) **Isolator:** Higa,
 Atsushi **Identified by:** Sugino, Nobuyoshi (2006-05-25) **States:** Unialgal; Clonal; Non-axenic
Culture conditions: Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:**
 Epilithic; Sporophyte; Dioecious; VU **Other strain no.:** 06ym5 **Remarks:** Cryopreserved
- 2067** **History:** < Higa, Atsushi **Locality:** Yasumuro River/Hyogo/Japan (2006-05-25) **Isolator:** Higa,
 Atsushi **Identified by:** Sugino, Nobuyoshi (2006-03-30) **States:** Unialgal; Clonal; Non-axenic
Culture conditions: Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:**
 Epilithic; Sporophyte; Dioecious; VU **Other strain no.:** 06ym6 **Remarks:** Cryopreserved
- 2068** **History:** < Higa, Atsushi **Locality:** Yasumuro River/Hyogo/Japan (2006-05-25) **Isolator:** Higa,
 Atsushi **Identified by:** Sugino, Nobuyoshi (2006-05-25) **States:** Unialgal; Clonal; Non-axenic
Culture conditions: Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:**
 Epilithic; Sporophyte; Dioecious; VU **Other strain no.:** 06ym7 **Remarks:** Cryopreserved
- 2069** **History:** < Higa, Atsushi **Locality:** Yasumuro River/Hyogo/Japan (2006-05-25) **Isolator:** Higa,
 Atsushi **Identified by:** Sugino, Nobuyoshi (2006-05-25) **States:** Unialgal; Clonal; Non-axenic
Culture conditions: Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:**
 Epilithic; Sporophyte; Dioecious; VU **Other strain no.:** 06ym8 **Remarks:** Cryopreserved
- 2070** **History:** < Higa, Atsushi **Locality:** Yasumuro River/Hyogo/Japan (2006-05-25) **Isolator:** Higa,
 Atsushi **Identified by:** Sugino, Nobuyoshi (2006-03-31) **States:** Unialgal; Clonal; Non-axenic
Culture conditions: Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:**
 Epilithic; Sporophyte; Dioecious; VU **Other strain no.:** 06ym9 **Remarks:** Cryopreserved
- 2071** **History:** < Higa, Atsushi **Locality:** Yasumuro River/Hyogo/Japan (2006-05-25) **Isolator:** Higa,
 Atsushi **Identified by:** Sugino, Nobuyoshi (2006-05-25) **States:** Unialgal; Clonal; Non-axenic
Culture conditions: Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:**
 Epilithic; Sporophyte; Dioecious; VU **Other strain no.:** 06ym10 **Remarks:** Cryopreserved
- 2072** **History:** < Higa, Atsushi **Locality:** Yasumuro River/Hyogo/Japan (2006-05-25) **Isolator:** Higa,
 Atsushi **Identified by:** Sugino, Nobuyoshi (2006-05-25) **States:** Unialgal; Clonal; Non-axenic
Culture conditions: Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:**
 Epilithic; Sporophyte; Dioecious; VU **Other strain no.:** 06ym11 **Remarks:** Cryopreserved
- 2073** **History:** < Higa, Atsushi **Locality:** Yasumuro River/Hyogo/Japan (2006-05-25) **Isolator:** Higa,
 Atsushi **Identified by:** Sugino, Nobuyoshi (2006-03-31) **States:** Unialgal; Clonal; Non-axenic
Culture conditions: Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:**
 Epilithic; Sporophyte; Dioecious; VU **Other strain no.:** 06ym12 **Remarks:** Cryopreserved
- 2074** **History:** < Higa, Atsushi **Locality:** Yasumuro River/Hyogo/Japan (2006-05-25) **Isolator:** Higa,
 Atsushi **Identified by:** Sugino, Nobuyoshi (2006-05-25) **States:** Unialgal; Clonal; Non-axenic
Culture conditions: Bold 3N; 20°C; 3-12µmol/m²/s; 1-2 M **Habitat:** Freshwater **Characteristics:**
 Epilithic; Gametophyte; Dioecious; Male; VU **Other strain no.:** 06ym13 **Remarks:**
 Cryopreserved

TOGULA : Dinophyceae

Togula britannica (Herdman) Jørgensen, Murray et Daugbjerg

Syn. *Amphidinium britannicum* (Herdmann) Lebour

- 405** **History:** < Sawaguchi, Tomohiro **Locality:** Hasaki/Ibaraki/Japan (1987-05-09) **Isolator:** Sawaguchi, Tomohiro **Identified by:** Sawaguchi, Tomohiro **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20 °C ; 40-50µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Characteristics:** Benthic **Other strain no.:** HASS-1 **Remarks:** Fragile species to transportation stresses

TOLYPOTHRIX : Cyanophyceae

Tolypothrix distorta Kützing ex Bornet et Flahault var. *symplocoides* Hansgirg

- 2571** **History:** < IAM (2007) < BIU (UTEX; 1961) **Other collection strain no.:** IAM M- 98; UTEX 424; CCAP B 1482/2; SAG B 1482-2; UTCC B 80 **Locality:** Netherland **Isolator:** Manten, A.; Katayama, Mitsunori (Re-isolation) **States:** Unialgal; Clonal; Axenic[2012 Mar] **Culture conditions:** MDM (agar); 20°C; 4-6µmol/m²/s; 3 M **Habitat:** (Soil)

Tolypothrix tenuis Kützing ex Bornet et Flahault

- 37** **History:** < IAM **Other collection strain no.:** IAM M-29; PCC 7101 **Locality:** Borneo/Indonesia **Isolator:** Watanabe, Atsushi **Identified by:** Negoro, Ken-ichiro; Watanabe, Makoto M. (Reidentify) **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** MDM (agar); 20°C; 4-10µmol/m²/s; 4 M (25°C; 70-80µmol/m²/s) **Characteristics:** Heterotrophic; Nitrogen fixation; Chromatic adaptation; Material for studying on phycobilin production **References:** 63, 97, 98, 99, 100, 101, 103, 104, 141, 181, 182, 183, 184, 205, 235, 407, 567, 589, 912, 1093, 1113, 1123, 1124, 1125, 1126, 1127, 1128, 1129, 1130, 1132, 1254 **Remarks:** Cryopreserved
- 2135** **History:** < IAM (2007) < Tsuzuki, Mikio (2005) < IAM (1994) < Ishikawa, Masako **Other collection strain no.:** IAM M-287 (=M-110) **Locality:** (1960-06-**) **Isolator:** Ishikawa, Masako **Identified by:** Maruyama, Ko **States:** Unialgal; Clonal; Axenic[2012 Feb] **Culture conditions:** BG-11 (agar); 20°C; 13-18µmol/m²/s; 3 M

TRACHELOMONAS : Euglenophyceae

Trachelomonas sp.

- 2299** **History:** < Suda, Shoichiro **Locality:** Ozegahara/Gunma/Japan (1983-08-28) **Isolator:** Suda, Shoichiro **Identified by:** Suda, Shoichiro **States:** Unialgal **Culture conditions:** AF-6/2; 20°C; 15-22µmol/m²/s; 2 M **Habitat:** Freshwater (Bog water) **Other strain no.:** OZ-4 Eug8

TREBOUXIA : Trebouxiophyceae

Trebouxia anticipata Archibald

- 1271** **History:** < Ohmura, Yoshihito **Locality:** Tsukuba-san Shrine/Ibaraki/Japan (2002-01-19) **Isolator:** Ohmura, Yoshihito **Identified by:** Takeshita, Shunji **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 6 M (25°C; 70-80µmol/m²/s) **Habitat:** Terrestrial (The lichen *Punctelia rudecta* on a stone column) **Characteristics:** Symbiotic **Other strain no.:** AYO4776 **Remarks:** Cryopreserved
- 1272** **History:** < Ohmura, Yoshihito **Locality:** Tsukuba-san Shrine/Ibaraki/Japan (2002-01-19) **Isolator:** Ohmura, Yoshihito **Identified by:** Takeshita, Shunji **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 6 M (25°C; 70-80µmol/m²/s) **Habitat:** Terrestrial (The lichen *Punctelia rudecta* on bark) **Characteristics:** Symbiotic **Other strain no.:** AYO4780 **Remarks:** Cryopreserved
- 1273** **History:** < Ohmura, Yoshihito **Locality:** Chikurin-ji Temple/Hiroshima/Japan (2002-03-24) **Isolator:** Ohmura, Yoshihito **Identified by:** Ohmura, Yoshihito **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 6 M (25°C; 70-80µmol/m²/s) **Habitat:** Terrestrial (The lichen *Flavoparmelia caperata* on bark) **Characteristics:** Symbiotic **Other strain no.:** AYO4870 **Remarks:** Cryopreserved

Trebouxia arboricola Puymaly

- 1274** **History:** < Ohmura, Yoshihito **Locality:** Tsukuba-san Shrine/Ibaraki/Japan (2002-01-19) **Isolator:** Ohmura, Yoshihito **Identified by:** Takeshita, Shunji **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 6 M (25°C; 70-80µmol/m²/s) **Habitat:** Terrestrial (The lichen *Ramalina yasudae* on a stone column) **Characteristics:** Symbiotic **Other strain no.:** AYO4775 **Remarks:** Cryopreserved
- 1275** **History:** < Ohmura, Yoshihito **Locality:** Tsukuba-san Shrine/Ibaraki/Japan (2002-01-19) **Isolator:** Ohmura, Yoshihito **Identified by:** Takeshita, Shunji **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 6 M (25°C; 70-80µmol/m²/s) **Habitat:** Terrestrial (The lichen *Ramalina yasudae* on a stone column) **Characteristics:** Symbiotic **Other strain no.:** AYO4779 **Remarks:** Cryopreserved
- 1276** **History:** < Ohmura, Yoshihito **Locality:** Mt.Fuji, Okuniwa/Yamanashi/Japan (2003-05-05) **Isolator:** Ohmura, Yoshihito **Identified by:** Ohmura, Yoshihito **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 6 M (25°C; 70-80µmol/m²/s) **Habitat:** Terrestrial (The lichen *Usnea longissima* on bark) **Characteristics:** Symbiotic **Other strain no.:** AYO5316 **Remarks:** Cryopreserved
- 1277** **History:** < Ohmura, Yoshihito **Locality:** Mt.Fuji, Ochudo/Yamanashi/Japan (2003-05-05) **Isolator:** Ohmura, Yoshihito **Identified by:** Ohmura, Yoshihito **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 6 M (25°C; 70-80µmol/m²/s) **Habitat:** Terrestrial (The lichen *Usnea trichodeoides* on bark) **Characteristics:** Symbiotic **Other strain no.:** AYO5321 **Remarks:** Cryopreserved

Trebouxia corticola (Archibald) Gärtner

- 1278** **History:** < Ohmura, Yoshihito **Locality:** Tsukuba-san Shrine/Ibaraki/Japan (2002-01-19) **Isolator:** Ohmura, Yoshihito **Identified by:** Takeshita, Shunji **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 6 M (25°C; 70-80µmol/m²/s) **Habitat:** Terrestrial (The lichen *Usnea bismolliuscula* on a stone column) **Characteristics:** Symbiotic **Other strain no.:** AYO4774 **Remarks:** Cryopreserved
- 1279** **History:** < Ohmura, Yoshihito **Locality:** Tsukuba-san Shrine/Ibaraki/Japan (2002-01-19) **Isolator:** Ohmura, Yoshihito **Identified by:** Takeshita, Shunji **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 6 M (25°C; 70-80µmol/m²/s) **Habitat:** Terrestrial (The lichen *Rimelia clavulifera* on a stone column) **Characteristics:** Symbiotic **Other strain no.:** AYO4777 **Remarks:** Cryopreserved
- 1280** **History:** < Ohmura, Yoshihito **Locality:** Suki, Sakanoshita/Miyazaki/Japan (2002-02-20) **Isolator:** Ohmura, Yoshihito **Identified by:** Takeshita, Shunji **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 6 M (25°C; 70-80µmol/m²/s) **Habitat:** Terrestrial (The lichen *Ramalina peruviana* on bark) **Characteristics:** Symbiotic **Other strain no.:** AYO4860 **Remarks:** Cryopreserved
- 1281** **History:** < Ohmura, Yoshihito **Locality:** Chikurin-ji Temple/Hiroshima/Japan (2002-03-24) **Isolator:** Ohmura, Yoshihito **Identified by:** Takeshita, Shunji **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 6 M (25°C; 70-80µmol/m²/s) **Habitat:** Terrestrial (The lichen *Usnea baileyi* on bark) **Characteristics:** Symbiotic **Other strain no.:** AYO4863 **Remarks:** Cryopreserved
- 1282** **History:** < Ohmura, Yoshihito **Locality:** Chikurin-ji Temple/Hiroshima/Japan (2002-03-24) **Isolator:** Ohmura, Yoshihito **Identified by:** Ohmura, Yoshihito **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 6 M (25°C; 70-80µmol/m²/s) **Habitat:** Terrestrial (The lichen *Usnea rubicunda* on bark) **Characteristics:** Symbiotic **Other strain no.:** AYO4864 **Remarks:** Cryopreserved
- 1283** **History:** < Ohmura, Yoshihito **Locality:** Chikurin-ji Temple/Hiroshima/Japan (2002-03-24) **Isolator:** Ohmura, Yoshihito **Identified by:** Ohmura, Yoshihito **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 6 M (25°C; 70-80µmol/m²/s) **Habitat:** Terrestrial (The lichen *Usnea ceratina* on bark) **Characteristics:** Symbiotic **Other strain no.:** AYO4865 **Remarks:** Cryopreserved
- 1284** **History:** < Ohmura, Yoshihito **Locality:** Chikurin-ji Temple/Hiroshima/Japan (2002-03-24)

- Isolator:** Ohmura, Yoshihito **Identified by:** Takeshita, Shunji **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 6 M (25°C; 70-80µmol/m²/s) **Habitat:** Terrestrial (The lichen *Usnea ceratina* on bark) **Characteristics:** Symbiotic **Other strain no.:** AYO4867 **Remarks:** Cryopreserved
- 1286** **History:** < Ohmura, Yoshihito **Locality:** Hiroshima University/Hiroshima/Japan (2002-03-26) **Isolator:** Ohmura, Yoshihito **Identified by:** Ohmura, Yoshihito **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 6 M (25°C; 70-80µmol/m²/s) **Habitat:** Terrestrial (The lichen *Dirinaria applanata* on bark) **Characteristics:** Symbiotic **Other strain no.:** AYO4882 **Remarks:** Cryopreserved
- 1287** **History:** < Ohmura, Yoshihito **Locality:** Hiroshima University/Hiroshima/Japan (2002-03-26) **Isolator:** Ohmura, Yoshihito **Identified by:** Ohmura, Yoshihito **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 6 M (25°C; 70-80µmol/m²/s) **Habitat:** Terrestrial (The lichen *Rimelia clavulifera* on bark) **Characteristics:** Symbiotic **Other strain no.:** AYO4884 **Remarks:** Cryopreserved
- 1288** **History:** < Ohmura, Yoshihito **Locality:** Mt.Fuji, Aokigahara/Yamanashi/Japan (2003-05-04) **Isolator:** Ohmura, Yoshihito **Identified by:** Ohmura, Yoshihito **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 6 M (25°C; 70-80µmol/m²/s) **Habitat:** Terrestrial (The lichen *Usnea rubrotincta* on bark) **Characteristics:** Symbiotic **Other strain no.:** AYO5330 **Remarks:** Cryopreserved
- 1446** **History:** < Ohmura, Yoshihito **Locality:** Shimizu/Shizuoka/Japan (2003-10-20) **Isolator:** Ohmura, Yoshihito **Identified by:** Ohmura, Yoshihito **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 6 M (25°C; 70-80µmol/m²/s) **Habitat:** Terrestrial (The lichen *Parmotrema tinctorum* on a gravestone) **Characteristics:** Symbiotic **Gene data:** ITS rRNA (AB177821) **Other strain no.:** AYO5357A **Reference:** 789 **Remarks:** Cryopreserved
- 1447** **History:** < Ohmura, Yoshihito **Locality:** Zui-un-in Temple/Shizuoka/Japan (2003-10-20) **Isolator:** Ohmura, Yoshihito **Identified by:** Ohmura, Yoshihito **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 6 M (25°C; 70-80µmol/m²/s) **Habitat:** Terrestrial (The lichen *Parmotrema tinctorum* on a gravestone) **Characteristics:** Symbiotic **Gene data:** ITS rRNA (AB177822) **Other strain no.:** AYO5357B **Reference:** 789 **Remarks:** Cryopreserved
- 1448** **History:** < Ohmura, Yoshihito **Locality:** Shimizu/Shizuoka/Japan (2003-10-20) **Isolator:** Ohmura, Yoshihito **Identified by:** Ohmura, Yoshihito **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 6 M (25°C; 70-80µmol/m²/s) **Habitat:** Terrestrial (The lichen *Parmotrema tinctorum* on a gravestone) **Characteristics:** Symbiotic **Gene data:** ITS rRNA (AB177823) **Other strain no.:** AYO5357C **Reference:** 789 **Remarks:** Cryopreserved
- 1449** **History:** < Ohmura, Yoshihito **Locality:** Shimizu/Shizuoka/Japan (2003-10-20) **Isolator:** Ohmura, Yoshihito **Identified by:** Ohmura, Yoshihito **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 6 M (25°C; 70-80µmol/m²/s) **Habitat:** Terrestrial (The lichen *Parmotrema tinctorum* on a gravestone) **Characteristics:** Symbiotic **Gene data:** ITS rRNA (AB177825) **Other strain no.:** AYO5361A **Reference:** 789 **Remarks:** Cryopreserved
- 1450** **History:** < Ohmura, Yoshihito **Locality:** Shimizu/Shizuoka/Japan (2003-10-20) **Isolator:** Ohmura, Yoshihito **Identified by:** Ohmura, Yoshihito **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 6 M (25°C; 70-80µmol/m²/s) **Habitat:** Terrestrial (The lichen *Parmotrema tinctorum* on a gravestone) **Characteristics:** Symbiotic **Gene data:** ITS rRNA (AB177826) **Other strain no.:** AYO5361B **Reference:** 789 **Remarks:** Cryopreserved
- 1451** **History:** < Ohmura, Yoshihito **Locality:** Shimizu/Shizuoka/Japan (2003-10-20) **Isolator:** Ohmura, Yoshihito **Identified by:** Ohmura, Yoshihito **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 6 M (25°C; 70-80µmol/m²/s) **Habitat:** Terrestrial (The lichen *Parmotrema tinctorum* on a gravestone) **Characteristics:** Symbiotic **Gene data:** ITS rRNA (AB177828) **Other strain no.:** AYO5372 **Reference:** 789 **Remarks:** Cryopreserved
- 1452** **History:** < Ohmura, Yoshihito **Locality:** Shimizu/Shizuoka/Japan (2003-10-21) **Isolator:** Ohmura, Yoshihito **Identified by:** Ohmura, Yoshihito **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 6 M (25°C; 70-80µmol/m²/s) **Habitat:** Terrestrial (The lichen

- Parmotrema tinctorum on a gravestone) **Characteristics:** Symbiotic **Gene data:** ITS rRNA (AB177829) **Other strain no.:** AYO5375A **Reference:** 789 **Remarks:** Cryopreserved
- 1453** **History:** < Ohmura, Yoshihito **Locality:** Shimizu/Shizuoka/Japan (2003-10-21) **Isolator:** Ohmura, Yoshihito **Identified by:** Ohmura, Yoshihito **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 6 M (25°C; 70-80µmol/m²/s) **Habitat:** Terrestrial (The lichen Parmotrema tinctorum on a gravestone) **Characteristics:** Symbiotic **Gene data:** ITS rRNA (AB177830) **Other strain no.:** AYO5375B **Reference:** 789 **Remarks:** Cryopreserved
- 1454** **History:** < Ohmura, Yoshihito **Locality:** Shimizu/Shizuoka/Japan (2003-10-21) **Isolator:** Ohmura, Yoshihito **Identified by:** Ohmura, Yoshihito **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 6 M (25°C; 70-80µmol/m²/s) **Habitat:** Terrestrial (The lichen Parmotrema tinctorum on a gravestone) **Characteristics:** Symbiotic **Gene data:** ITS rRNA (AB177831) **Other strain no.:** AYO5376 **Reference:** 789 **Remarks:** Cryopreserved
- 1455** **History:** < Ohmura, Yoshihito **Locality:** Shimizu/Shizuoka/Japan (2003-10-21) **Isolator:** Ohmura, Yoshihito **Identified by:** Ohmura, Yoshihito **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 6 M (25°C; 70-80µmol/m²/s) **Habitat:** Terrestrial (The lichen Parmotrema tinctorum on a gravestone) **Characteristics:** Symbiotic **Gene data:** ITS rRNA (AB177832) **Other strain no.:** AYO5380 **Reference:** 789 **Remarks:** Cryopreserved

Trebouxia erici Ahmadjian

- 2185** **History:** < IAM (2007) < BIU (UTEX; 1961) **Other collection strain no.:** IAM C-116; UTEX 912 **Locality:** Massachusetts/U.S.A. **Isolator:** Ahmadjian, V. **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Habitat:** Terrestrial (The lichen Cladonia cristatella) **Characteristics:** Symbiotic **Reference:** 18 **Remarks:** Cryopreserved
- 2186** **History:** < IAM (2007) < UTEX (1996) **Other collection strain no.:** IAM C-593 (=C-188); UTEX 910 **Locality:** Massachusetts/U.S.A. **Isolator:** Ahmadjian, V. **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Habitat:** Terrestrial (The lichen Cladonia cristatella) **Characteristics:** Symbiotic **Gene data:** Actin (AB080314) **References:** 18, 1224 **Remarks:** Cryopreserved

Trebouxia glomerata (Waren) Ahmadjian

- 2187** **History:** < IAM (2007) < UTEX (1996) **Other collection strain no.:** IAM C-594 (=C-115); UTEX 896 **Locality:** Massachusetts/U.S.A. **Isolator:** Ahmadjian, V. **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Habitat:** Terrestrial (The lichen Stereocaulon pileatum) **Characteristics:** Symbiotic **Reference:** 18 **Remarks:** Cryopreserved
- 2188** **History:** < IAM (2007) < UTEX (1996) **Other collection strain no.:** IAM C-595 (=C-187); UTEX 897 **Locality:** Massachusetts/U.S.A. **Isolator:** Ahmadjian, V. **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Habitat:** Terrestrial (The lichen Stereocaulon pileatum) **Characteristics:** Symbiotic **Reference:** 18 **Remarks:** Cryopreserved

Trebouxia higginsiae (Hildreth et Ahmadjian) Gärtner

- 1289** **History:** < Ohmura, Yoshihito **Locality:** Tsukuba-san Shrine/Ibaraki/Japan (2002-01-19) **Isolator:** Ohmura, Yoshihito **Identified by:** Takeshita, Shunji **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 6 M (25°C; 70-80µmol/m²/s) **Habitat:** Terrestrial (The lichen Parmotrema tinctorum on bark) **Characteristics:** Symbiotic **Other strain no.:** AYO4781 **Remarks:** Cryopreserved
- 1290** **History:** < Ohmura, Yoshihito **Locality:** Tsukuba-san Shrine/Ibaraki/Japan (2002-01-19) **Isolator:** Ohmura, Yoshihito **Identified by:** Takeshita, Shunji **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 6 M (25°C; 70-80µmol/m²/s) **Habitat:** Terrestrial (The lichen Dirinaria appplanata on bark) **Characteristics:** Symbiotic **Other strain no.:** AYO4782 **Remarks:** Cryopreserved
- 1291** **History:** < Ohmura, Yoshihito **Locality:** Chikurin-ji Temple/Hiroshima/Japan (2002-03-24) **Isolator:** Ohmura, Yoshihito **Identified by:** Ohmura, Yoshihito **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 6 M (25°C; 70-80µmol/m²/s) **Habitat:** Terrestrial (The lichen Parmotrema tinctorum on bark) **Characteristics:** Symbiotic **Other strain**

- no.: AYO4866 **Remarks:** Cryopreserved
- 1292** **History:** < Ohmura, Yoshihito **Locality:** Hiroshima University/Hiroshima/Japan (2002-03-26) **Isolator:** Ohmura, Yoshihito **Identified by:** Ohmura, Yoshihito **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 6 M (25°C; 70-80µmol/m²/s) **Habitat:** Terrestrial (The lichen *Myelochroa aurulenta* on bark) **Characteristics:** Symbiotic **Other strain no.:** AYO4877 **Remarks:** Cryopreserved
- 1293** **History:** < Ohmura, Yoshihito **Locality:** Hiroshima University/Hiroshima/Japan (2002-03-26) **Isolator:** Ohmura, Yoshihito **Identified by:** Ohmura, Yoshihito **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 6 M (25°C; 70-80µmol/m²/s) **Habitat:** Terrestrial (The lichen *Parmotrema tinctorum* on bark) **Characteristics:** Symbiotic **Other strain no.:** AYO4879 **Remarks:** Cryopreserved
- 1294** **History:** < Ohmura, Yoshihito **Locality:** Hiroshima University/Hiroshima/Japan (2002-03-26) **Isolator:** Ohmura, Yoshihito **Identified by:** Ohmura, Yoshihito **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 6 M (25°C; 70-80µmol/m²/s) **Habitat:** Terrestrial (The lichen *Dirinaria appanata* on bark) **Characteristics:** Symbiotic **Other strain no.:** AYO4880 **Remarks:** Cryopreserved
- 1295** **History:** < Ohmura, Yoshihito **Locality:** Hiroshima University/Hiroshima/Japan (2002-03-26) **Isolator:** Ohmura, Yoshihito **Identified by:** Takeshita, Shunji **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 6 M (25°C; 70-80µmol/m²/s) **Habitat:** Terrestrial (The lichen *Parmotrema tinctorum* on bark) **Characteristics:** Symbiotic **Other strain no.:** AYO4887 **Remarks:** Cryopreserved
- 1296** **History:** < Ohmura, Yoshihito **Locality:** Hiroshima University/Hiroshima/Japan (2002-03-26) **Isolator:** Ohmura, Yoshihito **Identified by:** Ohmura, Yoshihito **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 6 M (25°C; 70-80µmol/m²/s) **Habitat:** Terrestrial (The lichen *Parmotrema austrosinense* on bark) **Characteristics:** Symbiotic **Other strain no.:** AYO4885 **Remarks:** Cryopreserved

Trebouxia showmanii (Hildreth et Ahmadjian) Gärtner

- 1297** **History:** < Ohmura, Yoshihito **Locality:** Tsukuba-san Shrine/Ibaraki/Japan (2002-01-19) **Isolator:** Ohmura, Yoshihito **Identified by:** Takeshita, Shunji **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 6 M (25°C; 70-80µmol/m²/s) **Habitat:** Terrestrial (The lichen *Xanthoparmelia coreana* on a stone wall) **Characteristics:** Symbiotic **Other strain no.:** AYO4778 **Remarks:** Cryopreserved

Trebouxia sp.

- 2349** **History:** < Ohmura, Yoshihito **Locality:** Chikurin-ji Temple/Hiroshima/Japan (2002-03-24) **Isolator:** Ohmura, Yoshihito **Identified by:** Ohmura, Yoshihito **States:** Unialgal; Clonal; Axenic **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 6 M (25°C; 70-80µmol/m²/s) **Habitat:** Terrestrial (The lichen *Heterodermia obscurata* on bark) **Characteristics:** Symbiotic **Other strain no.:** AYO4869 **Remarks:** Cryopreserved

TRENTEPOHLIA : Ulvophyceae

Trentepohlia sp.

- 967** **History:** < Hagiwara, Tomiji **Locality:** Nozawa Hot Spring/Nagano/Japan (1989-12-28) **Isolator:** Hagiwara, Tomiji **Identified by:** Hagiwara, Tomiji **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C; 20°C; 22-27µmol/m²/s; 6 M **Habitat:** Terrestrial (Concrete bank) **Other strain no.:** TP-5

TREPOMONAS : Trepomonadea

Trepomonas sp.

- 1444** **History:** < TKB **Locality:** Hyotaro-ike Pond/Ibaraki/Japan (2003-05-26) **Isolator:** Yubuki, Naoji **Identified by:** Yubuki, Naoji **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** UYTS +

Rice; 15°C; 0µmol/m²/s; 20 D **Habitat:** Freshwater (Pond water) **Characteristics:** Offensive taste and odor; Heterotrophic **Other strain no.:** TKB-058 (NY0141) **Reference:** 137

TREUBARIA : Chlorophyceae

Treubaria triappendiculata Bernard

394 **History:** < Kasai, Fumie **Locality:** Lake Kasumigaura/Ibaraki/Japan (1983-10-04) **Isolator:** Kasai, Fumie **Identified by:** Niiyama, Yuko **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 20°C; 4-10µmol/m²/s; 2 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Lake water) **Other strain no.:** F67-5 **Reference:** 567

TRICERATIUM : Bacillariophyceae

Triceratium dubium Brightwell

556 **History:** < Ono, Sachiko **Locality:** Okinawa/Japan (1990-**-**) **Isolator:** Ono, Sachiko **Identified by:** Ono, Sachiko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 20°C; 40-50µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Other strain no.:** No.20 **Reference:** 877

TRIPLOCERAS : Charophyceae

Triploceras gracile Bailey

789 **History:** < Kasai, Fumie **Locality:** 2 km east of Melaka/Malaysia (1985-08-19) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 22°C; 55-70µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Paddy soil) **Characteristics:** Homothallic **Other strain no.:** 85-28-1 **Reference:** 240

790 **History:** < Kasai, Fumie **Locality:** 2 km east of Melaka/Malaysia (1985-08-19) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 22°C; 55-70µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Paddy soil) **Characteristics:** Homothallic **Other strain no.:** 85-28-2 **Reference:** 240

791 **History:** < Kasai, Fumie **Locality:** 2 km east of Melaka/Malaysia (1985-08-19) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 22°C; 55-70µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Paddy soil) **Characteristics:** Homothallic **Other strain no.:** 85-28-3 **Reference:** 240

792 **History:** < Kasai, Fumie **Locality:** 2 km east of Melaka/Malaysia (1985-08-19) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 22°C; 55-70µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Paddy soil) **Characteristics:** Homothallic **Other strain no.:** 85-28-4 **Reference:** 240

793 **History:** < Kasai, Fumie **Locality:** Higashihiroshima/Hiroshima/Japan (1983-10-19) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 22°C; 55-70µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Pond water) **Characteristics:** Heterothallic; Mating type(+) **Other strain no.:** 83-24-2 **Reference:** 240

794 **History:** < Kasai, Fumie **Locality:** Higashihiroshima/Hiroshima/Japan (1983-10-19) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 22°C; 55-70µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Pond water) **Characteristics:** Heterothallic; Mating type(+) **Other strain no.:** 83-24-7 **Reference:** 240

795 **History:** < Kasai, Fumie **Locality:** Higashihiroshima/Hiroshima/Japan (1983-10-19) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 22°C; 55-70µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Pond water) **Characteristics:** Heterothallic; Mating type(-) **Other strain no.:** 83-24-3 **Reference:** 240

796 **History:** < Kasai, Fumie **Locality:** Higashihiroshima/Hiroshima/Japan (1983-10-19) **Isolator:**

Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 22°C; 55-70µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Freshwater (Pond water) **Characteristics:** Heterothallic; Mating type(-) **Other strain no.:** 83-24-6 **Reference:** 240

TYCHONEMA : Cyanophyceae

Tychonema bourrellyi Anagnostidis et Komárek

846 **History:** < Suda, Shoichiro < CCAP **Other collection strain no.:** CCAP 1459/11B **Locality:** Loughgall/Northern Ireland/U.K. **Isolator:** Fitzsimons **Identified by:** Suda, Shoichiro (Reidentify) **Formerly identified as:** *Oscillatoria bourrellyi* J.W. G. Lund f. *tenuis* Skuja **States:** Unialgal; Clonal; Axenic **Culture conditions:** CT; 20°C; 15-25µmol/m²/s; 1 M **Habitat:** Freshwater **Characteristics:** Cyanobacterial water bloom (aoko); Type strain **Gene data:** 16S rRNA (AB045897) **References:** 221, 991 **Remarks:** Cryopreserved

ULOTHRIX : Ulvophyceae

Ulothrix variabilis Kützing

329 **History:** < Suda, Shoichiro **Locality:** Takatori River/Ibaraki/Japan (1984-12-11) **Isolator:** Suda, Shoichiro **Identified by:** Watanabe, Makoto M. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C; 20°C; 15-22µmol/m²/s; 3 M **Habitat:** Freshwater (Lake water) **References:** 138, 567, 1017, 1018

Ulothrix zonata (Weber et Mohr) Kützing

536 **History:** < Kasai, Fumie **Locality:** Hitachi/Ibaraki/Japan (1987-05-22) **Isolator:** Kasai, Fumie **Identified by:** Kasai, Fumie **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** C; 10°C; 6-12µmol/m²/s; 3 M (10°C; 10-15µmol/m²/s) **Habitat:** Freshwater (Water) **Other strain no.:** 4st-1'-24 **References:** 138, 567, 1018

537 **History:** < Kasai, Fumie **Locality:** Shirai River/Hokkaido/Japan (1987-10-**) **Isolator:** Kasai, Fumie **Identified by:** Kasai, Fumie **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** C; 10°C; 10-15µmol/m²/s; 2 M **Habitat:** Freshwater (River water) **Other strain no.:** 2Tst-1-1 **References:** 567, 1018

UMBILICOSPHAERA : Prymnesiophyceae

Umbilicosphaera sibogae (Weber-van Bosse) Gaarder var. *sibogae*

1324 **History:** < Kawachi, Masanobu **Locality:** East China Sea (2003-08-06) **Isolator:** Noël, Mary-Hélène **Identified by:** Noël, Mary-Hélène **States:** Unialgal; Clonal; Non-axenic; Coccolith(-)[2013 Jan] **Culture conditions:** MNK; 20°C; 25-40µmol/m²/s; 14-20 D **Habitat:** Marine (Seawater) **Other strain no.:** MH 67

UNIDENTIFIED CHLORARACHNIOPHYTE : Chlorarachniophyceae

Unidentified chlorarachniophyte

2502 **History:** < Inouye, Isao **Locality:** Katsurahama Beach/Kochi/Japan (2008-09-28) **Isolator:** Chikuni, Tomoko **Identified by:** Chikuni, Tomoko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 10-15µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Characteristics:** Benthic **Other strain no.:** TKB-352

UNIDENTIFIED COCCOID PRASINOPHYTE : Prasinophyceae

Unidentified coccoid prasinophyte

1435 **History:** < TKB **Locality:** Amami Isl., Sani/Kagoshima/Japan (2000-06-**) **Isolator:** Yoshii, Yukie **Identified by:** Yoshii, Yukie **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM; 20°C; 20-30µmol/m²/s; 2 M **Habitat:** Marine (Seawater) **Other strain no.:** TKB-025

(YY-01)

UNIDENTIFIED METAMONAD : Metamonada incertae sedis**Unidentified metamonad**

1968 **History:** < TKB **Locality:** Sagami Bay/Shizuoka/Japan (2006-03-12) **Isolator:** Yubuki, Naoji **Identified by:** Yubuki, Naoji (2006-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** ESM + mTYGM-9 + Rice; SUY 1/10 + mTYGM-9 + Rice; 15°C; 0µmol/m²/s; 14 D **Habitat:** Marine (Seawater) **Characteristics:** Heterotrophic; Benthic **Other strain no.:** TKB-336

UNIDENTIFIED PELAGOPHYTE : Pelagophyceae**Unidentified pelagophyte**

1386 **History:** < TKB **Locality:** Ishigaki Harbor/Okinawa/Japan (2003-12-25) **Isolator:** Okamoto, Noriko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** f/2; 20°C; 40-50µmol/m²/s; 20 D **Habitat:** Marine (Seawater) **Other strain no.:** TKB-085 (nrc061)

1387 **History:** < TKB **Locality:** Hachijo Isl./Tokyo/Japan (2002-12-13) **Isolator:** Yoshida, Masaki **Identified by:** Yoshida, Masaki (2003-**-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** mIMR; 20°C; 40-50µmol/m²/s; 20 D **Habitat:** Marine (Seawater) **Other strain no.:** TKB-102 (ym-10)

UNIDENTIFIED PRASINOPHYTE : Prasinophyceae**Unidentified prasinophyte**

1428 **History:** < TKB **Locality:** Tokyo Bay/Japan **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MNK; 20°C; 20-30µmol/m²/s; 1 M **Habitat:** Marine **Other strain no.:** TKB-104 (CH03A)

UNIDENTIFIED YELLOW HETEROKONTOPHYTE : Heterokontophyta incertae sedis**Unidentified yellow heterokontophyte**

1389 **History:** < TKB **Locality:** Yonehara/Okinawa/Japan (2003-12-**) **Isolator:** Okamoto, Noriko **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** IMK; 20°C; 40-50µmol/m²/s; 2 M **Habitat:** Marine (Seawater) **Other strain no.:** TKB-092 (nrc068)

URNELLA : Chlorophyceae*Urnella terrestris* Playfair

156 **History:** < Watanabe, Shin **Locality:** Pokhara/Nepal (1975-10-**) **Isolator:** Watanabe, Shin **Identified by:** Watanabe, Shin **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C (agar); 20°C; 4-10µmol/m²/s; 3 M (25°C; 70-80µmol/m²/s) **Habitat:** Terrestrial (Soil) **Other strain no.:** NPL-111 **References:** 567, 1185 **Remarks:** Cryopreserved

UROGLENA : Chrysophyceae*Uroglena americana* Calkins

395 **History:** < Ishida, Yuzaburo **Locality:** Lake Biwa/Shiga/Japan (1978-05-11) **Isolator:** Ishida, Yuzaburo **Identified by:** Ishida, Yuzaburo **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** URO; 15°C; 20-30µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Other water bloom; Phagotrophic **Other strain no.:** Strain 78 **References:** 266, 399, 400 **Remarks:** Poor growth; Fragile species to transportation stresses

URONEMA : Chlorophyceae*Uronema confervicolum* Lagerheim

538 **History:** < Kasai, Fumie **Locality:** Miyata River/Ibaraki/Japan (1987-05-22) **Isolator:** Kasai, Fumie **Identified by:** Kasai, Fumie **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** C; 20°C; 8-15µmol/m²/s; 3 M **Habitat:** Freshwater (River water) **Other strain no.:** 4st-2-10 **References:** 567, 1017, 1018

Uronema gigas Vischer

539 **History:** < Kasai, Fumie **Locality:** Miyata River/Ibaraki/Japan (1987-05-22) **Isolator:** Kasai, Fumie **Identified by:** Kasai, Fumie **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** C; 20°C; 8-15µmol/m²/s; 3 M **Habitat:** Freshwater (River water) **Other strain no.:** 4st-3-5 **References:** 567, 1018 **Remarks:** Cryopreserved

540 **History:** < Kasai, Fumie **Locality:** Miyata River/Ibaraki/Japan (1987-05-22) **Isolator:** Kasai, Fumie **Identified by:** Kasai, Fumie **States:** Unialgal; Non-clonal; Non-axenic **Culture conditions:** C; 20°C; 8-15µmol/m²/s; 3 M **Habitat:** Freshwater (River water) **Other strain no.:** 4st-0-16 **References:** 567, 1018 **Remarks:** Cryopreserved

VAUCHERIA : Xanthophyceae

Vaucheria frigida (Roth) C.Agardh sensu Christensen

2614 **History:** < Kataoka, Hironao **Locality:** New York/U.S.A. (1970-**-**) **Isolator:** Kataoka, Hironao **Identified by:** Takahashi, Fumio (2006-09-05) **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 20°C; 4-10µmol/m²/s; 6 M **Habitat:** Freshwater (Stream water) **Characteristics:** Homothallic **Gene data:** rbcL (AB266740) **Other strain no.:** bb1

2615 **History:** < Kataoka, Hironao **Locality:** New York/U.S.A. (1970-**-**) **Isolator:** Kataoka, Hironao **Identified by:** Takahashi, Fumio (2006-09-05) **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 20°C; 4-10µmol/m²/s; 6 M **Habitat:** Freshwater (Stream water) **Characteristics:** Homothallic **Gene data:** rbcL (AB266740) **Other strain no.:** bb2

2616 **History:** < Kataoka, Hironao **Locality:** New York/U.S.A. (1970-**-**) **Isolator:** Kataoka, Hironao **Identified by:** Takahashi, Fumio (2006-09-05) **States:** Unialgal; Clonal; Axenic **Culture conditions:** C; 20°C; 4-10µmol/m²/s; 6 M **Habitat:** Freshwater (Stream water) **Characteristics:** Homothallic **Gene data:** rbcL (AB266740) **Other strain no.:** bf

VISCHERIA : Eustigmatophyceae

Vischeria punctata Vischer

2147 **History:** < IAM (2007) < UTEX (1996) **Other collection strain no.:** IAM X-36 (=X-4); ATCC 30441; CCAP 887/1; SAG 887-1; UTEX 153 **Locality:** Unterengadin/Switzerland **Isolator:** Vischer, W. **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C (agar); 20°C; 40-50µmol/m²/s; 3 M **Habitat:** Terrestrial (Soil)

Vischeria stellata Pascher

2148 **History:** < IAM (2007) < BIU (UTEX) **Other collection strain no.:** IAM X-5; CCAP 887/2B; SAG 887-2; UTEX 312 **Locality:** Switzerland **Isolator:** Chodat, R. **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C (agar); 20°C; 40-50µmol/m²/s; 3 M **Habitat:** Terrestrial (Soil)

VITREOCHLAMYS : Chlorophyceae

Vitreochlamys aulata (Pascher) Batko

875 **History:** < Nakazawa, Atsushi **Locality:** Atsugi/Kanagawa/Japan (1998-02-19) **Isolator:** Nakazawa, Atsushi **Identified by:** Nakazawa, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-32µmol/m²/s; 2 M **Habitat:** Freshwater (Paddy soil) **Gene data:** atpB (AB076121); psaA (AB076143); psaB (AB076158); psbC (AB076175); psbC (AB076176); psbC (AB076177); rbcL (AB050486); rbcL (AB050487); rbcL-462 intron (AB076097) **Other strain no.:** Spha-5/1998-3-9 **References:** 661, 663, 740, 743

876 **History:** < Nakazawa, Atsushi **Locality:** Habikino/Osaka/Japan (1998-03-14) **Isolator:** Nakazawa,

Atsushi **Identified by:** Nakazawa, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-32µmol/m²/s; 2 M **Habitat:** Freshwater (Paddy soil) **Gene data:** rbcL (AB050488); rbcL (AB050489) **Other strain no.:** Spha-8/1998-7-14 **Reference:** 661

877 **History:** < Nakazawa, Atsushi < SAG **Other collection strain no.:** SAG 69.72 **Locality:** South Bohemia/Czech **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20 °C ; 22-32µmol/m²/s; 2 M **Habitat:** Freshwater (Ditch water) **Gene data:** rbcL (AB050492) **References:** 661, 662

878 **History:** < Nakazawa, Atsushi < SAG **Other collection strain no.:** SAG 80.81 **Locality:** Zool/Slovakia **Formerly identified as:** Sphaerellopsis aulata Pascher **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-32µmol/m²/s; 2 M **Habitat:** Freshwater (Pond water) **Gene data:** rbcL (AB050493) **Reference:** 661

Vitreochlamys fluviatilis (Stein) Batko

879 **History:** < Nakazawa, Atsushi **Locality:** Nerima-ku/Tokyo/Japan (1997-11-13) **Isolator:** Nakazawa, Atsushi **Identified by:** Nakazawa, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-32µmol/m²/s; 2 M **Habitat:** Freshwater (Pond water) **Gene data:** rbcL (AB050484) **Other strain no.:** Spha-1/1997-12-5 **Reference:** 661

Vitreochlamys gloecystiformis (Dill) Nakazawa

Syn. Sphaerellopsis gloecystiformis (Dill) Gerloff

880 **History:** < Nozaki, Hisayoshi **Locality:** Lake Altglobsow/Brandenburg/Germany (1997-08-04) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nakazawa, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-32µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Gene data:** rbcL (AB050485) **Other strain no.:** 970805-U-4 **Reference:** 661

Vitreochlamys nekrassovii (Korshikov) Nakazawa

Syn. Sphaerellopsis nekrassovii (Korshikov) Ettl

881 **History:** < Nakazawa, Atsushi < SAG **Other collection strain no.:** SAG 11-10 **Locality:** Shore of River Elbe, near Celakovice/Czech **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20 °C ; 22-32µmol/m²/s; 2 M **Habitat:** Freshwater (River water) **Gene data:** rbcL (AB050494) **Reference:** 661

Vitreochlamys ordinata (Skuja) Nakazawa

Syn. Sphaerellopsis ordinata Skuja

882 **History:** < Nozaki, Hisayoshi **Locality:** Lake Altglobsow/Brandenburg/Germany (1997-08-04) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nakazawa, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-32µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Gene data:** atpB (AB014036); psaA (AB044420); psaB (AB044471); psbC (AB044529); rbcL (AB014041) **Other strain no.:** 970804-S-4 (= Nozaki S-4) **References:** 661, 733, 738, 740

Vitreochlamys pinguis Nakazawa

883 **History:** < Nakazawa, Atsushi **Locality:** Shakuji Park/Tokyo/Japan (1998-06-02) **Isolator:** Nakazawa, Atsushi **Identified by:** Nakazawa, Atsushi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-32µmol/m²/s; 2 M **Habitat:** Freshwater (Pond water) **Characteristics:** Authentic strain **Gene data:** atpB (AB076120); psaA (AB076142); psaB (AB076157); psbC (AB076174); rbcL (AB050490); rbcL (AB050491) **Other strain no.:** Spha-12/1998-7-16 **References:** 661, 740, 743

VOLVOX : Chlorophyceae

Volvox africanus G.S. West

863 **History:** < Nozaki, Hisayoshi < UTEX **Other collection strain no.:** UTEX 1891 **Isolator:** Starr, R. C. **Identified by:** Starr, R. C. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6/2; 23°C; 180-200µmol/m²/s; 20 D **Characteristics:** Heterothallic; Dioecious; Oogamy; Female **Remarks:** Fragile species to transportation stresses

Volvox aureus Ehrenberg

- 241** **History:** < IAM (1983) **Other collection strain no.:** IAM C-419 **Locality:** Nagatoro/Saitama/Japan (1969-11-13) **Isolator:** Ichimura, Terunobu **Identified by:** Ichimura, Terunobu **States:** Unialgal; Clonal; Axenic **Culture conditions:** VT; 25°C; 100-120µmol/m²/s; 20 D **Habitat:** Freshwater (Pond sediment) **Characteristics:** Fertility lost **Other strain no.:** S-9-8 **References:** 235, 567 **Remarks:** Fragile species to transportation stresses
- 396** **History:** < Ogasawara, Yoshikazu **Locality:** Nagano/Japan (1983-08-27) **Isolator:** Ogasawara, Yoshikazu **Identified by:** Ogasawara, Yoshikazu **States:** Unialgal; Clonal; Axenic **Culture conditions:** VT; 23 °C ; 180-200µmol/m²/s; 20 D **Habitat:** Freshwater (Paddy water) **Characteristics:** Homothallic **Reference:** 567 **Remarks:** Fragile species to transportation stresses
- 693** **History:** < Nozaki, Hisayoshi **Locality:** Tokyo/Japan (1977-06-22) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** VT; 20°C; 180-200µmol/m²/s; 1 M **Habitat:** Freshwater (Stream water) **Characteristics:** Other water bloom; Homothallic; Dioecious; Oogamy **Other strain no.:** k-5 **Reference:** 567 **Remarks:** Fragile species to transportation stresses
- 694** **History:** < Nozaki, Hisayoshi **Other collection strain no.:** IAM C-600 **Locality:** Kyoto University/Kyoto/Japan (1983-10-04) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Axenic **Culture conditions:** VT; 20°C; 180-200µmol/m²/s; 1 M **Habitat:** Freshwater (Stream water) **Characteristics:** Other water bloom; Homothallic; Dioecious; Oogamy **Other strain no.:** 31202-2-9 **Reference:** 567 **Remarks:** Fragile species to transportation stresses
- 864** **History:** < Nozaki, Hisayoshi **Locality:** Neuglobsow/Brandenburg/Germany (1997-07-17) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 15°C; 35-50µmol/m²/s; 2 M **Habitat:** (Freshwater) **Other strain no.:** 970717-1 **Remarks:** Fragile species to transportation stresses
- 891** **History:** < Nozaki, Hisayoshi **Locality:** Neuglobsow/Brandenburg/Germany (1997-07-17) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 15°C; 35-50µmol/m²/s; 2 M **Habitat:** (Freshwater) **Gene data:** atpB (AB076104); psaA (AB076123); psaB (AB076145); psbC (AB076160); rbcL (AB076096) **Other strain no.:** 970717-2 **Reference:** 743 **Remarks:** Fragile species to transportation stresses
- 892** **History:** < Nozaki, Hisayoshi **Locality:** Lake Sagami/Kanagawa/Japan (1999-06-01) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 15 °C; 35-50µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Characteristics:** Other water bloom; Homothallic; Dioecious; Oogamy **Gene data:** atpB (AB076105); psaA (AB076124); psaB (AB076146); psbC (AB076161); rbcL (AB076086) **Other strain no.:** 990601-IV-9 **Reference:** 743 **Remarks:** Fragile species to transportation stresses

Volvox aureus Ehrenberg var. *aureus*

- 541** **History:** < Nozaki, Hisayoshi **Locality:** Lake Yamanaka/Yamanashi/Japan (1981-**-**) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** VT; 23°C; 180-200µmol/m²/s; 1 M **Habitat:** Freshwater (Sediment) **Gene data:** atpB (AB013998); psaA (AB044182); psaB (AB044424); psbC (AB044474) **Other strain no.:** 1706-2 **References:** 567, 692, 706, 714, 715, 733, 738 **Remarks:** Fragile species to transportation stresses
- 542** **History:** < Nozaki, Hisayoshi **Locality:** Lake Yamanaka/Yamanashi/Japan (1981-**-**) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Axenic **Culture conditions:** VT; 23°C; 180-200µmol/m²/s; 1 M **Habitat:** Freshwater (Sediment) **Other strain no.:** 1706-4 **References:** 567, 692 **Remarks:** Fragile species to transportation stresses

Volvox barberi Shaw

- 730** **History:** < Nozaki, Hisayoshi < UTEX **Other collection strain no.:** UTEX 804; IAM C-601 **Locality:** Lemoncove/California/U.S.A. **Isolator:** Stein, J. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** C; 23°C; 180-200µmol/m²/s; 20 D **Habitat:** Freshwater (Soil) **Gene data:** atpB (AB014001); psaA (AB044186); psaB (AB044427); psbC (AB044477); rbcL (D86835)

References: 662, 716, 733, 738 **Remarks:** Fragile species to transportation stresses

Volvox carteri Stein

- 397** **History:** < Ogasawara, Yoshikazu **Locality:** Ichinomiya, Asai/Aichi/Japan (1983-06-12) **Isolator:** Ogasawara, Yoshikazu **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** VT; 25°C; 100-120µmol/m²/s; 20 D **Habitat:** Freshwater (Paddy water) **Characteristics:** Heterothallic; Female; Crosses with NIES-398 **Other strain no.:** V-4 **Reference:** 567 **Remarks:** Fragile species to transportation stresses
- 398** **History:** < Ogasawara, Yoshikazu **Locality:** Ichinomiya, Asai/Aichi/Japan (1983-06-12) **Isolator:** Ogasawara, Yoshikazu **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** VT; 25°C; 100-120µmol/m²/s; 20 D **Habitat:** Freshwater (Paddy water) **Characteristics:** Heterothallic; Male; Crosses with NIES-397 **Other strain no.:** V-11 **Reference:** 567 **Remarks:** Fragile species to transportation stresses

Volvox carteri Stein f. *kawasakiensis* Nozaki

- 580** **History:** < Nozaki, Hisayoshi **Locality:** Kawasaki/Kanagawa/Japan (1984-01-30) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** VTAC; 20°C; 22-27µmol/m²/s; 1 M **Habitat:** Freshwater (Paddy soil) **Characteristics:** Heterothallic; Dioecious; Oogamy; Female; Crosses with NIES-581 **Other strain no.:** 6823+-2 **References:** 567, 699 **Remarks:** Fragile species to transportation stresses
- 581** **History:** < Nozaki, Hisayoshi **Locality:** Kawasaki/Kanagawa/Japan (1990-10-29) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** VTAC; 20°C; 22-27µmol/m²/s; 1 M **Habitat:** Freshwater (Paddy soil) **Characteristics:** Heterothallic; Dioecious; Oogamy; Male; Crosses with NIES-580 **Other strain no.:** 90-1111-5 **References:** 567, 699 **Remarks:** Fragile species to transportation stresses
- 732** **History:** < Nozaki, Hisayoshi **Locality:** Kawasaki/Kanagawa/Japan (1984-01-**) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Axenic **Culture conditions:** VT; 23°C; 180-200µmol/m²/s; 1 M **Habitat:** Freshwater (Paddy soil) **Characteristics:** Authentic strain; Heterothallic; Dioecious; Oogamy; Female; Crosses with NIES-733 **Gene data:** atpB (AB013999); psaA (AB044184); psaA (AB044185); psaB (AB044425); psbC (AB044475); rbcL (D63446) **Other strain no.:** KK-3 **References:** 699, 706, 715, 733, 738, 740 **Remarks:** Fragile species to transportation stresses
- 733** **History:** < Nozaki, Hisayoshi **Locality:** Kawasaki/Kanagawa/Japan (1984-01-**) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Axenic **Culture conditions:** VT; 23°C; 180-200µmol/m²/s; 1 M **Habitat:** Freshwater (Paddy soil) **Characteristics:** Authentic strain; Heterothallic; Dioecious; Oogamy; Male; Crosses with NIES-732 **Other strain no.:** KK-5 **Reference:** 699 **Remarks:** Fragile species to transportation stresses

Volvox carteri Stein f. *nagariensis* Iyengar

- 865** **History:** < Nozaki, Hisayoshi < UTEX **Other collection strain no.:** UTEX 1885 **Locality:** Kobe/Hyogo/Japan **Isolator:** Starr, R. C. **Identified by:** Starr, R. C. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 23 °C ; 180-200µmol/m²/s; 20 D **Characteristics:** Heterothallic; Dioecious; Oogamy; Female **Remarks:** Fragile species to transportation stresses

Volvox carteri Stein f. *weismannia* (Powers) Iyengar

- 866** **History:** < Nozaki, Hisayoshi < UTEX **Other collection strain no.:** UTEX 1875 **Locality:** Waterford/Australia **Isolator:** Starr, R. C. **Identified by:** Starr, R. C. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** VTAC; 23 °C ; 180-200µmol/m²/s; 20 D **Characteristics:** Heterothallic; Dioecious; Oogamy; Male **Remarks:** Fragile species to transportation stresses

Volvox dissipatrix (Shaw) Printz

- 731** **History:** < Nozaki, Hisayoshi < UTEX **Other collection strain no.:** UTEX 2184 **Isolator:** Starr, R. C. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 23°C; 180-200µmol/m²/s; 14 D **Habitat:** Freshwater **Gene data:** atpB (AB014000); psaA (AB044183); psaB (AB044426); psbC (AB044476); rbcL (D63447) **References:** 662, 715, 733, 738 **Remarks:** Fragile species to transportation stresses

Volvox ferrisii Isaka, Matsuzaki et Nozaki

- 2736** **History:** < Nozaki, Hisayoshi **Locality:** Kanagawa/Japan (1984-01-31) **Isolator:** Nozaki, Hisayoshi **Identified by:** Isaka, Nanako; Matsuzaki, Ryo; Nozaki, Hisayoshi (2011-07-06) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** VTAC; 20°C; 15-27µmol/m²/s; 1 M **Habitat:** Freshwater (Soil) **Characteristics:** Phototaxis; Mixotrophic; Homothallic; Oogamy; Resting zygote forming **Gene data:** ITS1-5.8S-ITS2 (AB663336); psbC (AB663335); rbcL (AB663334) **Other strain no.:** 40225-VG-17 **Reference:** 264 **Remarks:** Fragile species to transportation stresses
- 2737** **History:** < Nozaki, Hisayoshi **Locality:** Ibaraki/Japan (2004-07-06) **Isolator:** Nozaki, Hisayoshi **Identified by:** Isaka, Nanako; Matsuzaki, Ryo; Nozaki, Hisayoshi (2011-07-06) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** VTAC; 20°C; 15-27µmol/m²/s; 1 M **Habitat:** Freshwater **Characteristics:** Phototaxis; Mixotrophic; Homothallic; Oogamy; Resting zygote forming **Gene data:** ITS1-5.8S-ITS2 (AB663339); psbC (AB663338); rbcL (AB663337) **Other strain no.:** 2004-706-Vx2 **Reference:** 264 **Remarks:** Fragile species to transportation stresses
- 2738** **History:** < Nozaki, Hisayoshi **Other collection strain no.:** UTEX 2967 **Locality:** Lake Isanuma/Saitama/Japan (2009-04-23) **Isolator:** Nozaki, Hisayoshi **Identified by:** Isaka, Nanako; Matsuzaki, Ryo; Nozaki, Hisayoshi (2011-07-06) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 15-27µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Phototaxis; Mixotrophic; Homothallic; Oogamy; Resting zygote forming **Gene data:** ITS1-5.8S-ITS2 (AB663333); psbC (AB663332); rbcL (AB663331) **Other strain no.:** I-he **Reference:** 264 **Remarks:** Fragile species to transportation stresses
- 2739** **History:** < Nozaki, Hisayoshi **Locality:** Lake Isanuma/Saitama/Japan (2009-04-23) **Isolator:** Nozaki, Hisayoshi **Identified by:** Isaka, Nanako; Matsuzaki, Ryo; Nozaki, Hisayoshi (2011-07-06) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** VTAC; 20°C; 15-27µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** ; Phototaxis; Authentic strain; Homothallic; Oogamy; Resting zygote forming **Gene data:** ITS1-5.8S-ITS2 (AB663330); psbC (AB663329); rbcL (AB663328) **Other strain no.:** I-ro **Reference:** 264 **Remarks:** Fragile species to transportation stresses

Volvox gigas Pocock

- 867** **History:** < Nozaki, Hisayoshi < UTEX **Other collection strain no.:** UTEX 1895 **Isolator:** Starr, R. C. **Identified by:** Starr, R. C. **States:** Unialgal; Clonal; Non-axenic; Remarkable large colonies[2012 Oct] **Culture conditions:** MG; 23°C; 180-200µmol/m²/s; 14 D **Characteristics:** Heterothallic; Dioecious; Oogamy; Female **Remarks:** Fragile species to transportation stresses

Volvox kirkiorum Nozaki, Kawai-Toyooka et Isaka

- 543** **History:** < Ogasawara, Yoshikazu **Locality:** Japan **Isolator:** Ogasawara, Yoshikazu **Identified by:** Isaka, Matsuzaki, Nozaki; Former Suda **Formerly identified as:** *Volvox prolificus* Iyengar **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** VT; 23°C; 180-200µmol/m²/s; 1 M **Habitat:** Freshwater **Gene data:** ITS1-5.8S-ITS2 (AB663327); psbC (AB663326); rbcL (AB663325) **Other strain no.:** V-sp **References:** 264, 567 **Remarks:** Fragile species to transportation stresses
- 2740** **History:** < Nozaki, Hisayoshi **Other collection strain no.:** UTEX 2966 **Locality:** Gifu/Japan (2006-07-27) **Isolator:** Nozaki, Hisayoshi **Identified by:** Isaka, Nanako; Matsuzaki, Ryo; Nozaki, Hisayoshi (2011-07-06) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; VTAC; 20°C; 15-27µmol/m²/s; 1 M **Habitat:** Freshwater **Characteristics:** ; Phototaxis; Authentic strain; Homothallic; Oogamy; Resting zygote forming **Gene data:** ITS1-5.8S-ITS2 (AB663324); psbC (AB663323); rbcL (AB663322) **Other strain no.:** 2006-728-2-B8 **Reference:** 264 **Remarks:** Fragile species to transportation stresses

Volvox obversus (Shaw) Printz

- 868** **History:** < Nozaki, Hisayoshi < UTEX **Other collection strain no.:** UTEX 1865 **Isolator:** Starr, R. C. **Identified by:** Starr, R. C. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 23°C; 180-200µmol/m²/s; 14 D **Characteristics:** Heterothallic; Dioecious; Oogamy; Male **Remarks:** Fragile species to transportation stresses

Volvox ovalis Pocock ex Nozaki et Coleman

2569 **History:** < Nozaki, Hisayoshi **Locality:** U.S.A. (before 2000) **Isolator:** Cox, Elenor R. **Identified by:** Nozaki, Hisayoshi (2010-04-01) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; VTAC; 22°C; 180-200µmol/m²/s; 1 M **Habitat:** Freshwater (Water) **Characteristics:** Authentic strain **Other strain no.:** *Volvox ovalis* **Reference:** 709 **Remarks:** Fragile species to transportation stresses

Volvox rousseletii G.S. West

734 **History:** < Nozaki, Hisayoshi < UTEX **Other collection strain no.:** UTEX 1862 **Isolator:** Starr, R. C. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 23°C; 180-200µmol/m²/s; 1 M **Habitat:** Freshwater **Gene data:** atpB (AB014003); psaA (AB044188); psaB (AB044429); psbC (AB044479); rbcL (D63448) **References:** 715, 733, 738 **Remarks:** Fragile species to transportation stresses

Volvox sp.

2307 **History:** < Ogasawara, Yoshikazu **Locality:** Ichinomiya/Aichi/Japan (1986-06-04) **Isolator:** Ogasawara, Yoshikazu **Identified by:** Ogasawara, Yoshikazu **States:** Unialgal **Culture conditions:** AF-6; 23°C; 180-200µmol/m²/s; 20 D **Habitat:** Freshwater (Paddy water) **Characteristics:** Homothallic **Remarks:** Fragile species to transportation stresses

Volvox tertius Meyer

544 **History:** < Ogasawara, Yoshikazu **Locality:** Kisofukushima/Nagano/Japan (1986-08-27) **Isolator:** Ogasawara, Yoshikazu **Identified by:** Ogasawara, Yoshikazu **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** MG; 23°C; 180-200µmol/m²/s; 20 D **Habitat:** Freshwater (Paddy water) **Characteristics:** Homothallic **Gene data:** atpB (AB086173); psaA (AB086175); psaA (AB086176); psaB (AB086177); psbC (AB086178); rbcL (AB086174) **References:** 567, 707 **Remarks:** Fragile species to transportation stresses

869 **History:** < Nozaki, Hisayoshi < UTEX **Other collection strain no.:** UTEX 132 **Locality:** Cambridge, Queen's Ditch/England/U.K. (1947-**-**) **Isolator:** George, E. A. **Identified by:** Starr, R. C. **States:** Unialgal; Clonal; Axenic[2012 Nov] **Culture conditions:** MG; 23°C; 180-200µmol/m²/s; 14 D **Habitat:** Freshwater (Ditch water) **Remarks:** Fragile species to transportation stresses

VOLVULINA : Chlorophyceae

Volvulina boldii O'Neil et Starr nom. nud.

893 **History:** < Nozaki, Hisayoshi < UTEX **Other collection strain no.:** UTEX 2185 **Locality:** Peurith/North Carolina/U.S.A. **Isolator:** Starr, R. C. **Identified by:** Starr, R. C. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 20°C; 22-32µmol/m²/s; 1 M **Characteristics:** Heterothallic; Isogamy; Mating type(+) **Gene data:** atpB (AB044176); psaA (AB044225); psaB (AB044451); psbC (AB044504); rbcL (AB044162); rbcL (AB044163) **Reference:** 733

894 **History:** < Nozaki, Hisayoshi < UTEX **Other collection strain no.:** UTEX 2186 **Locality:** Peurith/North Carolina/U.S.A. **Isolator:** Starr, R. C. **Identified by:** Starr, R. C. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 20°C; 22-32µmol/m²/s; 1 M **Characteristics:** Heterothallic; Isogamy; Mating type(-)

Volvulina compacta Nozaki

582 **History:** < Nozaki, Hisayoshi **Locality:** Birtamod/Nepal (1988-10-07) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Axenic **Culture conditions:** VT; 20°C; 15-27µmol/m²/s; 1 M **Habitat:** Freshwater (Paddy soil) **Characteristics:** Heterothallic; Mating type(+); Crosses with NIES-583 **Gene data:** atpB (AB014029); psaA (AB044217); psaA (AB044218); psaA (AB044219); psaB (AB044446); psbC (AB044498); rbcL-462 intron (AB076089) **Other strain no.:** 89-804-4 **References:** 567, 716, 725, 733, 738, 740, 743

583 **History:** < Nozaki, Hisayoshi **Locality:** Birtamod/Nepal (1988-10-07) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Axenic **Culture conditions:**

- VT; 20°C; 15-27µmol/m²/s; 1 M **Habitat:** Freshwater (Paddy soil) **Characteristics:** Heterothallic; Mating type(-); Crosses with NIES-582 **Other strain no.:** 89-804-7 **References:** 567, 725
- 2567** **History:** < Nakada, Takashi **Locality:** Lake Tsukui/Kanagawa/Japan (2002-05-30) **Isolator:** Nakada, Takashi **Identified by:** Nakada, Takashi (2002-06-**) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Lake water) **Other strain no.:** TN-0205-2-Pn-1 **Reference:** 617
- Volvulina pringsheimii* Starr
- 895** **History:** < Nozaki, Hisayoshi < UTEX **Other collection strain no.:** UTEX 1020 **Locality:** Fredricksburg/Texas/U.S.A. **Isolator:** Starr, R. C. **Identified by:** Starr, R. C. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** MG; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Terrestrial (Rock) **Characteristics:** Heterothallic; Isogamy **Gene data:** atpB (AB014028); psaA (AB044220); psaB (AB044447); psbC (AB044499); rbcL (D63444) **References:** 715, 733, 738
- Volvulina steinii* Playfair
- 545** **History:** < Nozaki, Hisayoshi **Locality:** Hayama/Kanagawa/Japan (1980-12-**) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Axenic **Culture conditions:** VTAC; 20 °C ; 15-27µmol/m²/s; 1 M **Habitat:** Freshwater (Paddy soil) **Characteristics:** Heterothallic; Mating type(-); Crosses with NIES-546 **Gene data:** atpB (AB044713); psaA (AB044221); psaA (AB044222); psaB (AB044448); psbC (AB044500); rbcL (AB044159) **Other strain no.:** 1107-5 (-) **References:** 567, 662, 689, 712, 733
- 546** **History:** < Nozaki, Hisayoshi **Locality:** Hayama/Kanagawa/Japan (1980-12-**) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Axenic **Culture conditions:** VTAC; 20 °C ; 15-27µmol/m²/s; 1 M **Habitat:** Freshwater (Paddy soil) **Characteristics:** Heterothallic; Mating type(+); Crosses with NIES-545 **Other strain no.:** 1107-8 (+) **References:** 374, 567, 689
- 584** **History:** < Nozaki, Hisayoshi **Locality:** Bahrabise/Nepal (1988-09-01) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** VTAC; 20 °C ; 22-27µmol/m²/s; 1 M **Habitat:** Freshwater (Paddy soil) **Characteristics:** Heterothallic; Isogamy; Mating type(+); Crosses with NIES-585 **Other strain no.:** 89-306-1 **References:** 567, 701
- 585** **History:** < Nozaki, Hisayoshi **Locality:** Bahrabise/Nepal (1988-09-01) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** VTAC; 20 °C ; 22-27µmol/m²/s; 1 M **Habitat:** Freshwater (Paddy soil) **Characteristics:** Heterothallic; Isogamy; Mating type(-); Crosses with NIES-584 **Other strain no.:** 89-423-1 **References:** 567, 701
- 896** **History:** < Nozaki, Hisayoshi < UTEX **Other collection strain no.:** UTEX 1525 **Locality:** Farmington/California/U.S.A. **Isolator:** Carefoot, J. R. **Identified by:** Carefoot, J. R. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Ditch mud) **Characteristics:** Mixotrophic; Heterothallic; Isogamy **Gene data:** atpB (AB044174); psaA (AB044223); psaB (AB044449); psbC (AB044501); rbcL (AB044160) **References:** 45, 689, 712, 733
- 897** **History:** < Nozaki, Hisayoshi < UTEX **Other collection strain no.:** UTEX 1527 **Locality:** Bloomington/Indiana/U.S.A. **Isolator:** Carefoot, J. R. **Identified by:** Carefoot, J. R. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Salt water (Salt creek mud) **Characteristics:** Mixotrophic; Heterothallic; Isogamy **References:** 45, 689, 712
- 898** **History:** < Nozaki, Hisayoshi < UTEX **Other collection strain no.:** UTEX 1531 **Locality:** Wilson County/Texas/U.S.A. **Isolator:** Carefoot, J. R. **Identified by:** Carefoot, J. R. **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-32µmol/m²/s; 1 M **Habitat:** Freshwater (Soil or Mud) **Characteristics:** Mixotrophic; Heterothallic; Isogamy **Gene data:** atpB (AB044175); psaA (AB044224); psaB (AB044450); psbC (AB044502); psbC (AB044503); rbcL (AB044161) **References:** 45, 689, 712, 733

WATANABEA : Trebouxiophyceae*Watanabea reniformis* Hanagata, Karube, Chihara et Silva

- 2189** **History:** < IAM (2007) < Soeder, C. J. (1966) < CCAP **Other collection strain no.:** IAM C-211; CCAP 211/9b **Isolator:** Pringsheim, E. G. **Formerly identified as:** *Chlorella saccharophila* (Krüger) Migula **States:** Unialgal; Clonal; Axenic[2013 Jan] **Culture conditions:** C (agar); 20°C; 8-15µmol/m²/s; 3 M **Other strain no.:** Cambridge Univ. 211-9b **References:** 144, 190, 424, 425, 1211, 1212

WOBBLIA : Placididea*Wobblia lunata* Moriya, Nakayama et Inouye

- 1015** **History:** < Moriya, Mayumi **Locality:** Osabe Harbor/Iwate/Japan (1996-08-**) **Isolator:** Moriya, Mayumi **Identified by:** Moriya, Mayumi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** SUY; 15 °C ; 0µmol/m²/s; 1 M **Habitat:** Marine (Seawater) **Characteristics:** Phagotrophic; Heterotrophic; Authentic strain **Gene data:** 18S rRNA (AB032606) **Other strain no.:** #1 **Reference:** 573

YAMAGISHIELLA : Chlorophyceae*Yamagishiella unicocca* (Rayburn et Starr) Nozaki
Syn. *Pandorina unicocca* Rayburn et Starr

- 578** **History:** < Nozaki, Hisayoshi **Locality:** Kamogawa/Chiba/Japan (1980-10-19) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** VTAC; 20 °C ; 22-27µmol/m²/s; 1 M **Habitat:** Freshwater (Pond sediment) **Characteristics:** Heterothallic; Isogamy; Mating type(+); Crosses with NIES-579 **Other strain no.:** 01209-1 **References:** 567, 742, 1208
- 579** **History:** < Nozaki, Hisayoshi **Locality:** Kamogawa/Chiba/Japan (1980-10-19) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** VTAC; 20 °C ; 22-27µmol/m²/s; 1 M **Habitat:** Freshwater (Pond sediment) **Characteristics:** Heterothallic; Isogamy; Mating type(-); Crosses with NIES-578 **Other strain no.:** 01209-7 **Reference:** 567
- 666** **History:** < Nozaki, Hisayoshi **Other collection strain no.:** UTEX 2428 **Locality:** Nobi/Kanagawa/Japan (1979-05-**) **Isolator:** Kato, Sueo **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** VT; 20°C; 22-27µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Heterothallic; Isogamy; Mating type(+); Crosses with NIES-667 **Gene data:** atpB (AB014030); psaA (AB044213); psaB (AB044443); psbC (AB044495); rbcL (D86823) **Other strain no.:** X-441 **References:** 396, 567, 688, 716, 728, 733, 738, 1208
- 667** **History:** < Nozaki, Hisayoshi **Other collection strain no.:** UTEX 2429 **Locality:** Nobi/Kanagawa/Japan (1979-05-**) **Isolator:** Kato, Sueo **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** VT; 20°C; 22-27µmol/m²/s; 1 M **Habitat:** Freshwater (Pond water) **Characteristics:** Heterothallic; Isogamy; Mating type(-); Crosses with NIES-666 **Other strain no.:** X-443 **References:** 567, 688
- 870** **History:** < Nozaki, Hisayoshi **Locality:** Lake Röblin/Fürstenberg/Germany (1997-07-29) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 15°C; 20-30µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Characteristics:** Heterothallic; Isogamy; Mating type(+) **Other strain no.:** 970730-E-1 **Reference:** 1208
- 871** **History:** < Nozaki, Hisayoshi **Locality:** Lake Röblin/Fürstenberg/Germany (1997-07-29) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 15°C; 20-30µmol/m²/s; 2 M **Habitat:** Freshwater (Lake water) **Characteristics:** Heterothallic; Isogamy; Mating type(-) **Other strain no.:** 970730-E-7

- 872** **History:** < Nozaki, Hisayoshi **Locality:** Brandenburg/Germany (1997-07-31) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 15 °C ; 20-30 μ mol/m²/s; 2 M **Habitat:** (Freshwater) **Characteristics:** Heterothallic; Isogamy; Mating type(+) **Gene data:** atpB (AB044172); psaA (AB044216); psaB (AB044445); psbC (AB044497); rbcL (AB044168) **Other strain no.:** 970801-E-5 (= Nozaki E-5) **References:** 733, 1208
- 873** **History:** < Nozaki, Hisayoshi **Locality:** Brandenburg/Germany (1997-07-31) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 15 °C ; 20-30 μ mol/m²/s; 2 M **Habitat:** (Freshwater) **Characteristics:** Heterothallic; Isogamy; Mating type(-) **Other strain no.:** 970801-E-9
- 874** **History:** < Nozaki, Hisayoshi **Locality:** Brandenburg/Germany (1997-07-31) **Isolator:** Nozaki, Hisayoshi **Identified by:** Nozaki, Hisayoshi **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 15 °C ; 20-30 μ mol/m²/s; 2 M **Habitat:** (Freshwater) **Characteristics:** Heterothallic; Isogamy; Mating type(-) **Other strain no.:** 970801-E-10
- 1859** **History:** < Nozaki, Hisayoshi **Locality:** Noumi Isl./Hiroshima/Japan (2004-08-18) **Isolator:** Yamada, Toshihiro **Identified by:** Yamada, Toshihiro (2005-06-17) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-32 μ mol/m²/s; 1 M **Habitat:** Freshwater (Soil) **Characteristics:** Heterothallic; Dioecious; Isogamy; Mating type(-); Crosses with NIES-1861 **Other strain no.:** Hasu-1 **Reference:** 1208
- 1860** **History:** < Nozaki, Hisayoshi **Locality:** Noumi Isl./Hiroshima/Japan (2004-08-18) **Isolator:** Yamada, Toshihiro **Identified by:** Yamada, Toshihiro (2005-06-17) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-32 μ mol/m²/s; 1 M **Habitat:** Freshwater (Soil) **Characteristics:** Heterothallic; Dioecious; Isogamy; Mating type(-); Crosses with NIES-1861 **Other strain no.:** Hasu-2
- 1861** **History:** < Nozaki, Hisayoshi **Locality:** Noumi Isl./Hiroshima/Japan (2004-08-18) **Isolator:** Yamada, Toshihiro **Identified by:** Yamada, Toshihiro (2005-06-17) **States:** Unialgal; Clonal; Non-axenic **Culture conditions:** AF-6; 20°C; 22-32 μ mol/m²/s; 1 M **Habitat:** Freshwater (Soil) **Characteristics:** Heterothallic; Dioecious; Isogamy; Mating type(+); Crosses with NIES-1859, 1860 **Other strain no.:** Hasu-4

3. List of type specimens

- Specimen ID:** NIES-50001
Scientific name: *Chlorogonium capillatum* Nozaki, M. M. Watanabe et Aizawa
Class name: Chlorophyceae
Deposition date: 2007-3-31
Depositor(s): Nakada, T. & Nozaki, H. (University of Tokyo)
Type status: Epitype
Specimen status: Cryopreserved
Corresponding active culture strain: NIES-692
Reference: See section VIII Nakada *et al.* 2008
- Specimen ID:** NIES-50002
Scientific name: *Chlorogonium elongatum* (P. A. Dangeard) Francé
Class name: Chlorophyceae
Basionym: *Cercidium elongatum* P. A. Dangeard
Deposition date: 2007-3-31
Depositor(s): Nakada, T. & Nozaki, H. (University of Tokyo)
Type status: Epitype
Specimen status: Cryopreserved
Corresponding active culture strain: NIES-751 (IAM C-293, CCAP 12/1, UTEX 204)
Reference: See section VIII Nakada *et al.* 2008
- Specimen ID:** NIES-50003
Scientific name: *Chlorogonium euchlorum* (Ehrenberg) Ehrenberg
Class name: Chlorophyceae
Basionym: *Astasia euchlora* Ehrenberg
Deposition date: 2007-3-31
Depositor(s): Nakada, T. & Nozaki, H. (University of Tokyo)
Type status: Epitype
Specimen status: Cryopreserved
Corresponding active culture strain: NIES-755 (UTEX 2010)
Reference: See section VIII Nakada *et al.* 2008
- Specimen ID:** NIES-50005
Scientific name: *Gungnir kasakii* (Nozaki) Nakada
Class name: Chlorophyceae
Basionym: *Chlorogonium kasakii* Nozaki
Deposition date: 2007-3-31
Depositor(s): Nakada, T. & Nozaki, H. (University of Tokyo)
Type status: Epitype
Specimen status: Cryopreserved
Corresponding active culture strain: NIES-761 (CCAP 12/8)
Reference: See section VIII Nakada *et al.* 2008
- Specimen ID:** NIES-50006
Scientific name: *Gungnir neglectum* (Pascher) Nakada
Class name: Chlorophyceae
Basionym: *Chlorogonium neglectum* Pascher
Synonym: *Chlamydomonas neglecta* (Pascher) Korshikov
Deposition date: 2007-3-31
Depositor(s): Nakada, T. & Nozaki, H. (University of Tokyo)
Type status: Epitype
Specimen status: Cryopreserved
Corresponding active culture strain: NIES-439
Reference: See section VIII Nakada *et al.* 2008
- Specimen ID:** NIES-50007
Scientific name: *Rusalka fusiformis* (Matvienko) Nakada
Class name: Chlorophyceae
Basionym: *Chlorogonium fusiforme* Matvienko
Deposition date: 2007-3-31
Depositor(s): Nakada, T. & Nozaki, H. (University of Tokyo)
Type status: Epitype
Specimen status: Cryopreserved
Corresponding active culture strain: NIES-123 (IAM C-349)

Reference: See section VIII References 731.

4. List of synonyms

Synonym → Current name

- Achnanthes minutissima* Kützing → *Achnanthidium minutissimum* (Kützing) Czarnecki
- Achnanthes minutissima* Kützing var. *saprophila* Kobayasi et Mayama
→ *Achnanthidium minutissimum* (Kützing) Czarnecki var. *saprophilum* Kobayasi et Mayama
- Amphidinium britannicum* (Herdmann) Lebour → *Togula britannica* (Herdman) Jørgensen, Murray et Daughjerg
- Anabaena flos-aquae* Brébisson ex Bornet et Flahault f. *flos-aquae*
→ *Anabaena flos-aquae* Brébisson ex Bornet et Flahault
- Anabaena raciborskii* Woloszynska → *Cylindrospermopsis raciborskii* (Woloszynska) Seenayya et S.Raju
- Anabaena spiroides* Klebahn f. *crassa* (Lemmermann) Elenkin
→ *Anabaena crassa* (Lemmermann) Komárková-Legnerová et Cronberg
- Anabaena spiroides* Klebahn var. *crassa* Klebahn
→ *Anabaena crassa* (Lemmermann) Komárková-Legnerová et Cronberg
- Ankistrodesmus subcapitata* Korshikov → *Pseudokirchneriella subcapitata* (Korshikov) Hindák
- Arthrospira platensis* Gomont → *Arthrospira platensis* (Nordstedt) Gomont
- Asterionella glacialis* Castracane → *Asterionellopsis glacialis* (Castracane) Round
- Asterocystis ramosa* (Thwaites) Gobi → *Chroodactylon ornatum* (C.Agardh) Basson
- Asterocystis smargadina* Reinsch → *Chroodactylon ornatum* (C.Agardh) Basson
- Batrachospermum vagum* (Roth) Agardh → *Batrachospermum turfosum* Bory
- Cachonina niei* Loeblich III → *Heterocapsa niei* (Loeblich III) Morrill et Loeblich III
- Cercidium elongatum* Dangeard → *Chlorogonium elongatum* (Dangeard) Francé
- Chattonella verruculosa* Hara et Chihara → *Pseudochattonella verruculosa* (Hara et Chihara) Tanabe-Hosoi *et al.*
- Chilomonas paramecium* Ehrenberg → *Cryptomonas paramaecium* (Ehrenberg) Hoef-Emden et Melkonian
- Chlamydomonas elongata* Wille → *Chlorogonium elongatum* (Dangeard) Francé
- Chlamydotryps squamata* Korshikov → *Pyrobotryps squarrosa* (Korshikov) Korshikov
- Chlamydomonas macroplastida* J.W.G. Lund f. *macrostigma* Bourrelly
→ *Chlamydomonas pseudomacrostigma* L.Š. Péterfi ex H.Ettl
- Chlamydomonas media* var. *eustigma* Gerloff → *Chlamydomonas media* Klebs
- Chlamydomonas minima* Korshikov → *Chlamydomonas perpusilla* (Korshikov) Gerloff var. *perpusilla*
- Chlamydomonas monadina* F.Stein var. *charkoviensis* Korshikov
→ *Chlamydomonas pseudomacrostigma* L. Š. Péterfi ex H. Ettl
- Chlamydomonas neglecta* Korshikov ex Pascher → *Gungnir neglectum* (Pascher) Nakada
- Chlamydomonas planoconvexa* Iyengar non Lund → *Chlamydomonas neoplanconvexa* (Iyengar) Nakada
- Chlamydomonas platyrhyncha* Pascher → *Chloromonas pseudoplatyrhyncha* (Pascher) Silva
- Chlamydomonas polychloris* Korshikov non Pascher → *Chloromonas pseudoplatyrhyncha* (Pascher) Silva
- Chlorella emersonii* Shihira et Krauss → *Graesiella emersonii* (Shihira et Krauss) Nozaki *et al.*
- Chlorella fusca* Shihira et Krauss var. *vacuolata* Shihira et Krauss → *Graesiella emersonii* (Shihira et Krauss) Nozaki *et al.*
- Chlorella kessleri* Fott et Nováková → *Parachlorella kessleri* (Fott et Nováková) Krienitz *et al.*
- Chlorella protothecoides* Krüger → *Auxenochlorella protothecoides* (Krüger) Kalina et Puncochárová
- Chlorella zofingiensis* Dönz → *Muriella zofingiensis* (Dönz) Hindák
- **Chlorogonium acus* (Author unknown) → *Chlorogonium elongatum* (Dangeard) Francé
- Chlorogonium fusiforme* Matvienko → *Rusalka fusiformis* (Matvienko) Nakada
- Chlorogonium heimii* Bourrelly → *Tabris heimii* (Bourrelly) Nakada
- Chlorogonium kasakii* Nozaki → *Gungnir kasakii* (Nozaki) Nakada
- Chlorogonium neglectum* Pascher → *Gungnir neglectum* (Pascher) Nakada

- Chlorosarcinopsis delicata* S.Watanabe → *Desmotetra delicata* (S.Watanabe) S.Watanabe
- Chroodactylon ramosum* (Thwaites) Hansgirg → *Chroodactylon ornatum* (C.Agardh) Basson
- Chroomonas atrorosea* Butcher → *Rhodomonas atrorosea* Butcher ex Hill et Wetherbee
- Chroomonas falcata* Butcher → *Rhodomonas falcata* Butcher ex Hill et Wetherbee
- Chloromonas platyrhyncha* Ettl → *Chloromonas pseudoplatyrhyncha* (Pascher) Silva
- Closterium subrostratum* Krieger → *Closterium rostratum* Ehrenberg ex Ralfs var. *subrostratum* (Krieger) Krieger
- Compsopogon helwanii* El-Gamal et Salah El-Din → *Compsopogon coeruleus* (Balbis) Montagne
- Compsopogon oishii* Okamura → *Compsopogon coeruleus* (Balbis) Montagne
- Cricosphaera roscoffensis* (Dangeard) Gayral et Fresnel → *Pleurochrysis roscoffensis* (Dangeard) Fresnel et Billard
- Cryptomonas chrysoidea* Butcher → *Rhodomonas chrysoidea* Butcher ex Hill et Wetherbee
- Cryptomonas coerulea* Geitler → *Chroomonas coerulea* (Geitler) Skuja
- Cryptomonas pseudobaltica* Butcher → *Rhodomonas baltica* Karsten
- Errerella bornhemiensis* Conrad → *Micractinium bornhemiensis* (Conrad) Korshikov
- Euastrum englerii* Schmidle var. *madagascariense* Bourrelly et Mangium
→ *Euastrum diverrucosum* Gontcharov et M.M. Watanabe
- Eudorina unicocca* G.M. Smith var. *peripheralis* Goldstein → *Eudorina peripheralis* (Goldstein) T.K. Yamada
- Graesiella vacuolata* (Shihira et Krauss) Kalina et Puncová → *Graesiella emersonii* (Shihira et Krauss) Nozaki *et al.*
- Gonium sacculiferum* Scherffel → *Basichlamys sacculifera* (Scherffel) Skuja
- Gonium sociale* (Dujardin) Warming → *Tetrabaena socialis* (Dujardin) Nozaki et Ito
- Gonium sociale* (Dujardin) Warming var. *sociale* → *Tetrabaena socialis* (Dujardin) Nozaki et Ito var. *socialis*
- Gymnodinium chlorophorum* Elbrachter et Schnepf
→ *Lepidodinium chlorophorum* (Elbrachter et Schnepf) Hansen, Botes et de Salas
- Gymnodinium mikimotoi* Miyake et Kominami ex Oda
→ *Karenia mikimotoi* (Miyake et Kominami ex Oda) Hansen et Moestrup
- Gymnodinium nagasakiense* Takayama et Adachi
→ *Karenia mikimotoi* (Miyake et Kominami ex Oda) Hansen et Moestrup
- Gymnodinium sanguineum* Hirasaka → *Akashiwo sanguinea* (Hirasaka) Hansen et Moestrup
- Haematococcus pluvialis* Flotow → *Haematococcus lacustris* (Girod-Chantrons) Rostafinski
- Hafniomonas reticulata* Korshikov var. *conica* (Ettl) Ettl et Moestrup → *Hafniomonas conica* (Ettl) Nakada et Nozaki
- Hemieutreptia antiqua* Hada
→ *Chattonella marina* (Subrahmanyam) Y.Hara et Chihara var. *antiqua* (Hada) Demura et Kawachi
- Hormidium flaccidum* (Kützing) Braun → *Klebsormidium flaccidum* (Kützing) Silva, Mattox et Blackwell
- Katodinium rotundatum* (Lohmann) Loeblich III → *Heterocapsa rotundata* (Lohmann) Hansen
- Kirchneriella subcapitata* Korshikov → *Pseudokirchneriella subcapitata* (Korshikov) Hindák
- Microcystis ichthyoblabe* Kützing → *Microcystis aeruginosa* (Kützing) Lemmermann
- Microcystis novacekii* (Komárek) Compère → *Microcystis aeruginosa* (Kützing) Lemmermann
- Microcystis viridis* (A.Brown) Lemmermann → *Microcystis aeruginosa* (Kützing) Lemmermann
- Microcystis wesenbergii* Komárek → *Microcystis aeruginosa* (Kützing) Lemmermann
- Navicula seminulum* Grunow → *Sellaphora seminulum* (Grunow) D.G. Mann
- Nemalionopsis shawii* Skuja f. *caroliniana* Howard et Parker → *Nemalionopsis tortuosa* Yoneda et Yagi
- Nitella dualis* Nordstedt f. *pulchella* (Allen) R.D. Wood → *Nitella pulchella* Allen
- Nitella furcata* (Roxburgh ex Bruzelius) C.Agardh f. *gracilens* (Morioka) R.D. Wood → *Nitella gracilens* Morioka
- Nitella furcata* (Roxburgh ex Bruzelius) C.Agardh f. *japonica* (Allen) R.D. Wood → *Nitella japonica* Allen
- Nitella moniliformis* Morioka non Zaneveld → *Nitella moriokae* R.D. Wood
- Nitella pseudoflabellata* A.Braun f. *megaspora* (J.Groves) R.D. Wood → *Nitella megaspora* (J.Gloves) Sakayama
- Nitella rigida* Allen f. *moriokae* (R.D. Wood) R.D. Wood → *Nitella moriokae* R.D. Wood

- Nitella translucens* (Persoon) C. Agardh f. *axilliformis* (Imahori) R.D. Wood → *Nitella axilliformis* Imahori
- Ochromonas malhamensis* Pringsheim → *Poterioochromonas malhamensis* (Pringsheim) Peterfi
- Oscillatoria agardhii* Gomont → *Planktothrix agardhii* (Gomont) Anagnostidis et Komárek
- Oscillatoria raciborskii* Woloszynska → *Planktothricoides raciborskii* Suda et M.M. Watanabe
- Oscillatoria redekei* Van Goor → *Limnothrix redekei* (Van Goor) Meffert
- Oscillatoria rubescens* DC. ex Gomont → *Planktothrix rubescens* (DC. ex Gomont) Anagnostidis et Komárek
- Pandorina unicocca* Rayburn et Starr → *Yamagishiella unicocca* (Rayburn et Starr) Nozaki
- Phacus agilis* Skuja → *Cryptoglana skujae* Marin et Melkonian
- Pinnularia braunii* (Grunow) Cleve var. *amphicephala* sensu Mayama → *Pinnularia valdetolerans* Mayama et H. Kobayasi
- Pleodorina illinoisensis* Kofoid → *Eudorina illinoisensis* (Kofoid) Pascher
- Porphyridium cruentum* (Agardh) Nägeli → *Porphyridium purpureum* (Bory) Drew et Ross
- Protogonyaulax affinis* Inouye et Fukuyo → *Alexandrium affine* (Inoue et Fukuyo) Balech
- Protogonyaulax catenalla* (Whedon et Kofoid) Taylor → *Alexandrium catenalla* (Whedon et Kofoid) Balech
- Protogonyaulax tamarensis* (Lebour) Taylor → *Alexandrium tamarense* (Lebour) Balech
- Pyramimonas reticulata* Korshikov → *Hafniomonas reticulata* (Korshikov) Ettl et Moestrup
- Pyramimonas reticulata* Korshikov var. *conica* Ettl → *Hafniomonas conica* (Ettl) Nakada et Nozaki
- Raphidocelis subcapitata* (Korshikov) Nygaard → *Pseudokirchneriella subcapitata* (Korshikov) Hindák
- Scenedesmus abundans* (Kirchner) Chodat → *Desmodesmus abundans* (Kirchner) Hegewald
- Scenedesmus gutwinskii* Chodat var. *heterospina* Bodrožkózy
→ *Desmodesmus subspicatus* (Chodat) Hegewald et Schmidt
- Scenedesmus serratus* (Corda) Bohlin → *Desmodesmus serratus* (Corda) Friedl et Hegewald
- Selenastrum minutum* (Nägeli) Collins → *Monoraphidium minutum* (Nägeli) Komárková-Legnerová
- Sphaerellopsis gloeocystiformis* (Dill) Gerloff → *Vitreochlamys gloeocystiformis* (Dill) Nakazawa
- Sphaerellopsis nekrassovii* (Korshikov) Ettl → *Vitreochlamys nekrassovii* (Korshikov) Nakazawa
- Sphaerellopsis ordinata* Skuja → *Vitreochlamys ordinata* (Skuja) Nakazawa
- Staurastrum dejectum* Brébisson ex Ralfs → *Stauroidesmus dejectum* (Brébisson ex Ralfs) Teiling
- Synechococcus elongatus* → *Thermosynechococcus elongatus* Katoh, Itoh, Shen et Ikeuchi
- Synechococcus vulcanus* → *Thermosynechococcus vulcanus* Katoh, Itoh, Shen et Ikeuchi nom. nud.
- Tetraëdron incus* (Teiling) G.M. Smith → *Chlorotetraedron incus* (Teiling) MacEntee *et al.*
- Tetraselmis subcordiformis* (Wille) Butcher → *Platymonas subcordiformis* (Wille) Hazen
- Uva squamata* (Korshikov) Fott → *Pyrobotrys squarrosa* (Korshikov) Korshikov
- Verrucophora verruculosa* (Hara et Chihara) Eikrem
→ *Pseudochattonella verruculosa* (Hara et Chihara) Tanabe-Hosoi *et al.*

5. List of former (previously used) names

Former name and NIES No. → Current name

- Achnanthes longipes* Agardh **NIES-330** → *Achnanthes subconstricta* (Meister) Toyoda
- Anabaena circinalis* Rabenhorst ex Bornet et Flahault **NIES-833** → *Anabaena lemmermannii* Richter
- Anabaena flos-aquae* Brébisson ex Bornet et Flahault f. *flos-aquae* **NIES-74** → *Anabaena kisseleviana* Elenkin
- Anabaena mendotae* Trelease **NIES-808** → *Anabaena lemmermannii* Richter
- Anabaena solitaria* Klebahn **NIES-815, NIES-816** → *Anabaena planctonica* Brunthaler
- Anabaena solitaria* Klebahn f. *planctonica* (Brunthaler) Komárek **NIES-834** → *Anabaena planctonica* Brunthaler
- Anabaena solitaria* Klebahn f. *solitaria* **NIES-80** → *Anabaena planctonica* Brunthaler
- Anabaena spiroides* Klebahn **NIES-806, NIES-835** → *Anabaena compacta* (Nygaard) Hickel
- Anabaena spiroides* Klebahn f. *spiroides* **NIES-77**
 → *Anabaena crassa* (Lemmermann) Komárková-Legnerová et Cronberg
- Anabaena spiroides* Klebahn f. *spiroides* **NIES-79** → *Anabaena pseudocompacta* M.Watanabe
- Anabaena spiroides* Klebahn f. *spiroides* **NIES-263** → *Anabaena ucrainica* (Schkorbatow) M.Watanabe
- Ankistrodesmus falcatus* (Corda) Ralfs **NIES-2190** → *Ankistrodesmus angustus* Bernard
- Ankistrodesmus falcatus* (Corda) Ralfs var. *duplex* (Kützing) G.S. West **NIES-2193**
 → *Ankistrodesmus braunii* (Nägeli) Brunthaler
- Ankistrodesmus falcatus* (Corda) Ralfs var. *mirabilis* W. et G.S. West **NIES-2191** → *Ankistrodesmus angustus* Bernard
- Aulosira fertilissima* Ghose (in IAM) **NIES-50** → *Aulosira laxa* Kirchner ex Bornet et Flauhault
- Auxenochlorella* sp. **NIES-2342** → *Choricystis* sp.
- Basichlamys sacculifera* (Scherffel) Skuja **NIES-1437** → *Tetrabaena socialis* (Dujardin) Nozaki et Ito
- Cachonina niei* Loeblich III **NIES-614** → *Heterocapsa horiguchii* Iwataki, Takayama et Matsuoka
- Carteria inversa* (Korshikov) Bourrelly **NIES-424, NIES-425** → *Carteria cerasiformis* Nozaki, Aizawa et M.M. Watanabe
- Carteria olivieri* G.S. West **NIES-636** → *Carteria eugametos* Mitra
- Characium maximum* S.Watanabe **NIES-154** → *Kentrosphaera* sp.
- Chattonella antiqua* (Hada) Ono
NIES-1, NIES-2, NIES-83, NIES-84, NIES-85, NIES-86, NIES-113, NIES-114, NIES-161, NIES-558, NIES-1973 (Lost)
 → *Chattonella marina* (Subrahmanyam) Y.Hara et Chihara var. *antiqua* (Hada) Demura et Kawachi
- Chattonella antiqua* (Hada) Ono **NIES-557** → *Chattonella marina* (Subrahmanyam) Y.Hara et Chihara var. *marina*
- Chattonella marina* (Subrahmanyam) Hara et Chihara
NIES-3, NIES-14, NIES-115, NIES-116, NIES-117 (Lost), **NIES-118, NIES-121, NIES-557, NIES-559**
 → *Chattonella marina* (Subrahmanyam) Y.Hara et Chihara var. *marina*
- Chattonella ovata* Hara et Chihara **NIES-603, NIES-671, NIES-849, NIES-1872, NIES-1873, NIES-1979** (Lost)
 → *Chattonella marina* (Subrahmanyam) Y.Hara et Chihara var. *ovata* (Y.Hara et Chihara) Demura et Kawachi
- Chlamydomonas actinochloris* Deason et Bold **NIES-2201**
 → *Chloromonas actinochloris* (Deason et Bold) Pröschold, Marin, Schlösser et Melkonian
- Chlamydomonas aggregata* Deason et Bold **NIES-2202** → *Chlamydomonas applanata* Pringsheim
- Chlamydomonas agloiformis* Pascher **NIES-2211** → *Chlamydomonas* sp.
- Chlamydomonas akinetos* Deason et Bold **NIES-2203** → *Chloromonas* sp.
- Chlamydomonas angulosa* Dill **NIES-2212** → *Chlamydomonas debaryana* Goroschankin
- Chlamydomonas applanata* Pringsheim **NIES-2203** → *Chloromonas* sp.
- Chlamydomonas augustae* Skuja var. *ellipsoidea* S.Watanabe **NIES-158**
 → *Chloromonas augustae* (Skuja) Pröschold, Marin, Schlösser et Melkonian
- Chlamydomonas brannonii* Pringsheim **NIES-2248** → *Chlamydomonas zebra* Korshikov ex Pascher
- Chlamydomonas chlorococcoides* Ettl et Schwarz **NIES-2575**

- *Chloromonas actinochloris* (Deason et Bold) Pröschold, Marin, Schlösser et Melkonian
Chlamydomonas coccoides Butcher NIES-1021 → *Chlamydomonas kuwadae* Gerloff
Chlamydomonas conferta Korshikov NIES-2225 → *Chlamydomonas nasuta* Korshikov
Chlamydomonas culleus Ettl NIES-2209, NIES-2210
- *Lobochlamys culleus* (Ettl) Pröschold, Marin, Schlösser et Melkonian
Chlamydomonas debaryana Goroschankin NIES-2211 → *Chlamydomonas* sp.
Chlamydomonas dorsoventralis Pascher NIES-2213 → *Chlamydomonas noctigama* Korshikov
Chlamydomonas fimbriata Ettl NIES-2214
- *Lobochlamys culleus* (Ettl) Pröschold, Marin, Schlösser et Melkonian
Chlamydomonas frankii Pascher NIES-2209, NIES-2210
- *Lobochlamys culleus* (Ettl) Pröschold, Marin, Schlösser et Melkonian
Chlamydomonas gloeopara Rodhe et Skuja NIES-2208 → *Chlamydomonas asymmetrica* Korshikov
Chlamydomonas humicola Lucksch NIES-2206 → *Chlamydomonas applanata* Pringsheim
Chlamydomonas intermedia Chodat NIES-2240
- *Lobochlamys culleus* (Ettl) Pröschold, Marin, Schlösser et Melkonian
Chlamydomonas iyengari Mitra NIES-2242 → *Chlamydomonas sphaeroides* Gerloff
Chlamydomonas monoica Strehlow NIES-2229 → *Chlamydomonas noctigama* Korshikov
Chlamydomonas monticola S.Watanabe NIES-157 → *Heterochlamydomonas* sp.
Chlamydomonas mutabilis Gerloff NIES-2224
- *Chloromonas actinochloris* (Deason et Bold) Pröschold, Marin, Schlösser et Melkonian
Chlamydomonas parkeae Ettl NIES-1022, NIES-1733 → *Chlamydomonas* sp.
Chlamydomonas pinicola Ettl NIES-2228 → *Chlamydomonas noctigama* Korshikov
Chlamydomonas segnis Ettl NIES-2240
- *Lobochlamys culleus* (Ettl) Pröschold, Marin, Schlösser et Melkonian
Chlamydomonas simplex Pascher NIES-2241 → *Chlamydomonas moewusii* Gerloff
Chlamydomonas sphagnophila Pascher NIES-2250 → *Chlorococcum elkhartiense* Archibald et Bold
Chlorella ellipsoidea Gerneck NIES-2170 → *Chlorella vulgaris* Beijerinck
Chlorella emersonii Shihira et Krauss NIES-690 → *Graesiella emersonii* (Shihira et Krauss) Nozaki *et al.*
Chlorella fusca Shihira et Krauss var. *fusca* NIES-685 → *Desmodesmus abundans* (Kirchner) Hegewald
Chlorella fusca Shihira et Krauss var. *vacuolata* Shihira et Krauss NIES-687
- *Graesiella emersonii* (Shihira et Krauss) Nozaki *et al.*
Chlorella ovalis Butcher NIES-2172 → *Chlorella vulgaris* Beijerinck
Chlorella protothecoides Krüger var. *mannophila* Shihira et Krauss NIES-2165
- *Auxenochlorella protothecoides* (Krüger) Kalina et Puncochárová
Chlorella pyrenoidosa Chick NIES-2169 → *Chlorella sorokiniana* Shihira et Krauss
Chlorella pyrenoidosa Chick NIES-226, NIES-2151 → *Graesiella emersonii* (Shihira et Krauss) Nozaki *et al.*
Chlorella saccharophila (Krüger) Migula NIES-2189 → *Watanabea reniformis* Hanagata, Karube, Chihara et Silva
'*Chlorella*' *saccharophila* (Krüger) Migula NIES-2166 → *Coccomyxa* sp.
Chlorella sp. NIES-2176 → *Auxenochlorella protothecoides* (Krüger) Kalina et Puncochárová
Chlorella sp. NIES-1269 → *Chlorella vulgaris* Beijerinck
Chlorella sp. NIES-2177, NIES-2178, NIES-2179
- *Parachlorella kessleri* (Fott et Nováková) Krienitz, Hegewald, Hepperle, Huss, Rohr et Wolf
Chlorella vulgaris Beijerinck NIES-2163 → *Auxenochlorella protothecoides* (Krüger) Kalina et Puncochárová
Chlorella vulgaris Beijerinck NIES-2167, NIES-2168 → *Chlorella sorokiniana* Shihira et Krauss
Chlorella vulgaris Beijerinck NIES-2171 → *Chlorella* sp.
Chlorella vulgaris Beijerinck NIES-2166 → *Coccomyxa* sp.

- Chlorella vulgaris* Beijerinck NIES-2161, NIES-2162
 → *Parachlorella kessleri* (Fott et Nováková) Krienitz, Hegewald, Hepperle, Huss, Rohr et Wolf
- Chlorogonium acus* NIES-751 → *Chlorogonium elongatum* (Dangeard) Francé
- Chlorogonium elongatum* Dangeard NIES-742 → *Chlorogonium capillatum* Nozaki, M.M. Watanabe et Aizawa
- Chlorogonium elongatum* (Dangeard) Dangeard NIES-745, NIES-746, NIES-748
 → *Chlorogonium capillatum* Nozaki, M.M. Watanabe et Aizawa
- Chlorogonium elongatum* (Dangeard) Dangeard NIES-754, NIES-757, NIES-760
 → *Chlorogonium euchlorum* (Ehrenberg) Ehrenberg
- Chlorogonium euchlorum* Ehrenberg NIES-749 → *Chlorogonium capillatum* Nozaki, M.M. Watanabe et Aizawa
- Chlorogonium euchlorum* Ehrenberg NIES-758 → *Chlorogonium euchlorum* (Ehrenberg) Ehrenberg
- Chlorogonium metamorphum* Skuja NIES-446 → *Chlamydomonas tetragama* (Bohlin) Ettl
- Chlorogonium metamorphum* Skuja NIES-123 → *Rusalka fusiformis* (Matvienko) Nakada
- Chlorogonium* sp. NIES-744, NIES-747 → *Chlorogonium capillatum* Nozaki, M.M. Watanabe et Aizawa
- Chlorogonium* sp. NIES-752, NIES-753 → *Chlorogonium elongatum* (Dangeard) Francé
- Chlorogonium* sp. NIES-755, NIES-756, NIES-759 → *Chlorogonium euchlorum* (Ehrenberg) Ehrenberg
- Chlorogonium* sp. NIES-761 → *Gungnir kasakii* (Nozaki) Nakada
- Chlorogonium tetragamum* Bohlin NIES-743, NIES-750, NIES-742
 → *Chlorogonium capillatum* Nozaki, M.M. Watanabe et Aizawa
- Chloromonas miwae* (Fukushima) Muramoto NIES-2379, NIES-2380 → *Chloromonas* sp.
- Chlorosarcinopsis caeca* S.Watanabe NIES-160 → *Chlorokybus* sp.
- Draparnaldia plumosa* (Vaucher) Agardh NIES-454 → *Stigeoclonium* sp.
- Eudorina unicocca* G.M. Smith var. *unicocca* NIES-724 → *Eudorina unicocca* G.M. Smith
- Eudorina unicocca* G.M. Smith var. *unicocca* NIES-725 → *Eudorina unicocca* G.M. Smith
- Hafniomonas montana* (Geitler) Ettl et Moestrup NIES-257 → *Hafniomonas laevis* Nakada, Suda et Nozaki
- Heterocapsa pygmaea* Lobelich III, Schmidt et Sherley NIES-472 → *Heterocapsa ovata* Iwataki et Fukuyo
- Heterocapsa pygmaea* Lobelich III, Schmidt et Sherley NIES-473
 → *Heterocapsa pseudotriquetra* Iwataki, Hansen et Fukuyo
- Hormidium barlowi* NIES-2285 → *Klebsormidium flaccidum* (Kützing) Silva, Mattox et Blackwell
- Hormidium flaccidum* (Kützing) A.Braun NIES-2286 → *Klebsormidium flaccidum* (Kützing) Silva, Mattox et Blackwell
- Melosira granulata* (Ehrenberg) Ralfs var. *angustissima* O.Müller f. *spiralis* O.Müller NIES-333
 → *Aulacoseira granulata* (Ehrenberg) Simonsen
- Microcystis aeruginosa* (Kützing) Lemmermann f. *aeruginosa*
 NIES-44, NIES-87, NIES-88, NIES-89, NIES-90, NIES-91, NIES-99, NIES-100, NIES-101, NIES-298, NIES-299
 → *Microcystis aeruginosa* (Kützing) Lemmermann
- Microcystis aeruginosa* (Kützing) Lemmermann f. *flos-aquae* (Wittrock) Elenkin NIES-98, NIES-478
 → *Microcystis aeruginosa* (Kützing) Lemmermann
- Microcystis ichthyoblabe* Kützing
 NIES-1026, NIES-1061, NIES-1070, NIES-1079, NIES-1090, NIES-1105, NIES-1122, NIES-1182
 → *Microcystis aeruginosa* (Kützing) Lemmermann
- Microcystis ichthyoblabe* Kützing NIES-1183 → *Microcystis aeruginosa* (Kützing) Lemmermann
- Microcystis novacekii* (Komárek) Compère NIES-901, NIES-1053, NIES-1068, NIES-1143
 → *Microcystis aeruginosa* (Kützing) Lemmermann
- Microcystis viridis* (A.Brown) Lemmermann
 NIES-102, NIES-103, NIES-1058, NIES-1059, NIES-1091, NIES-1102, NIES-1103, NIES-1104, NIES-1114,
 NIES-1118, NIES-1136, NIES-1180, NIES-1354, NIES-1355
 → *Microcystis aeruginosa* (Kützing) Lemmermann

Microcystis wesenbergii Komárek

NIES-104, NIES-105, NIES-106, NIES-107, NIES-108 , NIES-109, NIES-110, NIES-111, NIES-112, NIES-604, NIES-1055, NIES-1056, NIES-1057, NIES-1062, NIES-1067, NIES-1084, NIES-1106, NIES-1111, NIES-1112, NIES-1119, NIES-1120, NIES-1121, NIES-1128, NIES-1129, NIES-1137, NIES-1138, NIES-1144, NIES-1145, NIES-1158, NIES-1167, NIES-1168, NIES-1170, NIES-1171, NIES-1172, NIES-1175, NIES-1181, NIES-1193, NIES-1202, NIES-1207, NIES-1208, NIES-1251, NIES-1252, NIES-1253, NIES-1254, NIES-1255, NIES-1256

→ *Microcystis aeruginosa* (Kützing) Lemmermann

Mychonastes sp. **NIES-2333, NIES-2335, NIES-2337, NIES-2338** → *Choricystis* sp.

Nanochlorum sp. **NIES-1270** → *Picochlorum* sp.

Nitella furcata (Roxburgh ex Bruzelius) C.Agardh **NIES-1616** → *Nitella moriokae* R.D. Wood

Oscillatoria agardhii Gomont **NIES-610** → *Planktothrix rubescens* (DC. ex Gomont) Anagnostidis et Komárek

Oscillatoria bourrellyi J.W. G. Lund f. *tenuis* Skuja **NIES-846** → *Tychonema bourrellyi* Anagnostidis et Komárek

Phaeocystis pouchetii (Hariot) Lagerheim **NIES-388** → *Phaeocystis globosa* Scherffel

Phaeocystis sp. **NIES-1396** → *Phaeocystis globosa* Scherffel

Phormidium tenue (C.Agardh ex Gomont) Anagnostidis et Komárek **NIES-30** → *Leptolyngbya* sp.

Phormidium tenue (C.Agardh ex Gomont) Anagnostidis et Komárek **NIES-512** → *Pseudanabaena galeata* Böcher

Phormidium tenue (C.Agardh ex Gomont) Anagnostidis et Komárek **NIES-611** → *Pseudanabaena* sp.

Prototheca cifferrii Negroni et Blaisten **NIES-2182**

→ *Prototheca portoricensis* Cifferi, Ashford et Dalmau var. *ciferrii* (Negróni et Blaistín) Cifferi, Ashford et Dalmau

Rhodomonas chrysoidea Butcher ex Hill et Wetherbee **NIES-1005** → *Rhodomonas* sp.

Scenedesmus acutus Meyen **NIES-2158**

→ *Parachlorella kessleri* (Fott et Nováková) Krienitz, Hegewald, Hepperle, Huss, Rohr et Wolf

Scenedesmus nanus Chodat **NIES-2277, NIES-2278** → *Desmodesmus* sp.

Scenedesmus quadricauda (Turpin) Brébisson sensu Chodat **NIES-96** → *Desmodesmus* sp.

Selenastrum capricornutum (Printz) Nygaard **NIES-35** → *Pseudokirchneriella subcapitata* (Korshikov) Hindák

Skeletonema costatum (Greville) Cleve **NIES-16, NIES-17, NIES-223, NIES-323, NIES-324** → *Skeletonema marinoi-dohrnii* complex

Sphaerellopsis aulata Pascher **NIES-878** → *Vitreochlamys aulata* (Pascher) Batko

Spirulina platensis (Gomont) Geitler **NIES-39, NIES-45, NIES-46, NIES-597**

→ *Arthrospira platensis* (Nordstedt) Gomont

Trebouxia arboricola Puymaly **NIES-2183** → *Pseudotrebouxia corticola* Archibald

Tribonema marinum J.Feldmann **NIES-548** → *Acinetospora crinita* (Carmichael) Sauvageau

Volvox prolificus Iyengar **NIES-543** → *Volvox kirkiorum* Nozaki, Kawai-Toyooka et Isaka

6. List of lost strains

Strain No. (NIES-)	Scientific Name	Locality (Date of collection)
11	<i>Gymnodinium sanguineum</i>	Japan Harima-Nada (1979-01-**)
13	<i>Prorocentrum triestinum</i>	Japan Osaka Osaka Bay (1982-08-03)
20	<i>Melosira ambigua</i>	Japan Ibaraki Tsuchiura (1983-10-03)
117	<i>Chattonella marina</i> var. <i>marina</i>	Japan Kagawa Naoshima (1982-07-30)
126	<i>Closterium acerosum</i>	Nepal Muna (1965-11-12)
140	<i>Gymnodinium breve</i>	Japan Harima-Nada (1979-06-09)
141	<i>Gymnodinium sanguineum</i>	Japan Kagawa Uchinomi Bay (1979-05-30)
142	<i>Gyrodinium falcatum</i>	Japan Harima-Nada (1981-10-14)
143	<i>Gyrodinium instriatum</i>	Japan Kagawa Shodoshima Shodo Isl. (1978-06-25)
149	<i>Hyalotheca dissiliens</i>	Japan Ibaraki Lake Kasumigaura (1975-12-16)
219	<i>Prorocentrum triestinum</i>	Japan Kochi Nomi Bay (1980-04-30)
220	<i>Alexandrium catenella</i>	Japan Kagawa Tsuda Bay (1980-06-17)
222	<i>Pyrophacus steinii</i>	Japan Harima-Nada (1981-07-04)
239	<i>Alexandrium tamarense</i>	Japan Harima-Nada (1982-03-25)
249	<i>Gymnodinium nagasakiense</i>	Japan Harima-Nada (1980-08-21)
260	<i>Closterium aciculare</i> var. <i>subpronum</i>	Japan Ibaraki Lake Kasumigaura (1983-11-28)
270	<i>Chaetoceros debile</i>	Japan Aomori Hachinohe Harbor (1985-01-06)
272	<i>Coscinodiscus asteromphalus</i>	Japan Mie Matoya Bay (1984-09-01)
273	<i>Coscinodiscus granii</i>	Japan Aomori Hachinohe Harbor (1985-01-06)
307	<i>Pleurotaenium ehrenbergii</i> var. <i>curtum</i>	Japan Wakayama Naka-gun (1969-10-**)
314	<i>Prorocentrum dentatum</i>	Japan Hiuchi-Nada (1979-12-13)
317	<i>Prorocentrum mexicanum</i>	Japan Harima-nada (-----)
318	<i>Protoceratium reticulatum</i>	Japan Mie Matoya Bay (1984-09-01)
321	<i>Pyrophacus steinii</i>	Japan Mie Matoya Bay (1984-09-01)
327	<i>Stephanopyxis palmeriana</i>	Japan Tokyo Hachijo Isl. (1984-04-19)
332	<i>Melosira granulata</i> var. <i>angustissima</i>	Japan Ibaraki Lake Kasumigaura (1983-10-04)
352	<i>Eunotia serra</i> var. <i>serra</i>	Japan Gunma Tsukiyono Lake Ominenuma (1985-07-18)
354	<i>Gyrodinium instriatum</i>	Japan Shizuoka Shimoda Harbor (1985-05-23)
358	<i>Nitzschia longissima</i> var. <i>reversa</i>	Japan Shizuoka Kawazu Imaihama (1985-05-22)
364	<i>Peridinium bipes</i> f. <i>occultatum</i>	Japan Kagoshima Lake Unagiike (1985-02-20)
367	<i>Pinnularia acrosphaeria</i> var. <i>acrosphaeria</i>	Japan Gunma Tsukiyono (1984-06-01)
368	<i>Pinnularia gentilis</i>	Japan Gunma Tsukiyono (1985-07-17)
370	<i>Synedra ulna</i> var. <i>ulna</i>	Japan Ibaraki Edosaki Lake Kasumigaura (1985-04-25)
371	<i>Tabellaria flocculosa</i>	Japan Ibaraki Tsuchiura (1985-04-13)
376	<i>Ceratium hirundinella</i>	Japan Ibaraki Lake Hinuma (1986-06-27)
383	<i>Leptocylindrus danicus</i>	Japan Shizuoka Minamiizu Mera Harbor (1985-05-23)
386	<i>Peridinium penardiforme</i>	Japan Kochi Kochi (1982-02-09)
399	<i>Aspidisca costata</i>	Japan Ibaraki Tsukuba (1986-04-09)
400	<i>Oxytricha fallax</i>	Japan Ibaraki Tsukuba (1986-06-27)
401	<i>Paramecium bursaria</i>	Japan Ibaraki Tsukuba (1986-04-09)
404	<i>Vorticella convallaria</i>	Japan Ibaraki Tsukuba (1986-04-11)
406	<i>Achnanthes lanceolata</i>	Japan Ibaraki Miyata River (1987-04-21)
441	<i>Chlamydomonas parkeae</i>	Japan Aomori Hachinohe Harbor (1985-01-06)
470	<i>Gymnodinium fuscum</i>	Japan Ibaraki Tsuchiura (1986-02-**)
482	<i>Nephroselmis</i> aff. <i>rotunda</i>	Japan Hyogo Ieshima Isls. (1984-08-10)

Strain No. (NIES-)	Scientific Name	Locality (Date of collection)
488	<i>Nitzschia palea</i>	Japan Ibaraki Miyata River (1987-02-25)
496	<i>Peridinium bipes</i> f. <i>occultatum</i>	Japan Mie Isobe (1986-10-25)
498	<i>Peridinium cunningtonii</i>	Japan Miyagi Shiogama (1988-07-11)
499	<i>Peridinium inconspicuum</i>	Japan Ibaraki Iwai (1985-10-29)
500	<i>Peridinium polonicum</i>	Japan Miyagi Shiogama (1988-07-11)
502	<i>Peridinium wierzejskii</i>	Japan Ibaraki Tsuchiura (1985-04-13)
508	<i>Phormidium luridum</i>	Japan Ibaraki Takatori River (1984-12-11)
511	<i>Phormidium ramosum</i>	Japan Gunma Watarase River (1987-08-15)
513	<i>Pinnularia gibba</i>	Japan Hokkaido Sapporo Shirai River (1987-07-02)
516	<i>Prorocentrum balticum</i>	Japan Aomori Hachinohe (1988-08-22)
517	<i>Prorocentrum lima</i>	Japan Aomori Lake Obuchinuma (1987-08-04)
518	<i>Protogonyaulax affinis</i>	Japan Harima-Nada (1980-09-05)
519	<i>Alexandrium catenella</i>	Japan Mie Owase Bay (-----)
520	<i>Alexandrium catenella</i>	Japan Aomori Hachinohe Harbor (1988-08-22)
521	<i>Alexandrium tamarense</i>	Japan Aomori Hachinohe (1988-08-22)
525	<i>Pyramimonas tetraerhynchus</i>	Japan Hokkaido Sapporo (1986-04-**)
526	<i>Scrippsiella precaria</i>	Japan Aomori Hachinohe (1988-08-22)
535	<i>Thalassiosira pacifica</i>	Japan Aomori Hachinohe Harbor (1987-03-02)
552	<i>Actinoptycus senarius</i>	Japan Ibaraki Hitachi (1990-09-26)
554	<i>Melosira varians</i>	Japan Ibaraki Tsukuba (1990-11-**)
555	<i>Tabellaria fenestrata</i>	Japan Ibaraki Tsuchiura (1991-10-31)
563	<i>Chrysochromulina hirta</i>	Japan Miyagi Shizugawa (1991-11-08)
591	<i>Stephanodiscus invisitatus</i>	Japan Ibaraki Lake Kasumigaura (1990-03-14)
599	<i>Peridinium bipes</i>	Japan Nara Fuya Dam (1989-02-16)
600	<i>Peridinium bipes</i> var. <i>tabulatum</i>	Japan Ibaraki Tsuchiura, Shishizuka (1990-04-01)
606	<i>Rhodomonas ovalis</i>	Japan Hiroshima Seto Inland Sea (1966-10-**)
607	<i>Gymnodinium sanguineum</i>	Japan ----- (1981-**-**)
616	<i>Ostreopsis siamensis</i>	Japan Okinawa Motobu (1993-06-06)
619	<i>Woloszynskia leopoliense</i>	Japan Ibaraki Mitsukaido Mitsukaido (1985-04-13)
625	<i>Cymbomonas teramitiformis</i>	Japan Kagawa Seto Inland Sea (1989-02-14)
627	<i>Astrephomene gubernaculifera</i>	Japan Kanagawa Hayama (1980-12-04)
668	<i>Paramecium bursaria</i>	Japan Fukushima Miyatoko Mire (1993-05-27)
669	<i>Paramecium bursaria</i>	Japan Fukushima Miyatoko Mire (1993-05-27)
673	<i>Alexandrium affine</i>	Japan Harima-nada (1980-09-05)
674	<i>Alexandrium catenella</i>	Japan Harima-nada (1980-06-17)
676	<i>Alexandrium catenella</i>	Japan Kochi Uranouchi Bay (1988-05-06)
679	<i>Gymnodinium breve</i>	Japan Harima-nada (1979-06-01)
680	<i>Karenia mikimotoi</i>	Japan Kagawa Shodo Isl., Uchiumi Bay (1992-10-29)
681	<i>Prorocentrum balticum</i>	Japan Harima-nada (1987-04-20)
683	<i>Prorocentrum sigmoides</i>	Japan Kagawa Shodo Isl., Uchiumi Bay (1985-10-11)
775	<i>Micrasterias anomala</i>	Malaysia near Melaka (1985-08-20)
899	<i>Ceratium fusus</i>	Japan Tokyo Bay (2000-06-14)
924	<i>Planktothricoides raciborskii</i>	Thailand ----- Phatchanbari Dam (-----)
1010	<i>Proboscia alata</i>	East China Sea (2002-06-**)
1023	<i>Spirogyra</i> sp.	Japan Ibaraki Tsukuba, Onogawa inside NIES (2002-04-26)
1024	<i>Pedinella squamata</i>	Japan Miyagi ----- off Kinkazan (1993-05-**)
1049	<i>Eucampia zodiacus</i>	Japan Mie Ise Bay (2002-05-**)

Strain No. (NIES-)	Scientific Name	Locality (Date of collection)
1306	<i>Calcidiscus leptoporus</i>	East China Sea (2003-08-06)
1323	<i>Umblicosphaera sibogae</i> var. <i>foliosa</i>	Japan Tokyo Hachijo Isl., Yaene Harbor (2002-07-30)
1351	<i>Pinnularia acidojaponica</i>	Japan Miyagi Naruko Katanuma (2001-11-05)
1352	<i>Pinnularia valdetolerans</i>	Japan Kanagawa Kawasaki, Shin-Yokohama Tsurumi River (2002-06-09)
1390	Unidentified colorless flagellate	Japan Ibaraki Tsukuba, Tennodai Hyotaro-ike Pond (2003-01-16)
1598	<i>Chara globularis</i>	Japan Hokkaido Nemuro Lake Nanbu-numa (1999-08-25)
1600	<i>Chara globularis</i>	Japan Aomori Lake Towada (1999-09-07)
1625	<i>Nitella japonica</i>	Japan Kagawa Mannou Mannou (2004-06-16)
1626	<i>Nitella japonica</i>	Japan Kagawa Mannou (2004-06-16)
1627	<i>Nitella megaspora</i>	Japan Gunma
1630	<i>Nitella mirabilis</i> var. <i>inokasiraensis</i>	Japan Chiba Junsai-ike Pond (2002-10-17)
1631	<i>Nitella mirabilis</i> var. <i>inokasiraensis</i>	Japan Chiba Junsai-ike Pond (2002-10-17)
1731	<i>Kathablepharis</i> sp.	U.S.A. North Carolina Neuse River (1998-12-01)
1732	<i>Prorocentrum micans</i>	East China Sea (2004-11-**)
1734	<i>Compsopogon coeruleus</i>	Japan Kagoshima Tatsugo, Oogachi Kin River (2005-05-03)
1842	<i>Nuclearia</i> sp.	Japan Tochigi Nikko Lake Yunoko (2005-04-**)
1844	Unidentified flagellate metamonad	Japan Kagoshima Yamakawa Yamakawa Harbor (2005-03-15)
1845	<i>Ostreopsis</i> sp.	Japan Okinawa Akajima Isl. (2004-10-21)
1847	<i>Chara braunii</i>	Japan Gunma Lake Haruna (2004-07-27)
1866	<i>Lepidodinium chlorophorum</i>	East China Sea (2004-07-28)
1867	<i>Lepidodinium chlorophorum</i>	East China Sea (2004-07-28)
1962	<i>Anorthoneis</i> sp.	Japan Kagoshima Kagoshima Bay (2006-03-**)
1973	<i>Chattonella marina</i> var. <i>antiqua</i>	Japan Kagawa Higashikagawa Seto Inland Sea (2005-08-01)
1979	<i>Chattonella marina</i> var. <i>ovata</i>	East China Sea (2003-08-04)
1990	<i>Alexandrium</i> sp.	Japan Seto Inland Sea (2005-05-12)
1992	<i>Alexandrium</i> sp.	Japan Seto Inland Sea (2005-05-12)
1994	<i>Alexandrium</i> sp.	Japan Seto Inland Sea (2005-05-12)
1995	<i>Cochlodinium polykrikoides</i>	Japan Seto Inland Sea (2005-08-01)
1996	<i>Gymnodinium catenatum</i>	Japan Seto Inland Sea (2005-08-01)
1997	<i>Gymnodinium catenatum</i>	Japan Seto Inland Sea (2005-08-01)
1998	<i>Gymnodinium catenatum</i>	Japan Seto Inland Sea (2005-05-12)
1999	<i>Gymnodinium catenatum</i>	Japan Seto Inland Sea (2005-05-12)
2001	<i>Gyrodinium instriatum</i>	Japan Seto Inland Sea (2005-08-01)
2005	<i>Gymnodinium</i> sp.	Japan Seto Inland Sea (2005-05-12)
2006	<i>Gymnodinium</i> sp.	Japan Fukushima Soma Soma Harbor (2005-06-17)
2012	<i>Prorocentrum dentatum</i>	East China Sea (2006-06-**)
2092	<i>Microcystis aeruginosa</i>	Japan Ibaraki Tsuchiura Lake Kasumigaura (2007-09-09)
2366	<i>Cyclotella meneghiniana</i>	Japan Saitama Namegawa, Yamada (2006-07-10)
2409	<i>Cochlodinium polykrikoides</i>	Japan Nagasaki Unzen Tachibana Bay (2002-07-23)
2410	<i>Gymnodinium catenatum</i>	Japan Nagasaki Hirado Usuka Bay (2008-06-11)
2446	<i>Cercomonas parincurva</i>	U.K. Oxford (2006-**-**)
2447	<i>Cercomonas rotunda</i>	U.K. Oxford (2006-**-**)
2448	<i>Cercomonas sphagnicola</i>	U.K. Loch Lomond (1998-**-**)
2523	<i>Roombia truncata</i>	Canada Nova Scotia Blomidon Beach (2008-07-30)
2524	<i>Roombia truncata</i>	Canada Nova Scotia Blomidon Beach (2008-07-30)

7. Restrictions about strains photos

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III. INFORMATION ON STRAINS

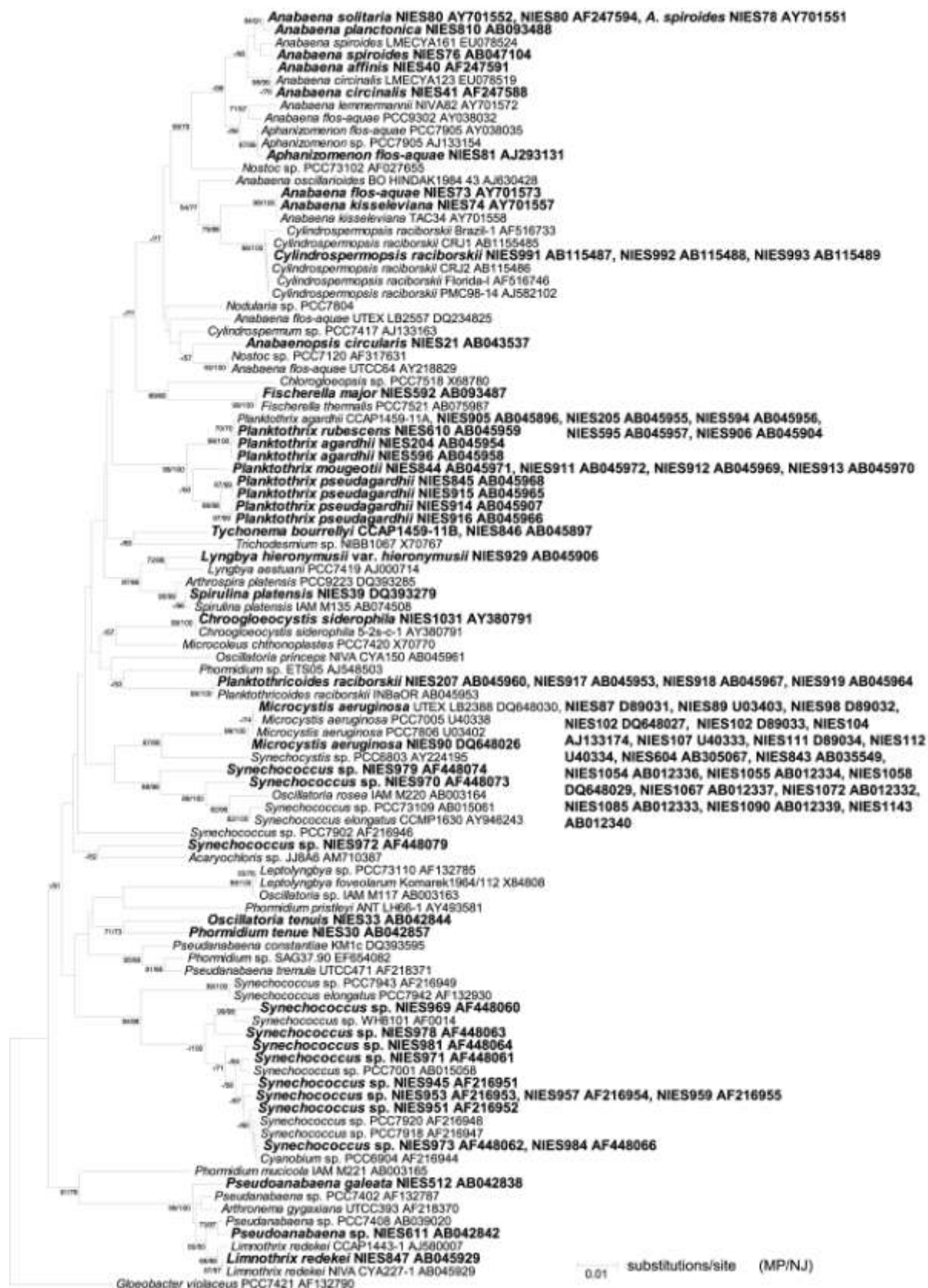
1. Phylogenetic position of the cyanobacterial strains

Neighbor-joining (NJ) tree based on 16S rDNA sequences: The tree contains 78 strains of NIES cyanobacteria. Some cyanobacterial genera such as *Synechococcus* and *Phormidium* are polyphyletic in this tree. Strains showing identical or more than 99% identical sequences are listed in the same branch. Bootstrap values >50 are shown near branches (maximum parsimony (MP)/NJ). Sequences were aligned by using ClustalX (Thompson *et al.* 1997) and edited manually with BioEdit 7.01 (Hall 1999). Phylogenetic analysis was conducted with PHYLIP ver. 3.66

(Felsenstein 1993). NJ analysis using “dnadist” and MP analysis using “dnapars” were performed. Bootstrap values (100 replicates) were obtained by using “seqboot” in PHYLIP.

REFERENCES

- Hall, T. A. 1999. BioEdit: a user-friendly biological sequence alignment editor and analysis program for Windows 95/98/NT. *Nucleic Acids Symposium Series* 41: 95–98.
- Thompson, J. D., Gibson, T. J., Plewniak, F., Jeanmougin, F. & Higgins, D. G. 1997. The ClustalX windows interface: flexible strategies for multiple sequence alignment aided by quality analysis tools. *Nucleic Acids Research* 24: 4876–4882.
- Felsenstein, J. 1993. PHYLIP (phylogeny Inference Package) University of Washington, Seattle.



IV. MEDIA PREPARATION, SUBCULTURE AND CRYOPRESERVATION

1. How to prepare stock solutions and media

1.1. Stock solutions

Media are generally composed of three types of components; macronutrients, trace metals, and vitamins. For convenience we recommend to prepare stock solutions of these components in dark glass bottles. Stock solutions of trace metals and vitamins are prepared at extremely low concentrations, and therefore required dilution steps. The following methods are currently used at the MCC-NIES.



Bottles of stock solutions

1.1.1. Macronutrients

Prepare stock solutions of individual macronutrients separately at a concentration of 10 mg/mL, and store them in a refrigerator (5°C).

1.1.2. Trace metals

These elements are prepared as either separate stock solutions or mixed stock solutions.

1.1.2.1. Separate stock solutions

Prepare stock solutions of individual metals separately at concentrations of 1–10 mg/mL, and store in a refrigerator (5°C).

1.1.2.2. Mixed stock solution

- i) Prepare each metal solution as for the separate stock solutions shown in 1.1.2.1
- i) Add approximately 80% of the final volume of distilled water in a beaker.
- ii) First, dissolve the required amount of Na₂EDTA, while stirring, if applicable.
- iii) Add the required volume of each trace metal solution one at a time, while stirring.
- iv) Adjust to the final volume by adding distilled water, and store in a refrigerator (5°C).

1.1.3. Vitamins

Vitamins requirement is in majority fulfilled with three vitamins; vitamin B₁₂, biotin, and thiamine HCl. Therefore, most of the media contain only these three vitamins. However, several media contain additional vitamins.

1.1.3.1. Vitamin B₁₂, biotin, and thiamine HCl

- i) Prepare 0.1 mg/mL solutions of vitamin B₁₂ and biotin and a 10 mg/mL solution of thiamine HCl. Disperse 1 mL of each solution into a separate microtube, and store in a freezer at –20°C.
- ii) Thaw and dilute the vitamin solution to 1/100 to prepare stock solutions of 1 µg/mL vitamin B₁₂ or biotin, and a stock solution of 100 µg/mL thiamine HCl. Store in a refrigerator (5°C).

1.1.3.2. Other vitamins

Additional vitamins are added to some media as a mixture. We recommend to prepare a large volume of mixed stock solutions at once.

- i) Prepare each vitamin solution at a concentration of 0.1–1.0 mg/mL. (Store these original solutions in a freezer at –20°C, if needed.)
- ii) Add approximately 80% of the required volume of distilled water in a beaker.
- iii) Add the required volume of each vitamin solution one at a time, while stirring.
- iv) Adjust to the final volume by adding distilled water.
- v) Dispense 100 mL of the vitamin mixture into several vessels, and store in a refrigerator (5°C) for use or in a freezer (–20°C) for storage.

1.2. Media preparation

Two categories of media are usually used; synthetic and enriched. The former is used for maintenance of all freshwater algal cultures and some marine ones and the latter for most marine ones. Most of the media are dispensed to test tubes and autoclaved before use, whereas some media must be filter sterilized.

1.2.1. Synthetic medium for freshwater algae

- i) Add approximately 80–90% of the required volume of distilled water to a beaker.
- ii) Dissolve appropriate quantities of buffers such as Tris (hydroxymethyl) aminomethane (known as Tris), glycylglycine, HEPES, TAPS, Bicine, or MES (if required), while stirring.
- iii) Add the appropriate nutrients from previously prepared stock solutions, while stirring.
- iv) Adjust to the final volume by adding distilled water.
- v) Check and adjust pH as specified in the media list with either 1 mol/L HCl or 1 mol/L NaOH (if buffers are used) or with either 0.1 mol/L HCl or 0.1 mol/L NaOH (if no buffers are used).



Adjustment of pH

- vi) Dispense 10 mL of medium into each test tube (18×150 mm) and sterilize by autoclaving (121°C, 20 min).

1.2.2. Synthetic medium for marine algae

- i) Add approximately 80% of the required volume of distilled water to a beaker.
- ii) Dissolve appropriate quantities of Tris, nitrilotriacetic acid (known as NTA) and major salts such as NaCl, MgSO₄·7H₂O, KCl and CaCl₂·2H₂O, while stirring.
- iii) Add the other nutrients from previously prepared stock solutions.
- iv) Adjust to the final volume by adding distilled water.
- v) Check and adjust pH with 1 mol/L HCl, if pH is specified in the media list. (usually pH 8.0)
- vi) Dispense 10 mL of medium into each test tube

and sterilize by autoclaving (121°C, 20 min).

1.2.3. Enriched seawater medium

- i) Collect offshore seawater free from pollution, and remove particulate matter by filtering through Whatman GF/C filters.
- ii) Check salinity. (Usually salinity of offshore seawater is 35‰)
- iii) Add approximately 80–90% of the required volume of seawater to a beaker.
- iv) Dissolve appropriate quantities of Tris (if required).
- v) Add the appropriate nutrients from previously prepared stock solutions.
- vi) Adjust to the final volume by adding the filtered seawater.
- vii) Check and adjust the pH to 8.0 with 1 mol/L HCl if required.
- viii) Dispense 10 mL of medium into each test tube and sterilize by autoclaving (121°C, 20 min).

1.2.4. Filter sterilization

K/2, K/2ET and MNK meium shouldbe filter sterilized by using a filter apparatus with a filter (Millipore 0.22 μm), which is previously autoclaved (121°C, 20min). Then, the medium is dispensed into previously sterilized test tubes by using a sterilized syringe or dispenser under aseptic conditions.



Medium filter sterilization

1.2.5. Agar slants

Agar is usually added at a concentration of 1.5% after liquid medium has been prepared, and before autoclaving.

- i) Add the appropriate quantities of agar to the liquid medium and heat by autoclaving or on a

hot plate.

- ii) After melting, quickly dispense 10 mL of agar medium into each test tube and sterilize by autoclaving (121°C, 20 min).



- iii) After sterilization, lay the test tubes down with the upper part of the tubes elevated on a rod (1 cmφ), and cool to form agar slants.



Upper: When agar is still hot, lay the test tubes down with the upper part of the tubes elevated on a rod
Down: within one hour or so, agar gelifiate

1.2.6. Medium for protozoa

These media contain organic matter to encourage multiplication of bacteria as a food source for protozoa. For media containing wheat or rice grains, these cereals should be sterilized by dry heat (150°C, 30 min) in advance, and kept in a cool place. For use, one grain of cereal is added to 10mL of medium.

1.2.7. Medium for Charales

1.2.7.1. Soils

Black soil, river sand, leaf mould, and garden lime used in the MCC-NIES are purchased from garden centers, whereas bottom mud from paddy fields, reservoirs, and ponds is collected by us. Soil

quality influences the growth of Charales to a greater or lesser degree. Please refer to the media list and individual strain data for soil composition.



Upper left: Black soil. Upper right: river sand.
Down left: leaf mould. Down right: harden lime



Pond mud

1.2.7.2. Water

Freshwater strains: Deionized water (or distilled water).

Brackish water strains: one-third to one-half diluted 1/3 Herbst ASW, i.e. the original medium is diluted to one-third to one-half with deionized water (or distilled water).

1.2.7.3. Soil water medium

- i) Put appropriate soil into a glass vessel up to one-quarter to one-fifth.



mSWC-2 medium

At first, display the leaf mould into a glass vessel (left picture) then add river sand on the top of the leaf mould (right picture, note the dark leaf mould at the bottom)

- ii) Dampen the soil with deionized water (or distilled water).



- iii) Cover the glass vessel with a plastic cap or aluminum foil, and autoclave it twice (121°C, 20 min, overnight cooling down, and again 121°C, 20 min).
- iv) After the vessel has cooled down to room temperature, pour sterilized water (see 1.2.7.2 Water) into the glass vessel carefully (do not disturb the soil). When you make media for unialgal strains, use a clean bench (or a clean room) for this process.

1.2.7.4. Germanium dioxide solution

Germanium dioxide solution especially discourages the growth of diatoms. To suppress the growth of undesired diatoms, add germanium dioxide solution (1 mg/L GeO_2) to the media.

- i) Boil 200 mL NaOH solution (1 mol/L).
- ii) Add 0.5 g GeO_2 to the boiling NaOH solution very carefully.
- iii) Cool down to room temperature.
- iv) Check the pH and adjust to 7.8–8.0 with 1 mol/L HCl.
- v) Adjust to 500 mL by adding deionized water (or distilled water).
- vi) Autoclave (121°C, 20 min).

2. Media list

2.1. Media for freshwater, terrestrial, hot spring and salt water algae

AAF-6

Prepare as for AF-6¹⁾ medium but adjust to pH 5.5–5.8 .

1) See AF-6

Acid-CSi/5

Dilute CSi¹⁾ medium with distilled water to one-fifth. Adjust to pH 3 with sulfuric acid.

1) See C

AF-6

NaNO ₃	14	mg
NH ₄ NO ₃	2.2	mg
MgSO ₄ · 7H ₂ O	3	mg
KH ₂ PO ₄	1	mg
K ₂ HPO ₄	0.5	mg
CaCl ₂ · 2H ₂ O	1	mg
CaCO ₃ ¹⁾	1	mg
Fe-citrate	0.2	mg
Citric acid	0.2	mg
Biotin	0.2	µg
Thiamine HCl	1	µg
Vitamin B ₆	0.1	µg
Vitamin B ₁₂	0.1	µg
Trace metals ¹⁾	0.5	mL
Distilled water	99.5	mL
pH 6.6 ²⁾		

1) In the MCC-NIES, CaCO₃ is removed and PIV metals are used instead of Trace metals.

2) In the MCC-NIES, 40 mg MES is added and pH is adjusted to 6.6.

REFERENCE

Kato, S. 1982 Laboratory culture and morphology of *Colacium vesiculosum* Ehrb. (Euglenophyceae). *Jpn. J. Phycol.*, **30**, 63-67 (in Japanese with English summary).

AF-6/2

AF-6¹⁾ medium is diluted with distilled water to one-half.

1) See AF-6

AFAC

To 100 mL AF-6¹⁾ medium add 20 mg sodium acetate.

1) See AF-6

Allen

(NH ₄) ₂ SO ₄	132	mg
KH ₂ PO ₄	27.2	mg
MgSO ₄ · 7H ₂ O	24.6	mg
CaCl ₂ · 2H ₂ O	7.4	mg
Allen metals ¹⁾	0.01	mL
Distilled water	99.9	mL
pH 2.5 ²⁾		

1) See Allen metals

2) pH is adjusted to 2.5 with 0.5 mol/L H₂SO₄.

REFERENCES

Allen, M. B. 1959 Studies with *Cyanidium caldarium*, an anomalously pigmented chlorophyte. *Arch. Mikrobiol.*, **32**, 270-277.

Starr, R. C., Zeikus, J. A. 1987 UTEX - The culture collection of algae at the University of Texas at Austin. *J. Phycol.*, **23**, *Suppl. to Sept.*, 1-106.

BBM

NaNO ₃	25	mg
KH ₂ PO ₄	17.5	mg
K ₂ HPO ₄	10	mg
MgSO ₄ · 7H ₂ O	7.5	mg
CaCl ₂ · 2H ₂ O	2.5	mg
NaCl	2.5	mg
KOH	3.1	mg
FeSO ₄ · 7H ₂ O	0.498	mg
H ₃ BO ₃	1.142	mg
ZnSO ₄ · 7H ₂ O	0.882	mg
MnCl ₂ · 7H ₂ O	0.144	mg
MoO ₃	0.071	mg
CuSO ₄ · 5H ₂ O	0.157	mg
Co(NO ₃) ₂ · 6H ₂ O	0.049	mg
Na ₂ EDTA	5	mg
Distilled water	100	mL

REFERENCE

Bischoff, H. W., Bold, H. C. 1963 Some soil algae from enchanted rock and related algal species. *Phycological Studies IV, Univ. No. 6318*, Texas, p. 95.

BG-11

NaNO ₃	150	mg
K ₂ HPO ₄ · 3H ₂ O	4	mg
MgSO ₄ · 7H ₂ O	7.5	mg
CaCl ₂ · 2H ₂ O	3.6	mg
Citric acid	0.6	mg
Ferric ammonium citrate	0.6	mg
Na ₂ EDTA - Mg	0.1	mg
Na ₂ CO ₃	2	mg
Trace metal mix A5 + Co ¹⁾	0.1	mg
Agar	1.5	g
Distilled water	99.9	mL
pH 7.4		

1) See Trace metal mix A5 + Co

C

Ca(NO ₃) ₂ · 4H ₂ O	15	mg
KNO ₃	10	mg
β-Na ₂ glycerophosphate · 5H ₂ O	5	mg
MgSO ₄ · 7H ₂ O	4	mg
Vitamin B ₁₂	0.01	μg
Biotin	0.01	μg
Thiamine HCl	1	μg
PIV metals ¹⁾	0.3	mL
Tris (hydroxymethyl) aminomethane	50	mg
Distilled water	99.7	mL
pH 7.5		

Add 1.5 g agar to 100 mL of medium to give a solid medium.

1) See PIV metals

REFERENCE

Ichimura, T. 1971 Sexual cell division and conjugation-papilla formation in sexual reproduction of *Closterium strigosum*. In *Proceedings of the Seventh International Seaweed Symposium*, University of Tokyo Press, Tokyo, p. 208-214.

C+10% Seawater (N. Tezuka, unpubl.)

C¹⁾ medium with 10% filtered seawater.

1) See C

C/6G

Mix 1 volume of C¹⁾ medium and 5 volumes of Lake Nojiri water (sterilized through GF/F filter, and store at 5°C).

1) See C

CA

Ca(NO ₃) ₂ · 4H ₂ O	2	mg
KNO ₃	10	mg
NH ₄ NO ₃	5	mg
β-Na ₂ glycerophosphate · 5H ₂ O	3	mg
MgSO ₄ · 7H ₂ O	2	mg
Vitamin B ₁₂	0.01	μg
Biotin	0.01	μg
Thiamine HCl	1	μg
PIV metals ¹⁾	0.1	mL
Fe (as EDTA; 1:1 molar) ²⁾	0.1	mg
HEPES	40	mg
Distilled water	99.9	mL
pH 7.2		

1) See PIV metals

2) See Fe (as EDTA; 1:1 molar)

REFERENCE

Ichimura, T., Watanabe, M. 1974 The *Closterium calosporum* complex from the Ryukyu Islands - Variation and taxonomical problems. *Mem. Natn. Sci. Mus. Tokyo*, 7, 89-102, pls. 13-14.

CAM

CA¹⁾ medium with pH adjusted to 6.5 by buffering with MES instead of HEPES.

1) See CA

Carefoot

NaNO ₃	24.7	mg
CaCl ₂ · 2H ₂ O	1.1	mg
MgSO ₄ · 7H ₂ O	4.7	mg
K ₂ HPO ₄	0.9	mg
KH ₂ PO ₄	2.3	mg
NaCl	1.5	mg
PIV metals ¹⁾	0.5	mL
Distilled water	99.5	mL
pH 7.5		

In the MCC-NIES, 0.02 μg vitamin B₁₂, 0.02 μg biotin and 2 μg thiamine HCl are added to this medium.

1) See PIV metals

REFERENCE

Carefoot, J. R. 1968 Culture and heterotrophy of the freshwater dinoflagellate, *Peridinium cinctum* fa. *ovoplanum* Lindeman. *J. Phycol.*, 4, 129-131.

CB

To C¹⁾ medium add Bicine instead of Tris (hydroxymethyl) aminomethane, and adjust pH to 9.0.

1) See C

CB-V

Make B-V¹⁾ medium with C²⁾ medium.

1) See B-V

2) See C

CC

C medium¹⁾ with pH adjusted to 3.0 by buffering with 1,2,3,4-cyclopentane tetracarboxylic acid instead of Tris (hydroxymethyl) aminomethane.

1) See C

REFERENCE

Ichimura, T., Itoh, T. 1977 17. Preservation methods of microalgae (I) [17. Bisaisōrui no hozonhō (I)]. In *Preservation methods of microorganisms [Biseibutsu Hozonhō]*, Ed. by Nei, T., University of Tokyo Press, Tokyo, p. 355-373 (in Japanese without English title).

CSI

C¹⁾ medium with pH adjusted to 7.0 by buffering with 50

mg HEPES instead of Tris (hydroxymethyl) aminomethane. Thereafter, 10 mg $\text{Na}_2\text{SiO}_3 \cdot 9\text{H}_2\text{O}$ is added.

1) See C

CSi + Cu

To 100 mL $\text{CSi}^{1)}$ medium add 0.25 mg $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$ and 100 mg agar.

1) See CSi

CSi/5

Dilute $\text{CSi}^{1)}$ medium with distilled water to one-fifth.

1) See C

REFERENCE

Watanabe, M. M., Ichimura, T. 1977 Fresh- and salt-water forms of *Spirulina platensis* in axenic cultures. *Bull. Jpn. Soc. Phycol.*, **25**, *Suppl. (Mem. Iss. Yamada)*, 371-377.

CT

$\text{C}^{1)}$ medium with pH adjusted to 8.2 by buffering with 40mg TAPS instead of Tris (hydroxymethyl) aminomethane.

1) See C

CYT

To 100 mL $\text{C}^{1)}$ medium add 100 mg yeast extract and 200 mg tryptone.

1) See C

DH + Fe (I.I. Brown, unpubl.)

D stock medium ¹⁾	5	mL
HEPES	0.12	mg
$\text{FeCl}_3 \cdot 6\text{H}_2\text{O}$	1.14	mg
Distilled water	95	ml
pH 8.24 – 8.26		

After autoclaving, keep in room temperature overnight. Next day, adjust pH to 7.5–7.6 and add 1.5 g agar.

1) See D stock medium

DY–V

MES	20	mg
$\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$	5	mg
KCl	0.3	mg
NH_4Cl	0.27	mg
NaNO_3	2	mg
$\beta\text{-Na}_2\text{glycerophosphate} \cdot 5\text{H}_2\text{O}$	0.22	mg
H_3BO_3	0.08	mg

$\text{Na}_2\text{EDTA} \cdot 2\text{H}_2\text{O}$	0.8	mg
$\text{Na}_2\text{SiO}_3 \cdot 9\text{H}_2\text{O}$	1.4	mg
$\text{FeCl}_3 \cdot 6\text{H}_2\text{O}$	0.1	mg
$\text{CaCl}_2 \cdot 2\text{H}_2\text{O}$	7.5	mg
Vitamin B_{12}	0.05	μg
Biotin	0.05	μg
Thiamine HCl	10	μg
DY trace metal solution ¹⁾	0.1	mL
Distilled water	99.9	mL
pH 6.8		

1) See DY trace metal solution

HUT

KH_2PO_4	2	mg
$\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$	2.5	mg
Sodium acetate	40	mg
Potassium citrate	4	mg
Polypeptone	60	mg
Yeast extract	40	mg
Vitamin B_{12}	0.05	μg
Thiamine HCl	0.04	mg
Distilled water	100	mL
pH 6.4		

Add 150 mg agar to 100 mL of medium to give a semi-solid medium.

REFERENCE

Ichimura, T. 1979 2. Isolation and culture methods of algae. 2.5.B. Freshwater algae [2. Sôruï no bunri to baiyôhô. 2.5.B. Tansui sôruï]. In *Methods in Phycological Studies [Sôruï Kenkyûhô]*, Eds. by Nishizawa, K. & Chihara, M., Kyoritsu Shuppan, Tokyo, p. 301 (in Japanese without English title).

M–11

NaNO_3	10	mg
K_2HPO_4	1	mg
$\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$	7.5	mg
$\text{CaCl}_2 \cdot 2\text{H}_2\text{O}$	4	mg
Na_2CO_3	3	mg
$\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$	0.1	mg
$\text{Na}_2\text{EDTA} \cdot 2\text{H}_2\text{O}$	0.1	mg
Distilled water	100	mL
pH 8.0		

REFERENCES

Hagiwara, T., Yagi, O., Takamura, Y., Sudo, R. 1984 Isolation of bacteria-free *Microcystis aeruginosa* from Lake Kasumigaura. *Jpn. J. Water Poll. Res.*, **7**, 437-442 (in Japanese with English summary).
Yagi, O., Okada, M., Sudo, R. 1979 Cultivation of *Microcystis* and red-tide-organisms. *Res. Rep. Natl. Inst. Environ. Stud.*, **No. 6**, 223-229 (in Japanese with English summary).

MA

$\text{Ca}(\text{NO}_3)_2 \cdot 4\text{H}_2\text{O}$	5	mg
KNO_3	10	mg
NaNO_3	5	mg

Na ₂ SO ₄	4	mg
MgCl ₂ · 6H ₂ O	5	mg
β-Na ₂ glycerophosphate · 5H ₂ O	10	mg
Na ₂ EDTA · 2H ₂ O	0.5	mg
FeCl ₃ · 6H ₂ O	0.05	mg
MnCl ₂ · 4H ₂ O	0.5	mg
ZnCl ₂	0.05	mg
CoCl ₂ · 6H ₂ O	0.5	mg
Na ₂ MoO ₄ · 2H ₂ O	0.08	mg
H ₃ BO ₃	2	mg
Bicine	50	mg
Distilled water	100	mL
pH 8.6		

REFERENCE

Ichimura, T. 1979 2. Isolation and culture methods of algae. 2.5.B. Freshwater algae [2. Sôruï no bunri to baiyôhô. 2.5.B. Tansui sôruï]. In *Methods in Phycological Studies [Sôruï Kenkyûhô]*, Eds. by Nishizawa, K. & Chihara, M., Kyoritsu Shuppan, Tokyo, p. 294-305 (in Japanese without English title).

MAF-6

To 100 mL of AF-6¹⁾ medium add 10 mg glucose and 10 mg sodium acetate are.

1) See AF-6

M-Allen

(NH ₄) ₂ SO ₄	262	mg
KH ₂ PO ₄	54	mg
MgSO ₄ · 7H ₂ O	50	mg
CaCl ₂ · 2H ₂ O	14	mg
A2 trace elements stock solution ¹⁾	0.2	mL
Distilled water	99.4	mL
pH 2.5 ²⁾		

After autoclaving, add 0.4 mL of A2 Fe stock solution³⁾ (filter-sterilized).

1) See A2 trace element stock solution

2) pH is adjusted to 2.5 with 0.5 mol/L H₂SO₄.

3) See A2 Fe stock solution

Indicated as "MA" medium in reference.

M-Allen(+ U)

To 100 mL M-Allen¹⁾ medium add 50 mg uracil. M-Allen¹⁾

1) See M-Allen

MBM

KNO ₃	25	mg
MgSO ₄ · 7H ₂ O	7.5	mg
K ₂ HPO ₄	7.5	mg
KH ₂ PO ₄	17.5	mg
NaCl	2.5	mg
CaCl ₂ · 2H ₂ O	1	mg
Fe solution ¹⁾	0.1	mL

A5 solution ²⁾	0.1	mL
Agar	1.5	g
Distilled water	99.8	mL
pH 6.0		

1) See Fe solution

2) See A5 solution

Indicated as "Modified Bristol medium" in reference.

REFERENCE

Ichimura, T., Itoh, T. 1977 17. Preservation methods of microalgae (I) [17. Bisaisôruï no hozonhô (I)]. In *Preservation methods of microorganisms [Biseibutsu Hozonhô]*, Ed. by Nei, T., University of Tokyo Press, Tokyo, p. 355-373 (in Japanese without English title).

M Chu No. 10

Ca(NO ₃) ₂ · 4H ₂ O	2.0	mg
KH ₂ PO ₄	0.62	mg
MgSO ₄ · 7H ₂ O	2.5	mg
Na ₂ CO ₃	2	mg
Na ₂ SiO ₃ · 9H ₂ O	2.5	mg
HCl (1mol/L) ¹⁾	0.025	mL
Na ₂ EDTA · 2H ₂ O	0.2	mg
FeCl ₃ · 6H ₂ O	0.1	mg
H ₃ BO ₃	0.248	mg
MnCl ₂ · 4H ₂ O	0.139	mg
(NH ₄) ₆ Mo ₇ O ₂₄ · 4H ₂ O	0.1	mg
Vitamin B ₁₂	1	µg
Thiamine HCl	0.1	µg
Biotin	0.1	µg
Distilled water	100	mL

1) In the MCC-NIES, pH is adjusted to 7.6 with 1mol/L HCl.

REFERENCE

Chu, S. P. 1942 The influence of the mineral composition of the medium on the growth of planktonic algae. Part I. Methods and culture media. *J. Ecol.*, **30**, 284-325.

MDM

KNO ₃	100	mg
MgSO ₄ · 7H ₂ O	25	mg
K ₂ HPO ₄	25	mg
NaCl	10	mg
CaCl ₂ · 2H ₂ O	1	mg
Fe solution ¹⁾	0.1	mL
A5 solution ²⁾	0.1	mL
Agar	1.5	g
Distilled water	99.8	mL
pH 8.0		

1) See Fe solution

2) See A5 solution

REFERENCE

Watanabe, A. 1960 List of algal strains in collection at the Institute of Applied Micro-biology, University of Tokyo. *J. Gen. Appl. Microbiol.*, **6**, 283-292.

MG

Ca(NO ₃) ₂ · 4H ₂ O	2	mg
KNO ₃	10	mg
β-Na ₂ glycerophosphate · 5H ₂ O	3	mg
MgSO ₄ · 7H ₂ O	2	mg
Vitamin B ₁₂	0.01	µg
Biotin	0.01	µg
Thiamine HCl	1	µg
PIV metals ¹⁾	0.1	mL
Fe (as EDTA; 1:1 molar) ²⁾	0.1	mL
HEPES	40	mg
Distilled water	99.8	mL
pH 7.2		

1) See PIV metals

2) See Fe (as EDTA; 1:1 molar)

REFERENCE

Ichimura, T. 1973 The life cycle and its control in some species of *Closterium*, with special reference to the biological species problems. *Thesis D. Sci.*, University of Tokyo, 69 pp., 11 tables, 40 figs.

MGM

MG¹⁾ medium with pH adjusted to 6.5 by buffering with MES instead of HEPES.

1) See MG

Modified acetate medium (mAC)

To 100 mL AF-6¹⁾ medium, add 40mg glucose, yeast extract, tryptone, and sodium acetate.

1) See AF-6

REFERENCE

Nozaki, H., Wanababe, M. M. & Aizawa, K. 1995 Morphology and paedogamous sexual reproduction in *Chlorogonium capillatum* sp. nov. (Volvocales, Chlorophyta). *J. Phycol.*, **31**, 655-663.

Modified M-1 (mM-1)

CaCl ₂ · 2H ₂ O	0.5	mg
NaNO ₃	2.5	mg
NH ₄ Cl	0.5	mg
CaSO ₄ · 2H ₂ O	0.4	mg
MgSO ₄ · 7H ₂ O	0.5	mg
Na ₂ SiO ₃ · 9H ₂ O	0.2	mg
Fe (as EDTA; 1:1 molar) ¹⁾	25	mL
mM-1 Trace elements ²⁾	0.1	mL
K ₂ HPO ₄	6.96	mg
KH ₂ PO ₄	266.5	mg
Distilled water	74.9	mL
pH 5.1 – 5.3		

1) See Fe (as EDTA; 1:1 molar)

2) See mM-1 Trace elements

REFERENCE

Hoham, R. W., Berman, J. D., Rogers, H. S., Felio, J. H., Ryba, J. B., Miller, P. R. 2006 Two new species of green snow algae from Upstate New York, *Chloromonas chenangoensis* sp. nov. and *Chloromonas tughillensis* sp. nov. (Volvocales, Chlorophyceae) and the effects of light on their life cycle development. *Phycologia*, **45**, 319-330.

MW

Urea	0.85	mg
NaNO ₃	0.17	mg
NH ₄ Cl	0.042	mg
Ca(NO ₃) ₂ · 4H ₂ O	10	mg
CaCO ₃	1	mg
CaCl ₂ · 2H ₂ O	1.4	mg
KNO ₃	1	mg
KHCO ₃	0.9	mg
β-Na ₂ glycerophosphate · 5H ₂ O	2	mg
MgSO ₄ · 7H ₂ O	1.5	mg
PIV metals ¹⁾	0.05	mL
Vitamin B ₁₂	0.02	µg
Thiamine HCl	2	µg
Biotin	0.02	µg
Glycylglycine	10	mg
Distilled water	100	mL
pH 7.2		

1) See PIV metals

REFERENCE

Sako, Y., Ishida, Y., Kadota, H., Hata, Y. 1984 Sexual reproduction and cyst formation in the freshwater dinoflagellate *Peridinium cunningtonii*. *Bull. Jpn. Soc. Sci. Fish.*, **50**, 743-750.

MW/5

MW¹⁾ medium is diluted with distilled water to 1/5.

1) See MW

N-Free

NaCl	7	mg
MgSO ₄ · 7H ₂ O	38	mg
CaCl ₂ · 2H ₂ O	10.6	mg
K ₂ HPO ₄	60	mg
Fe ₂ (SO ₄) ₃ · 6H ₂ O	1	mg
Na ₂ EDTA · 2H ₂ O	2.7	mg
H ₃ BO ₃	0.3	mg
MnSO ₄ · 4H ₂ O ¹⁾	0.2	mg
Na ₂ MoO ₄ · 2H ₂ O	0.8	mg
ZnSO ₄ · 7H ₂ O	0.03	mg
CuSO ₄ · 5H ₂ O	8	µg
CoCl ₂ · 6H ₂ O	3.7	µg
Agar	1.5	g
Distilled water	100	mL
pH 7.5		

1) In the NIES-Colletion, 0.2 mg MnSO₄ · 4H₂O is replaced by 0.22 mg MnSO₄ · 5H₂O.

O

Glucose	100	mg
Tryptone	100	mg
Yeast extract	100	mg
Beef extract ¹⁾	50	mg
Agar	150	mg
Distilled water	100	ml

1) In the MCC-NIES, beef extract is removed. Indicated as "Ochomonas medium" in reference.

REFERENCES

Ichimura, T., Itoh, T. 1977 17. Preservation methods of microalgae (I) [17. Bisaisôrui no hozonhô (I)]. In *Preservation methods of microorganisms [Biseibutsu Hozonhô]*, Ed. by Nei, T., University of Tokyo Press, Tokyo, p. 355-373 (in Japanese without English title).
 Starr, R. C. 1964 The culture collection of algae at Indiana University. *Amer. J. Bot.*, **51**, 1013-1044.

P 35

NH ₄ NO ₃	10	mg
MgSO ₄ · 7H ₂ O	4	mg
KCl	5	mg
CaCl ₂ · 2H ₂ O	7.4	mg
β-Na ₂ glycerophosphate · 5H ₂ O	5	mg
Sodium acetate	100	mg
Vitamin B ₁₂	0.01	µg
Biotin	0.01	µg
Thiamine HCl	1	µg
PIV metals ¹⁾	0.3	mL
Tris (hydroxymethyl) aminomethane	50	mg
Distilled water	99.7	mL
pH 8.0		

1) See PIVmetals

REFERENCE

Ichimura, T. 1979 2. Isolation and culture methods of algae. 2.5.B. Freshwater algae [2. Sôrui no bunri to baiyôhô. 2.5.B. Tansui sôrui]. In *Methods in Phycological Studies [Sôrui Kenkyûhô]*, Eds. by Nishizawa, K. & Chihara, M., Kyoritsu Shuppan, Tokyo, p. 294-305 (in Japanese without English title).

Pro

To 100 mL MBM¹⁾ medium add 100 mg proteose peptone.

1) See MBM

Indicated as "Proteose medium" in reference.

REFERENCES

Ichimura, T., Itoh, T. 1977 17. Preservation methods of microalgae (I) [17. Bisaisôrui no hozonhô (I)]. In *Preservation methods of microorganisms [Biseibutsu Hozonhô]*, Ed. by Nei, T., University of Tokyo Press, Tokyo, p. 355-373 (in Japanese without English title).
 Starr, R. C. 1964 The culture collection of algae at Indiana University. *Amer. J. Bot.*, **51**, 1013-1044.

SOT

NaHCO ₃	1.68	g
K ₂ HPO ₄	50	mg
NaNO ₃	250	mg
K ₂ SO ₄	100	mg
NaCl	100	mg
MgSO ₄ · 7H ₂ O	20	mg
CaCl ₂ · 2H ₂ O	4	mg
FeSO ₄ · 7H ₂ O	1	mg
Na ₂ EDTA · 2H ₂ O	8	mg
A5 solution ¹⁾	0.1	mL
Distilled water	99.9	mL

1) See A5 solution

REFERENCE

Ogawa, T., Terui, G. 1970 Studies on the growth of *Spirulina platensis*. (I) On the pure culture of *Spirulina platensis*. *J. Ferment. Technol.*, **48**, 361-367.

SW

Put a small amount of dried soil into a test tube and add 20mL distilled water.

REFERENCE

Pringsheim, E. G. 1946 The biphasic or soil-water culture method for growing algae and flagellata. *J. Ecol.*, **33**, 193-204.

TAP

NH ₄ Cl	40	mg
CaCl ₂ · 2H ₂ O	5.1	mg
MgSO ₄ · 7H ₂ O	10	mg
K ₂ HPO ₄	11.9	mg
KH ₂ PO ₄	6.03	mg
Hutner's trace elements ¹⁾	0.1	mL
Acetic acid	0.1	mL
Tris (hydroxymethyl) aminomethane	242	mg
Agar	1.5	g
Distilled water	99.8	mL

1) See Hutner's trace elements

Tre

To 100 mL MBM¹⁾ medium add 1 g proteose peptone and 2 g glucose.

1) See MBM

Indicated as "Trebouxia medium" in reference.

REFERENCE

Ichimura, T., Itoh, T. 1977 17. Preservation methods of microalgae (I) [17. Bisaisôrui no hozonhô (I)]. In *Preservation methods of microorganisms [Biseibutsu Hozonhô]*, Ed. by Nei, T., University of Tokyo Press, Tokyo, p. 355-373 (in Japanese without English title).
 Starr, R. C. 1964 The culture collection of algae at Indiana University. *Amer. J. Bot.*, **51**, 1013-1044.

URO

NH ₄ NO ₃	0.5	mg
β-Na ₂ glycerophosphate · 5H ₂ O	0.4	mg
MgSO ₄ · 7H ₂ O	1	mg
CaCl ₂ · 2H ₂ O	1	mg
KCl	0.1	mg
Thiamine HCl	1	μg
Vitamin B ₁₂	0.01	μg
Biotin	0.01	μg
Fe-EDTA	0.05	mg
PIV metals ¹⁾	0.1	mL
Distilled water	99.9	mL
pH 7.5 ²⁾		

1) See PIV metals

2) pH is adjusted to 7.5 with 0.1 mol/L HCl.

REFERENCES

Kimura, B., Ishida, Y. 1985 Photophagotrophy in *Uroglena americana*, Chrysophyceae. *Jpn. J. Limnol.*, **46**, 315-318.
 Nakahara, H., Sako, Y. 1987 2. Life history of freshwater phytoplankton [2. Tansui syokubutsu purankuton no seikatsushi]. In *Freshwater red tide [Tansui Akashio]*, Ed. by Kadota, H., Kôseisyô-Kôseikaku, Tokyo, p. 21-77 (in Japanese without English title).

URO-H

To 100 mL URO¹⁾ medium add 40 mg HEPES.

1) See URO

URO-T

To 100 mL URO¹⁾ medium add 50 mg Tris (hydroxymethyl) aminomethane.

1) See URO

VT

Ca(NO ₃) ₂ · 4H ₂ O	11.78	mg
β-Na ₂ glycerophosphate · 5H ₂ O	5	mg
MgSO ₄ · 7H ₂ O	4	mg
KCl	5	mg
Vitamin B ₁₂	0.01	μg
Biotin	0.01	μg
Thiamine HCl	1	μg
PIV metals ¹⁾	0.3	mL
Glycylglycine	50	mg
Distilled water	99.7	mL
pH 7.5		

1) See PIV metals

REFERENCES

Provasoli, L., Pintner, I. J. 1959 Artificial media for fresh-water algae: problems and suggestions. In *The Ecology of Algae. Spec. Pub. No. 2.*, Eds. by Tryon, C. A., Jr. & Hartmann, R. T., Pymatuning Laboratory of Field

Biology, University of Pittsburgh, Pittsburgh, p. 84-96.
 Starr, R. C. 1964 The culture collection of algae at Indiana University. *Amer. J. Bot.*, **51**, 1013-1044.

VTAC

To 100 mL VT¹⁾ medium add 20 mg sodium acetate.

1) See VT

REFERENCE

Nozaki, H., Kuroiwa, H., Mita, T., Kuroiwa, T. 1989 *Pleodorina japonica* sp. nov. (Volvocales, Chlorophyta) with bacteria-like endosymbionts. *Phycologia*, **28**, 252-267.

VTYT

To 100 mL VT¹⁾ medium add 10 mg yeast extract and 20 mg tryptone.

1) See VT

REFERENCE

Ichimura, T., Itoh, T. 1977 17. Preservation methods of microalgae (I) [17. Bisaisôrui no hozonhō (I)]. In *Preservation methods of microorganisms [Biseibutsu Hozonhō]*, Ed. by Nei, T., University of Tokyo Press, Tokyo, p. 355-373 (in Japanese without English title).

W

Ca(NO ₃) ₂ · 4H ₂ O	10	mg
KNO ₃	1	mg
MgSO ₄ · 7H ₂ O	1.5	mg
β-Na ₂ glycerophosphate · 5H ₂ O	2	mg
Urea	1.7	mg
Thiamine HCl	0.2	μg
Vitamin B ₁₂	0.002	μg
Biotin	0.002	μg
PIV metals ¹⁾	0.05	mL
Glycylglycine	10	mg
Distilled water	99.95	mL
pH 7.5		

1) See PIV metals

REFERENCE

Watanabe, M. M. 1983 Growth characteristics of freshwater red tide alga, *Peridinium* based on axenic culture. Establishment of synthetic culture medium [Junsuibaiyôhō niyoru tansuikashio Peridinium no zôsyokutokusei no kaiseki-gôseibaichi no kakuritsu]. *Res. Data Natl. Inst. Environ. Stud.*, **No. 24**, 111-121 (in Japanese without English title).

2.2. Media for marine and brackish water microalgae

BESM

Make diluted seawater by mixing 27.5 mL seawater and 70 mL distilled water. Make ESM¹⁾ medium by using this diluted seawater instead of original seawater.

1) See ESM

BESM 2

Make diluted seawater by mixing 47.5 mL seawater and 50 mL distilled water. Make ESM¹⁾ medium by using this diluted seawater instead of original seawater.

1) See ESM

ESM

NaNO ₃	12	mg
K ₂ HPO ₄	0.5	mg
Vitamin B ₁₂	0.1	µg
Biotin	0.1	µg
Thiamine HCl	10	µg
Fe-EDTA	25.9	µg
Mn-EDTA	33.2	µg
Tris (hydroxymethyl) aminomethane	100	mg
Soil extract ¹⁾	2.5	mL
Seawater	97.5	mL
pH 8.0		

Add 1.5 g agar to 100 mL of medium to give a solid medium.

1) The amount of Soil extract depends on the quality of the soil. In the MCC-NIES, Soil extract was reduced from 5 mL to 2.5 mL after 2002. See Soil extract

REFERENCE

Okaichi, T., Nishio, S., Imatomi, Y. 1982 Collection and mass culture [Shiryô no saisyu to baiyô]. In *Toxic phytoplankton - Occurrence, mode of action, and toxins [Yûdoku Purankuton -Hasei, Sayôkikô, Dokuseibun]*, Ed. by Jpn. Fish. Soc., Kôseisya-Kôseikaku, Tokyo, p. 22-34 (in Japanese without English title).

ESM2

Prepare as for 100 mL ESM¹⁾ medium with 95.5mL instead of 97.5 mL seawater and with 5 mL instead of 2.5 mL Soil extract²⁾.

1) See ESM

2) See Soil extract

f/2

NaNO ₃	7.5	mg
NaH ₂ PO ₄ · 2H ₂ O	0.6	mg
Vitamin B ₁₂	0.05	µg
Biotin	0.05	µg
Thiamine HCl	10	µg
Na ₂ SiO ₃ · 9H ₂ O	1	mg
f/2 metals ¹⁾	0.1	mL
Seawater	99.9	mL

1) See f/2 metals

REFERENCE

Guillard, R. R. L., Ryther, J. H. 1962 Studies of marine planktonic diatoms. I. *Cyclotella nana* Hustedt, and *Detonula confervacea* (Cleve) Gran. *Can. J. Microbiol.*, **8**, 229-239.

f/2 + NH₄Cl

To 100 mL f/2¹⁾ medium add 2.67 mg NH₄Cl.

1) See f/2

IMK

Into 100 mL seawater dissolve 25.2 mg powder medium of Daigo IMK (Nihon Pharmaceutical Co., Ltd.).

In the MCC-NIES, IMK medium is used after autoclaving (121°C, 20 min).

K

Tris-base (pH 7.2) ¹⁾	0.1	mL
NaNO ₃	7.5	mg
NH ₄ Cl	0.267	mg
β-Na ₂ glycerophosphate · 5H ₂ O	0.216	mg
H ₂ SeO ₃	0.129	mg
Vitamin B ₁₂	0.05	µg
Biotin	0.005	µg
Thiamine HCl	0.01	mg
Na ₂ SiO ₃ · 9H ₂ O ²⁾	1.535	mg
K metals ³⁾	0.1	mL
Seawater	99.8	mL

1) To 100 mL of Distilled water add 12.11 g Tris-base, and pH is adjusted to 7.2.

2) In the MCC-NIES, Na₂SiO₃ · 9H₂O is removed.

3) See K metals

REFERENCES

Keller, M. D., Guillard, R.R.L. 1985 Factors significant to marine diatom culture. pp. 113-6. In Anderson, D.M., White, A.W., Baden, D.G. (eds.) *Toxic Dinoflagellates*. Elsevier, New York.

Keller, M.D., Selvin, R.C., Claus, W., Guillard, R.R.L. 1987. Media for the culture of oceanic ultraphytoplankton. *J. Phycol.*, **23**: 633-638.

K/2 (K/2-modified by Ian Probert)

NaNO ₃	2.44	mg
NH ₄ Cl	0.0267	mg
K ₂ HPO ₄	0.244	mg
Fe-EDTA	0.215	mg
Vitamin B ₁₂	0.05	µg
Biotin	0.0005	µg
Thiamine HCl	0.01	mg
K/2 metals ¹⁾	0.05	mL
Seawater	99.95	mL
pH 8.2		

K medium is diluted half strength and modified by Ian Probert. This medium should not be autoclaved but filter-sterilized.

1) See K/2 metals

REFERENCES

Keller, M. D., Guillard, R.R.L. 1985 Factors significant to marine diatom culture. pp. 113-6. *In* Anderson, D.M., White, A.W., Baden, D.G. (eds.) *Toxic Dinoflagellates*. Elsevier, New York.
 Keller, M.D., Selvin, R.C., Claus, W., Guillard, R.R.L. 1987. Media for the culture of oceanic ultraphytoplankton. *J. Phycol.*, 23: 633-638.

K/2ET

NaNO ₃	2.44	mg
NH ₄ Cl	0.0267	mg
K ₂ HPO ₄	0.244	mg
Fe-EDTA	0.215	mg
Vitamin B ₁₂	0.05	µg
Biotin	0.0005	µg
Thiamine HCl	0.01	mg
K/2 metals ¹⁾	0.05	mL
Soil extract ²⁾	1.5	mL
Seawater	98.45	mL
pH 8.2		

K medium is diluted half strength and modified by Ian Probert. This medium should not be autoclaved but filter-sterilized.

1) See K/2 metals
 2) See Soil extract

REFERENCES

Keller, M. D., Guillard, R.R.L. 1985 Factors significant to marine diatom culture. pp. 113-6. *In* Anderson, D.M., White, A.W., Baden, D.G. (eds.) *Toxic Dinoflagellates*. Elsevier, New York.
 Keller, M.D., Selvin, R.C., Claus, W., Guillard, R.R.L. 1987. Media for the culture of oceanic ultraphytoplankton. *J. Phycol.*, 23: 633-638.

M-ASP7

NTA	7	mg
NaCl	2.5	g
MgSO ₄ · 7H ₂ O	900	mg
KCl	70	mg
CaCl ₂ · 2H ₂ O	30	mg
NaNO ₃	5	mg
NaH ₂ PO ₄ · 2H ₂ O	2	mg
Vitamin B ₁₂	0.1	µg
Vitamin mix S ₃ ¹⁾	1	mL
Na ₂ SiO ₃ · 9H ₂ O	1	mg
P _N metals ²⁾	3	mL
Tris (hydroxymethyl) aminomethane	100	mg
Distilled water	96	mL
pH 8.0		

1) See Vitamin mix S₃
 2) See P_N metals

REFERENCE

Watanabe, M. M., Satake, K. N. (Eds.) 1991 *NIES-Collection. List of Strains, Third Edition, 1991, Microalgae and Protozoa*. Microbial Culture Collection, National Institute for Environmental Studies, Tsukuba, 163 pp.k.pdf

MF

f/2¹⁾ medium with Na₂SiO₃ · 9H₂O replaced by 1 mL Soil extract²⁾ and adjusted to pH 8.0 by buffering with 100 mg Tris (hydroxymethyl) aminomethane.

1) See f/2
 2) See Soil extract

mIMR (modified IMR)

KNO ₃	1.26	mg
K ₂ HPO ₄	0.22	mg
Na ₂ SiO ₃ ¹⁾	0.61	mg
mIMR trace metals ²⁾	0.1	mL
Thiamine	20	µg
Vitamin B ₁₂	1	µg
Biotin	0.1	µg
Seawater	100	mL

1) In the MCC-NIES, Na₂SiO₃ is replaced by Na₂SiO₃·9H₂O.
 2) See mIMR trace metals

REFERENCE

Paasche, E., Bruback, S., Skattebol, S., Young, J. R., Green, J. C 1996 Growth and calcification in the coccolithophorid *Emiliania huxleyi* (Haptophyceae) at low salinities. *Phycologia*, 35, 394-403.

MKM

KNO ₃	75	mg
KH ₂ PO ₄	2.5	mg
MgSO ₄ · 7H ₂ O	2	mg
Fe-citrate	250	µg
Agar	1.5	g
Seawater	50	mL
Distilled water	50	mL

REFERENCE

Watanabe, A. 1960 List of algal strains in collection at the Institute of Applied Micro-biology, University of Tokyo. *J. Gen. Appl. Microbiol.*, 6, 283-292.

MNK

NaNO ₃	2	mg
K ₂ HPO ₄	0.1	mg
Na ₂ HPO ₄ · 12H ₂ O	0.028	mg
Vitamin B ₁₂	0.015	µg
Biotin	0.015	µg
Thiamine HCl	2	µg
CoSO ₄ · 7H ₂ O	0.12	µg

ZnSO ₄ · 7H ₂ O	0.24	µg
MnCl ₂ · 4H ₂ O	0.9	µg
CuSO ₄ · 5H ₂ O	0.006	µg
Na ₂ SeO ₃	0.003	µg
Na ₂ MoO ₄ · 2H ₂ O	0.07	µg
Na ₂ EDTA · 2H ₂ O	0.37	µg
Fe-EDTA	2.6	µg
Mn-EDTA	3.3	µg
Seawater	100	mL

Vitamins should be added at the end of the preparation. This medium should not be autoclaved but filter-sterilized.

REFERENCE

Noël, M.-H., Kawachi, M., Inouye, I. 2004 Induced dimorphic life cycle of a coccolithophorid, *Calyptrosphaera sphaeroidea* (Prymnesiophyceae, Haptophyta). *J. Phycol.*, **40**, 112-129.

PRO-99

NaH ₂ PO ₄ · 2H ₂ O	0.779	mg
NH ₄ Cl	4.28	mg
PRO-99 trace metals ¹⁾	0.01	mL
Seawater	100	mL

1) See PRO-99 trace metals

WESM

Make diluted seawater by mixing 87.5 mL seawater and 10 mL distilled water. Make ESM¹⁾ medium by using this diluted seawater instead of seawater.

1) See EMS

2.3. Bacteria-free check media for freshwater algae

B-I

Appropriate medium	100	mL
Proteose peptone	100	mg

REFERENCE

Ichimura, T., Watanabe, M. M. 1977 An axenic clone of *Microcystis aeruginosa* Kutz. emend. Elenkin from Lake Kasumigaura. *Bull. Jpn. Soc. Phycol.*, **25**, 177-181.

B-II

Appropriate medium	100	mL
Yeast extract	500	mg

REFERENCE

Ichimura, T., Watanabe, M. M. 1977 An axenic clone of *Microcystis aeruginosa* Kutz. emend. Elenkin from Lake Kasumigaura. *Bull. Jpn. Soc. Phycol.*, **25**, 177-181.

B-III

Appropriate medium	100	mL
Peptone	500	mg
Beef extract	300	mg

REFERENCE

Ichimura, T., Watanabe, M. M. 1977 An axenic clone of *Microcystis aeruginosa* Kutz. emend. Elenkin from Lake Kasumigaura. *Bull. Jpn. Soc. Phycol.*, **25**, 177-181.

B-IV

Appropriate medium	100	mL
Glucose	100	mg
Peptone	100	mg

REFERENCE

Ichimura, T., Watanabe, M. M. 1977 An axenic clone of *Microcystis aeruginosa* Kutz. emend. Elenkin from Lake Kasumigaura. *Bull. Jpn. Soc. Phycol.*, **25**, 177-181.

B-V

Appropriate medium	100	mL
Sodium acetate	50	mg
Glucose	50	mg
Tryptone	50	mg
Yeast extract	30	mg

REFERENCE

Ichimura, T., Watanabe, M. M. 1977 An axenic clone of *Microcystis aeruginosa* Kutz. emend. Elenkin from Lake Kasumigaura. *Bull. Jpn. Soc. Phycol.*, **25**, 177-181.

YT

Appropriate medium	100	mL
Yeast extract	100	mg
Tryptone	200	mg

REFERENCE

Ichimura, T., Itoh, T. 1977 17. Preservation methods of microalgae (I) [17. Bisaisôrui no hozonhô (I)]. In *Preservation methods of microorganisms [Biseibutsu Hozonhô]*, Ed. by Nei, T., University of Tokyo Press, Tokyo, p. 355-373 (in Japanese without English title).

2.4. Bacteria-free check media for marine algae

Bf/2

ASP 7 ¹⁾	100	mL
Trypticase	50	mg
Yeast extract	5	mg

1) In the MCC-NIES, ASP 7 is replaced by f/2²⁾ medium. See f/2

REFERENCE

Yoshida, Y., Kawaguchi, K. 1983 Buoyancy and phototaxis of *Chattonella antiqua* (Hada) Ono. *Bull. Plankton Soc. Jpn.*, **30**, 11-19 (in Japanese with English summary).

MM 23 (M. Tatewaki, pers. comm.)

NaCl	1.8	g
MgSO ₄ · 7H ₂ O	500	mg
KCl	60	mg
NaNO ₃	100	mg
CaCl ₂ · 2H ₂ O	36.7	mg
K ₂ HPO ₄	6	mg
Sucrose	400	mg
PII metals ¹⁾	2	mL
FeCl ₃ · 6H ₂ O	48	µg
Thiamine HCl	10	µg
Biotin	0.1	µg
Vitamin B ₁₂	0.2	µg
C-Source Mix II ²⁾	1	mL
Tris (hydroxymethyl) aminomethane	100	mg
Distilled water	97	mL
pH 8.0		

- 1) See PII metals
2) See C-Source Mix II

STP

NaNO ₃	20	mg
K ₂ HPO ₄	1	mg
Sodium glutamate	50	mg
Glucose	20	mg
Glycine	10	mg
D,L-Alanine	10	mg
Vitamin mix 8 ¹⁾	0.1	mL
Trypticase	20	mg
Yeast autolysate ²⁾	20	mg
Sucrose	100	mg
Soil extract ³⁾	5	mL
Sea water	80	mL
Distilled water	15	mL
pH 7.5		

- 1) In the MCC-NIES, Vitamin mix 8 is replaced by Vitamin mix S₃. See Vitamin mix S₃
2) In the MCC-NIES, yeast autolysate is replaced by yeast extract.
3) See Soil extract

REFERENCE

Provasoli, L., McLaughlin, J. J. A., Droop, M. R. 1957 The development of artificial media for marine algae. *Arch. Mikrobiol.*, **25**, 392-428.

2.5. Trace metals, vitamin mixtures and soil extracts

A2 Fe stock solution

EDTA · 2Na	700	mg
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FeCl ₃ · 6H ₂ O	400	mg
Distilled water	100	mL

Sterilize by passing through a Millipore filter (0.22 µm).

A2 trace element stock solution

H ₃ BO ₃	285	mg
MnCl ₂ · 4H ₂ O	180	mg
ZnCl ₂	10.5	mg
Na ₂ MoO ₄ · 2H ₂ O	39	mg
CoCl ₂ · 6H ₂ O	4	mg
CuCl ₂ · 2H ₂ O	4.3	mg
Distilled water	100	mL

A5 solution

H ₃ BO ₃	286	mg
MnSO ₄ · 7H ₂ O ¹⁾	250	mg
ZnSO ₄ · 7H ₂ O	22.2	mg
CuSO ₄ · 5H ₂ O	7.9	mg
Na ₂ MoO ₄ · 2H ₂ O	2.1	mg
Distilled water	100	mL

- 1) In the MCC-NIES, 250 mg MnSO₄ · 7H₂O is replaced by 217 mg MnSO₄ · 5H₂O.

REFERENCE

Holm-Hansen, O., Gerloff, G. C., Skoog, F. 1954 Cobalt as an essential element for blue-green algae. *Physiol. Planta.*, **7**, 665-675.

Allen metals

Fe-EDTA	30.16	g
MnCl ₂ · 4H ₂ O	1.79	g
H ₃ BO ₃	2.86	g
ZnSO ₄ · 7H ₂ O	220	mg
CuSO ₄ · 5H ₂ O	79	mg
(NH ₄) ₆ Mo ₇ O ₂₄ · 4H ₂ O	130	mg
NH ₄ VO ₃	23	mg
Distilled water	100	mL

In the MCC-NIES, Allen metals are used after dilution with distilled water to 1/1,000.

REFERENCE

Allen, M. B. 1959 Studies with *Cyanidium caldarium*, an anomalously pigmented chlorophyte. *Arch. Mikrobiol.*, **32**, 270-277.

C-Source Mix II (M. Tatewaki, pers. comm.)

Glycine	100	mg
D,L-Alanine	100	mg
L-Asparagine	100	mg
Sodium acetate · 3H ₂ O ¹⁾	200	mg
Glucose	200	mg
L-Glutamic acid	200	mg
Distilled water	100	mL

1) In the MCC-NIES, 200 mg sodium acetate · 3H₂O is replaced by 120 mg sodium acetate, anhydrous.

D stock medium

NTA	0.2	g
D trace mix ¹⁾	1	mL
FeCl ₃ · 6H ₂ O	0.58	mg
CaSO ₄ · 2H ₂ O	120	mg
MgSO ₄ · 7H ₂ O	200	mg
NaCl	16	mg
KNO ₃	200	mg
NaNO ₃	1.4	g
Na ₂ HPO ₄ ²⁾	220	mg
Distilled water	99	ml

1) See D trace mix

2) In the MCC-NIES, 220 mg Na₂HPO₄ is replaced by 550 mg Na₂HPO₄ · 12H₂O.

REFERENCE

Castenholz, R. W. 1969 Thermophilic blue-green algae and the thermal environment. *Bacteriol. Rev.*, **33**, 476-504.

D trace mix

conc · H ₂ SO ₄	0.05	mL
MnSO ₄ · H ₂ O ¹⁾	228	mg
ZnSO ₄ · 7H ₂ O	50	mg
H ₃ BO ₃	50	mg
CuSO ₄ · 5H ₂ O	2.5	mg
Na ₂ MoO ₄ · 2H ₂ O	2.5	mg
CoCl ₂ · 6H ₂ O	4.5	mg
Distilled water	100	ml

1) In the MCC-NIES, 228 mg MnSO₄ · H₂O is replaced by 349 mg MnSO₄ · 5H₂O.

REFERENCE

Castenholz, R. W. 1969 Thermophilic blue-green algae and the thermal environment. *Bacteriol. Rev.*, **33**, 476-504.

DY trace metal solution

MnCl ₂ · 4H ₂ O	20	mg
ZnSO ₄ · 7H ₂ O	4	mg
CoCl ₂ · 6H ₂ O	0.8	mg
Na ₂ MoO ₄ · 6H ₂ O ¹⁾	2	mg
Na ₃ VO ₄ · 10H ₂ O ²⁾	0.2	mg
H ₂ SeO ₃	0.2	mg
Distilled water	100	mL

1) In the MCC-NIES, Na₂MoO₄ · 6H₂O is replaced by Na₂MoO₄ · 2H₂O.

2) In the MCC-NIES, 0.2 mg Na₃VO₄ · 10H₂O is replaced by 0.1 mg Na₃VO₄.

Fe (as EDTA; 1:1 molar)

Fe(NH ₄) ₂ (SO ₄) ₂ · 6H ₂ O	70.2	mg
Na ₂ EDTA · 2H ₂ O	66	mg

Distilled water 100 mL

1 mL of this solution contains 0.1 mg Fe.

REFERENCE

Provasoli, L. 1966 Media and prospects for the cultivation of marine algae. In *Cultures and Collections of Algae*, Eds. by Watanabe, A. & Hattori, A., Proc. U.S.-Japan Conf., Hakone, Sept. 1966., Jpn. Soc. Plant Physiol., p. 63-75.

Fe solution

FeSO ₄ · 7H ₂ O	200	mg
Distilled water	100	mL
Conc · H ₂ SO ₄	0.026	mL ¹⁾

1) 2 drops/500 mL.

REFERENCE

Ichimura, T., Itoh, T. 1977 17. Preservation methods of microalgae (I) [17. Bisaisôruï no hozonhô (I)]. In *Preservation methods of microorganisms [Biseibutsu Hozonhô]*, Ed. by Nei, T., University of Tokyo Press, Tokyo, p. 355-373 (in Japanese without English title).

f/2 metals

Na ₂ EDTA · 2H ₂ O	440	mg
FeCl ₃ · 6H ₂ O	316	mg
CoSO ₄ · 7H ₂ O	1.2	mg
ZnSO ₄ · 7H ₂ O	2.1	mg
MnCl ₂ · 4H ₂ O	18	mg
CuSO ₄ · 5H ₂ O	0.7	mg
Na ₂ MoO ₄ · 2H ₂ O	0.7	mg
Distilled water	100	mL

REFERENCE

Guillard, R. R. L., Ryther, J. H. 1962 Studies of marine planktonic diatoms. I. *Cyclotella nana* Hustedt, and *Detonula confervacea* (Cleve) Gran. *Can. J. Microbiol.*, **8**, 229-239.

K metals

Na ₂ EDTA · 2H ₂ O	3.722	g
Fe-EDTA	0.493	g
FeCl ₃ · 6H ₂ O	0.315	g
MnCl ₂ · 4H ₂ O	17.8	mg
ZnSO ₄ · 7H ₂ O	2.3	mg
CoSO ₄ · 7H ₂ O	1.405	mg
Na ₂ MoO ₄ · 2H ₂ O	0.726	mg
CuSO ₄ · 5H ₂ O	0.25	mg
Distilled water	100	mL

REFERENCES

Keller, M. D., Guillard, R.R.L. 1985 Factors significant to marine diatom culture. pp. 113-6. In Anderson, D.M., White, A.W., Baden, D.G. (eds.) *Toxic Dinoflagellates*. Elsevier, New York.

Keller, M.D., Selvin, R.C., Claus, W., Guillard, R.R.L. 1987. Media for the culture of oceanic ultraphytoplankton. *J. Phycol.*, **23**: 633-638.

K/2 metals

Na ₂ EDTA · 2H ₂ O	3.722	g
CuSO ₄ · 5H ₂ O	0.25	mg
Na ₂ MoO ₄ · 2H ₂ O	0.726	mg
ZnSO ₄ · 7H ₂ O	2.3	mg
CoSO ₄ · 7H ₂ O	1.405	mg
MnCl ₂ · 4H ₂ O	17.81	mg
H ₂ SeO ₃	0.129	mg
NiCl ₂ · 6H ₂ O	0.149	mg
Distilled water	100	mL

1) In the MCC-NIES, 0.149 mg NiCl₂ · 6H₂O is replaced by 0.812 mg NiCl₂.

REFERENCE

Guillard, R. R. L., Ryther, J. H. 1962 Studies of marine planktonic diatoms. I. *Cyclotella nana* Hustedt, and *Detonula confervacea* (Cleve) Gran. *Can. J. Microbiol.*, **8**, 229-239.

Hutner's trace elements

Na ₂ EDTA · 2H ₂ O	5	g
ZnSO ₄ · 7H ₂ O	2.2	g
H ₃ BO ₃	1.14	g
MnCl ₂ · 4H ₂ O	506	mg
FeSO ₄ · 7H ₂ O	499	mg
CoCl ₂ · 6H ₂ O	161	mg
CuSO ₄ · 5H ₂ O	157	mg
(NH ₄) ₆ Mo ₇ O ₂₄ · 4H ₂ O	110	mg
Distilled water	100	mL

Adjust the pH to 6.5–6.8 with KOH (~1.6 g). Store the solution in a refrigerator (5°C). The solution should have turned to violet color before use. This process takes a while and is necessary.



Hutner's trace elements with final proper color (violet)

mIMR trace metals

FeCl ₃ · 6H ₂ O	100	mg
MnSO ₄ · 4H ₂ O	85.5	mg
ZnSO ₄ · 7H ₂ O	25	mg

Na ₂ MoO ₄ · 2H ₂ O	13	mg
CoCl ₂ · 6H ₂ O	0.4	mg
CuSO ₄ · 5H ₂ O	0.4	mg
Na ₂ SeO ₃	0.173	mg
Na ₂ EDTA ¹⁾	600	mg
Distilled water	100	mL

1) In the MCC-NIES, Na₂EDTA is replaced by Na₂EDTA · 2H₂O.

mM-1 Trace elements

CuSO ₄ · 5H ₂ O	10	mg
MnCl ₂ · 4H ₂ O	10	mg
Br (1mol/L solution)	0.01	mL
ZnSO ₄ · 7H ₂ O	10	mg
CoCl ₂ · 6H ₂ O	5	mg
BaCl ₂ · 2H ₂ O	1	mg
H ₃ BO ₃	10	mg
FeCl ₃ · 6H ₂ O	10	mg
Na ₂ MoO ₄ · 2H ₂ O	5	mg
Distilled water	100	mL

Indicated as "Trace elements" in reference.

REFERENCE

Hoham, R. W., Berman, J. D., Rogers, H. S., Felio, J. H., Ryba, J. B., Miller, P. R. 2006 Two new species of green snow algae from Upstate New York, *Chloromonas chenangoensis* sp. nov. and *Chloromonas tughillensis* sp. nov. (Volvocales, Chlorophyceae) and the effects of light on their life cycle development. *Phycologia*, **45**, 319-330.

mTYGM-9

Pre-solution

K ₂ HPO ₄	0.28	g
KH ₂ PO ₄	40	mg
Casein Digest	0.2	g
Yeast extract	0.1	g
NaCl	0.75	g
Mucin, gastric	0.2	g
Distilled water	97	mL

Sterilize Pre-solution by autoclaving (121°C, 15 min) , add aseptically 3 mL horse serum and 50 µL 10% Tween 80 dissolved in absolute ethanol (both filter-sterilized). Keep in a cool place.

P II metals

Na ₂ EDTA · 2H ₂ O	100	mg
H ₃ BO ₃	114	mg
FeCl ₃ · 6H ₂ O	4.9	mg
MnSO ₄ · 4H ₂ O	16.4	mg
ZnSO ₄ · 7H ₂ O	2.2	mg
CoSO ₄ · 7H ₂ O	480	µg
Distilled water	100	mL

REFERENCE

Provasoli, L. 1963 Growing marine seaweeds. In *Proceedings of the Fourth International Seaweed*

Symposium, University of Tokyo Press, Tokyo, p. 9-17.

P IV metals

Na ₂ EDTA · 2H ₂ O	100	mg
FeCl ₃ · 6H ₂ O	19.6	mg
MnCl ₂ · 4H ₂ O	3.6	mg
ZnCl ₂ ¹⁾	1.04	mg
CoCl ₂ · 6H ₂ O	0.4	mg
Na ₂ MoO ₄ · 2H ₂ O	0.25	mg
Distilled water	100	mL

1) In the MCC-NIES, 1.04 mg ZnCl₂ is replaced by 2.2 mg ZnSO₄ · 7H₂O.

REFERENCE

Provasoli, L., Pintner, I. J. 1959 Artificial media for fresh-water algae: problems and suggestions. In *The Ecology of Algae. Spec. Pub. No. 2.*, Eds. by Tryon, C. A., Jr. & Hartmann, R. T., Pymatuning Laboratory of Field Biology, University of Pittsburgh, Pittsburgh, p. 84-96.

P_N metals

Na ₂ EDTA · 2H ₂ O	100	mg
H ₃ BO ₃	113	mg
FeCl ₃ · 6H ₂ O	6.3	mg
CoSO ₄ · 7H ₂ O	0.093	mg
ZnSO ₄ · 7H ₂ O	4.66	mg
MnCl ₂ · 4H ₂ O	3.2	mg
Distilled water	100	mL

REFERENCE

Watanabe, M. M., Satake, K. N. (Eds.) 1991 *NIES-Collection. List of Strains, Third Edition, 1991, Microalgae and Protozoa.* Microbial Culture Collection, National Institute for Environmental Studies, Tsukuba, 163 pp.

PRO-99 trace metals

Na ₂ EDTA ¹⁾	0.58	g
FeCl ₃ · 6H ₂ O	0.422	g
ZnSO ₄ · 7H ₂ O	2.933	mg
CoCl ₂ · 6H ₂ O	1.332	mg
MnCl ₂ · 4H ₂ O	24	mg
Na ₂ MoO ₄ · 2H ₂ O	0.839	g
Na ₂ SeO ₃	2.306	mg
NiCl ₂ · 6H ₂ O	0.37	mg
Distilled water	100	mL

1) In the MCC-NIES, 0.58 g Na₂EDTA is replaced by 0.637 g Na₂EDTA · 7H₂O.

Soil extract

To 1000 mL distilled water add 200 mL of soil (soil from undisturbed deciduous woodland is best) and heat by autoclaving for 1 h at 105°C. When cool, heat by autoclaving for 1 h at 105°C again. Pass the supernatant through a GF/C filter and Celite, and then pass the filtrate

through a GF/F filter. Adjust to 1000 mL by adding distilled water. Dispense 10 mL of the final filtrate into each test tube and sterilize by autoclaving for 20min at 121°C. Keep in a cool place.

REFERENCE

Provasoli, L., McLaughlin, J. J. A., Droop, M. R. 1957 The development of artificial media for marine algae. *Arch. Mikrobiol.*, **25**, 392-428.

Trace metal mix A₅ + Co

H ₃ BO ₃	286	mg
MnCl ₂ · 4H ₂ O	181	mg
ZnSO ₄ · 7H ₂ O	22.2	mg
Na ₂ MoO ₄ · 2H ₂ O	39	mg
CuSO ₄ · 5H ₂ O	7.9	mg
Co(NO ₃) ₂ · 6H ₂ O	4.9	mg
Distilled water	100	mL

Vitamin mix S₃

Thiamine HCl	5	mg
Nicotinic acid	1	mg
Calcium pantothenate	1	mg
<i>p</i> -Aminobenzoic acid	0.1	mg
Biotin	0.01	mg
Inositol	50	mg
Folic acid	0.02	mg
Thymine	30	mg
Distilled water	100	mL

REFERENCE

Provasoli, L. 1963 Growing marine seaweeds. In *Proceedings of the Fourth International Seaweed Symposium*, University of Tokyo Press, Tokyo, p. 9-17.

Waris EDTA

EDTA	0.522	g
FeSO ₄ · 7H ₂ O	0.498	g
KOH (1 mol/L solution)	5.4	mL
Distilled water	94.6	mL

REFERENCE

McFadden, G. I., Melkonian, M. 1986 Use of Hepes buffer for microalgael culture media and fixation for electron microscopy. *Phycology*, **25**, 551-557.

Waris P-2

Na ₂ EDTA · 7H ₂ O	0.3	g
H ₃ BO ₃	0.114	g
MnCl ₂ · 4H ₂ O	14.4	mg
ZnSO ₄ · 7H ₂ O	2.1	mg
CoCl ₂ · 6H ₂ O	0.4	mg
Distilled water	100	mL

REFERENCE

McFadden, G. I., Melkonian, M. 1986 Use of Hepes buffer for microalgael culture media and fixation for electron microscopy. *Phycology*, **25**, 551-557.

2.6. Media for protozoa

AF-6 + Wheat

Beforehand, sterilize wheat grains by dry heating (150°C, 30 min). Keep in a cool place. For use, add a grain of sterile wheat to 10 mL AF-6¹⁾ medium.

1) See AF-6

ESM + mTYGM – 9 + Rice

Beforehand, sterilize polished rice by dry heating (150°C, 30 min). Keep in a cool place. For use, add 500 µL mTYGM-9¹⁾ and a grain of sterile rice to 10 mL ESM²⁾ medium.

1) See mTYGM-9

2) See ESM

f/2 + mTYGM–9 + Rice

Beforehand, sterilize polished rice by dry heating (150°C, 30 min). Keep in a cool place. For use, add 500 µL mTYGM-9¹⁾ and a grain of sterile rice to 10 mL f/2²⁾ medium.

1) See mTYGM-9

2) See f/2

f/2 + Wheat

Beforehand, sterilize wheat grains by dry heating (150°C, 30 min). Keep in a cool place. For use, add a grain of sterile wheat to 10 mL f/2¹⁾ medium.

1) See f/2

Helio

Sodium acetate	10	mg
Polypeptone	10	mg
Trypeptone	20	mg
Yeast extract	20	mg
CaCl ₂ · 2H ₂ O	0.1	mg
Sea water	10	mL
Distilled water	90	mL

LE

L solution: White part of lettuce is dried at 90°C for 16–18 h without scorching; 300 mg of the dried lettuce is added to 100 mL boiling water (9:1 distilled water to tap water) and boiled for 30 min, while stirring. The supernatant is passed through cotton wool.

E solution: 300 mg of crushed yolk of hardboiled egg is added to 100 mL water (9:1 distilled water to tap water) and

boiled for 30 min, while stirring. The supernatant is passed through cotton wool.

Equal quantities of L and E solutions are mixed. The pH is adjusted to 6.8–7.0 with 1 mol/L NaOH, and 100 mL of the solution is dispensed into each 200-mL Erlenmeyer flask and sterilized by autoclaving (121°C, 15 min).

PYG

Prpteose Peptone	0.15	g
Yeast extract	0.1	g
Glucose	0.5	g
Distilled water	100	mL
pH 7.0		

REFERENCE

Mori, K., Yomo, T., Kashiwagi, A. 2011 Single-cell isolation and cloning of tetrahymena thermophila cells with a fluorescence-activated cell sorter. *J. Eukaryotic Microbiol.*, **58**(1), 37-42.

SUY

Prepare as for 100 mL URO¹⁾ medium with seawater instead of distilled water. Add 10 mg yeast extract and 20 mg tryptone.

1) See URO

Indicated as “URO-YT” in reference.

REFERENCE

Moriya, M., Nakayama, T., Inouye, I. 2000 Ultrastructure and 18S rDNA sequence analysis of *Wobblia lunata* gen. et sp. nov., a new heterotrophic flagellate (Stramenopiles, *incertae sedis*). *Protist*, **151**, 41-55.

SUY 1/10*

Prepare as for 100 mL URO¹⁾ medium with seawater instead of distilled water. Add 1 mg yeast extract and 2 mg tryptone.

1) See URO

Indicated as “URO-1/10 YT” in reference.

REFERENCE

Moriya, M., Nakayama, T., Inouye, I. 2002 A new class of the Stramenopiles, Placididea Classis nova: description of *Placidia cafeteriopsis* gen. et sp. nov. *Protist*, **153**, 143-156.

SUY 1/10 + mTYGM–9 + Rice

Beforehand, sterilize polished rice by dry heating (150°C, 30 min). Keep in a cool place. For use, add 500 µL mTYGM-9¹⁾ and a grain of sterile rice to 10 mL SUY 1/10²⁾ medium.

1) See mTYGM-9

2) See SUY 1/10

SUY 1/10 + Wheat

Beforehand, sterilize wheat grains by dry heating (150°C, 30 min). Keep in a cool place. For use, add a grain of sterile wheat to 10 mL SUY 1/10¹⁾ medium.

1) See SUY1/10

URO + Wheat

Beforehand, sterilize wheat grains by dry heating (150°C, 30 min). Keep in a cool place. For use, add a grain of sterile wheat to 10 mL URO¹⁾ medium.

1) See URO

URO-H + Wheat

Beforehand, sterilize wheat grains by dry heating (150°C, 30 min). Keep in a cool place. For use, add a grain of sterile wheat to 10 mL URO-H¹⁾ medium.

1) See URO-H

UYTS + Rice

Prepare as for 100 mL URO¹⁾ medium with 99.2 mL instead of 99.9 mL distilled water. Adjust to pH 7.5 with 0.1 mol/L HCl, and add 10 mg yeast extract, 20 mg tryptone and 0.3 ml horse serum (UYTS medium).

Beforehand, sterilize polished rice by dry heating (150°C, 30 min). Keep in a cool place. For use, add a grain of sterile rice to 10 mL UYTS medium.

1) See URO

WHS (1/2Waris H + Si)

HEPES	11.915	mg
KNO ₃	5	mg
MgSO ₄ · 7H ₂ O	1	mg
(NH ₄) ₂ HPO ₄	1	mg
Ca(NO ₃) ₂ · 4H ₂ O	5	mg
Waros P-2 ¹⁾	0.05	mL
Waros EDTA ²⁾	0.05	mL
Vitamin B ₁₂	1	µg
Biotin	0.05	µg
Thiamine HCl	5	µg
Niacinamide	0.005	µg
Soil extract ³⁾	0.5	mL
Na ₂ SiO ₄ · 9H ₂ O	2.842	mg
Distilled water	99.4	mL
pH 8.0		

Waris H is diluted half strength and added Na₂SiO₄ · 9H₂O.

- 1) See Waros P-2
- 2) See Waros EDTA
- 3) See Soil extract

REFERENCE

McFadden, G. I., Melkonian, M. 1986 Use of Hepes

buffer for microalgal culture media and fixation for electron microscopy. *Phycology*, **25**, 551-557.

2.7. Media for freshwater red algae

Bold 3N

NaNO ₃	75	mg
CaCl ₂ · 2H ₂ O	2.5	mg
MgSO ₄ · 7H ₂ O	7.5	mg
K ₂ HPO ₄	7.5	mg
KH ₂ PO ₄ ¹⁾	17.5	mg
NaCl	2.5	mg
Vitamin B ₁₂ ²⁾	0.015	µg
PIV metals ³⁾	0.6	mL
Soil extract ⁴⁾	4	mL
Distilled water	96.4	mL

1) In the MCC-NIES, the amount of KH₂PO₄ is reduced from 17.5 mg to 10.5 mg.

2) In the MCC-NIES, the amount of vitamin B₁₂ is increased from 0.015 µg to 0.02 µg.

3) See PIV metals

4) See Soil extract

2.8. Media for Charales

mSWC-2 (Modified SWC-2)

Put leaf mould into a glass vessel to make a thin bottom layer, and add river sand onto the bottom layer up to one-quarter to one-fifth from the bottom. Add a pinch of garden lime to the river sand before use.

Dampen the soil with deionized water (or distilled water). Cover the glass vessel with a plastic cap or aluminum foil, and autoclave it twice with overnight rest in between (121°C, 20 min). After cooling the mixture to room temperature, pour sterilized deionized water (or sterilized distilled water) into it carefully (so as not to disturb the soil). In the case of brackish water strains, deionized water is replaced by about one-third-diluted Herbst artificial seawater (1/3 Herbst ASW¹⁾).

1) See 1/3 Herbst ASW

REFERENCE

Sakayama, H., Hara Y., Nozaki, H. 2004 Taxonomic re-examination of six species of *Nitella* (Charales, Charophyceae) from Asia, and phylogenetic relationships within the genus based on *rbcL* and *atpB* gene sequences. *Phycologia*, **43**, 91-104.

SWC-1

Put leaf mould into a glass vessel to make a thin bottom layer, and add black soil onto the bottom layer up to one-quarter to one-fifth from the bottom. Dampen the soil with deionized water (or distilled water). Cover the glass vessel with a plastic cap or aluminum foil, and autoclave it twice with overnight rest in between (121°C, 20 min). After

cooling the mixture to room temperature, pour sterilized deionized water (or sterilized distilled water) into it carefully (so as not to disturb the soil).

REFERENCE

Sakayama, H., Hara Y., Nozaki, H. 2004 Taxonomic re-examination of six species of *Nitella* (Charales, Charophyceae) from Asia, and phylogenetic relationships within the genus based on *rbcL* and *atpB* gene sequences. *Phycologia*, **43**, 91-104.

SWCN-1

Put bottom mud from a paddy field into a glass vessel up to one-quarter to one-fifth from the bottom. Dampen the mud with deionized water (or distilled water). Cover the glass vessel or jar with a plastic cap or aluminum foil, and autoclave it twice with overnight rest in between (121°C, 20 min). After cooling the mixture to room temperature, pour sterilized deionized water (or sterilized distilled water) into it carefully (so as not to disturb the soil).

SWCN-2

Put leaf mould into a glass vessel to make a thin bottom layer, and add a mixture of black soil and river sand onto the bottom layer up to one-quarter to one-fifth from the bottom. Dampen the soil with deionized water (or distilled water). Cover the glass vessel or jar with a plastic cap or aluminum foil, and autoclave it twice with overnight rest in between (121°C, 20 min). After cooling the mixture to room temperature, pour sterilized deionized water (or sterilized distilled water) into it carefully (so as not to disturb the soil). In the case of brackish water strains, deionized water is replaced by about one-third-diluted Herbst artificial seawater (1/3 Herbst ASW).

SWCN-3

Put a mixture of black soil and bottom mud from a paddy field into a glass vessel up to one-quarter to one-fifth from the bottom. Dampen the soil with deionized water (or distilled water). Cover the glass vessel or jar with a plastic cap or aluminum foil, and autoclave it twice with overnight rest in between (121°C, 20 min). After cooling the mixture to room temperature, pour sterilized deionized water (or sterilized distilled water) into it carefully (so as not to disturb the soil).

1/3 Herbst ASW

NaCl	3.0	mg
KCl ¹⁾	81.4	mg
CaCl ₂ ¹⁾	132	mg
MgSO ₄ ¹⁾	660	mg
NaHCO ₃ ¹⁾	504	mg
Distilled water	100	mL

1) In the MCC-NIES, the amount of KCl is reduced from 81.4 mg to 80.0 mg, 132 mg CaCl₂ is replaced by 172 mg CaCl₂ · 2H₂O, 660 mg MgSO₄ is replaced by 1.35 g MgSO₄ · 7H₂O, and the amount of NaHCO₃ is reduced from 504 mg to 49.5 mg.

REFERENCE

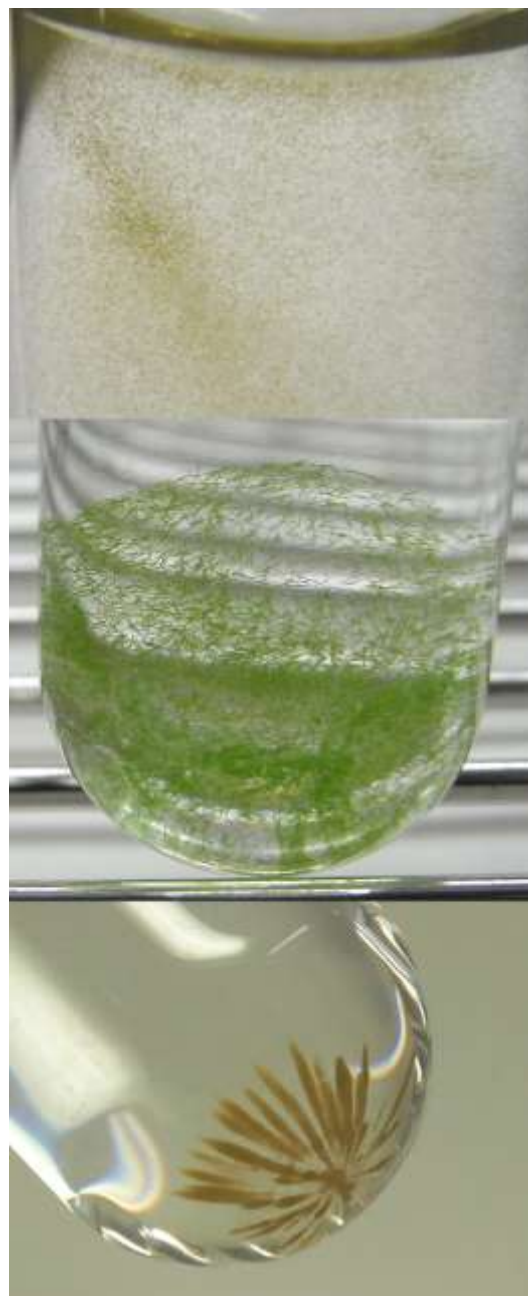
Okazaki, Y., Shimmen, T., Tazawa, M. 1984 Turgor regulation in a brackish charophyte, *Lamprothamnium succinctum* I. Artificial modification of intracellular osmotic pressure. *Plant Cell Physiol.*, **25**, 565-571.

3. Subculture methods

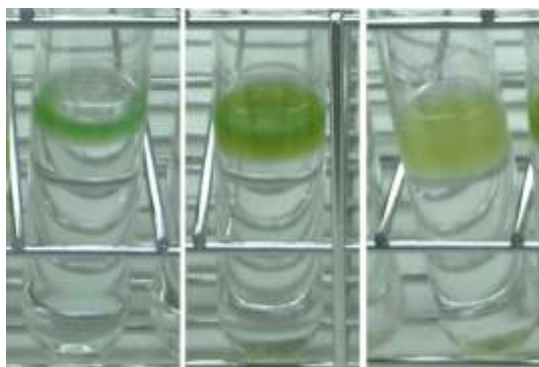
3.1. Microalgae, protozoa, and freshwater red algae

You will receive the culture strains in a screw-cap test tube. Slightly loosen the screw cap and keep the test tube in an appropriate place, as indicated in individual strain data. If you want to maintain the culture strain, please transfer the culture into fresh medium according to the following methods.

- i) Before you receive the strains, prepare the appropriate medium according to the media list.
- ii) Adapt the fresh medium to the culturing temperature.
- iii) Transfer an appropriate quantity of cell suspension to the fresh medium by an aseptic technique. In the MCC-NIES, we transfer cell suspensions by using a sterilized pipette with a cotton plug (Plate 7-1, 2). Agitate the culture liquid by pipetting if cells settle out or become attached to the container when you are sucking up the cell suspension. In the case of cells such as those of *Chattonella*, which are weak and lack cell coverings, gently suck up a concentrated part of the cell suspension without agitating to prevent breakage of the cells during the pipetting. The quantity of cell suspension differs with the species and the condition of the strain: to 10 mL fresh medium, we usually transfer 1 or 2 drops of cell suspension for small strains that grow well, whereas we use 4 or 5 drops for large strains and sparse cultures. In the case of agar slants, scratch a mass of cells off the surface of the agar with a sterile platinum loop and spread it on a fresh agar slant.
- iv) Incubate the culture at the temperature and light conditions indicated in the individual strain data (Plate 7-3, 4). The light-dark cycle should be 12 h light: 12 h dark. The screw cap on the tube should be slightly loosened. Transfer to new medium at the intervals indicated in the individual strain data (sometimes shorter or longer depends on your laboratory conditions).



- Upper : *Chattonella marina* var. *ovate*, fragile species and swimming at the surface of the medium.
 Middle : *Closterium acerosum*, case of cells gathering at the bottom of the test tube.
 Down : *Emiliana huxleyi*, case of coccolithophorids growing at the bottom. Select golden color spot for transfer.



Delay after last transfer of *Anabaena ucrainic* strain
Left-to-right: 1 month, 2 months, 3 months

- v) In the MCC-NIES, we visually check the cultures every week and when needed with a microscope. If the culture does not grow well, we transfer again, and sometimes test other media and light conditions.



Upper: visual check of the cultures.
Down: check of some cultures with a microscope

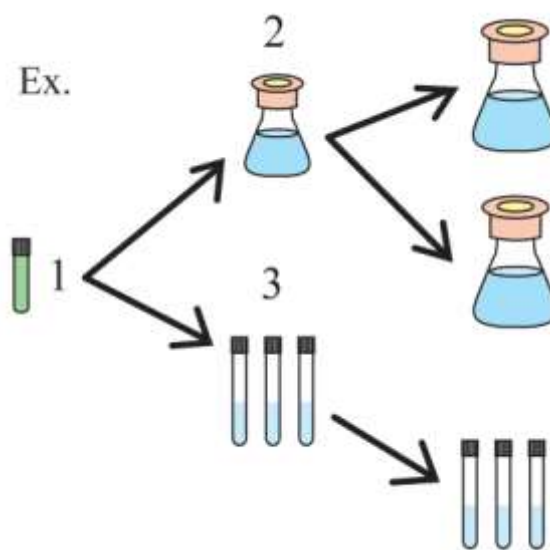
For heterotrophic strains, pay attention to the following points.

- i) Some strains need cereal grain or other algae as food sources added to each medium during transfer (Plate 7-5). Others need algae multiplied in advance, in accordance with

individual strain data.

- ii) Incubation of these strains does not need light, except in the case of cultures that contain algae as food.
- iii) Always agitate the culture liquid by pipetting before transferring. In the case of adherent strains, strong pipetting is needed.

If you wish to establish mass culture from distributed strains, you should increase gradually the volume of the culture as the example below:



1. Transfer half of the culture into 50 ml container with appropriate medium and remaining half in test tube as back up of the culture, 2. Mass culture (From the 50 mL culture, sub-transfer into large volume, 100 mL and so on till your desired final volume), 3. Backup of the culture with sub-culturing in same volume of medium.



Mass culture of 20 L tank

3.2. Charales

You will receive several pieces of thallus. As soon as you receive them, transplant them into fresh culture media according to the following methods.

- i) Prepare appropriate culture media before you receive the strains. Add 1 to 2 mL of germanium dioxide solution (1 mg/L) to a 900-mL glass vessel, each containing fresh medium. For unialgal strains, germanium solution is not necessary.
- ii) Inoculate individual thalli gently into soil in a glass vessel by using a bamboo skewer or tweezers. Make sure that one or more nodes of the thallus (root bulbils in the case of *Lamprothamnium*, stellate bulbils in the case of *Nitellopsis*) are embedded into the soil.



- iii) Incubate transplanted cultures at the temperature and light conditions indicated in the strain data. About 2 weeks after the transplantation, the thalli should start to grow. (You may place the cultures near a window in the laboratory, provided that the cultures are not exposed to direct sunlight or extremely high or low temperatures.)



- iv) Transfer into new media at the intervals suggested in the strain data, by using the following methods.



Instruments used for charales inoculation

- 1: a pair of long tweezers
- 2: A pair of dentist tweezers
- 3: A curved or straight scissors
- 4: A paint brush (plastic)
- 5: Bamboo sticks

- a) Cut 3 or 4 apical internodes from a well-developed thallus with scissors or tweezers.



- b) Remove microalgae from the surface of each piece with a paintbrush and rinse with deionized water (or distilled water). (For unialgal strains this process is not necessary.)



- c) Inoculate the rinsed pieces into a fresh medium as described in ii) to iii).

4. Methods of cryopreservation

A two-step freezing protocol is used in the MCC-NIES: algal culture is cooled to -40°C by a programmable freezer and then cooled rapidly to -196°C in liquid nitrogen. Most cyanobacterial strains, some strains of green and red microalgae, and some strains of freshwater red algae are cryopreserved by the methods described in 4.1 and 4.2. Detailed methods for microalgae are also explained in Mori *et al.* (2002) and Mori (2007).

REFERENCES

- Mori, F., Erata, M. & Watanabe, M. M. 2002. Cryopreservation of cyanobacteria and green algae in the NIES-Collection. *Microbiol. Cult. Coll.* 18:45–55.
- Mori, F. 2007. Cryopreservation methods of microalgae. *Microbiol. Cult. Coll.* 23:89–93. (In Japanese)

4.1. Cryopreservation of microalgae

4.1.1. Materials and instruments

- i) Culture: late log or early stationary phase cultures.
- ii) Medium: appropriate sterile medium for each strain.
- iii) Cryoprotectant: 6% dimethyl sulfoxide (DMSO) for cyanobacterial strains, and 10% DMSO for green and red algal strains dissolved in the appropriate media. These concentrations are double the final concentration. DMSO is previously sterilized by filtering through an alcohol-stable filter (Millex-LG).
- iv) Laminar-flow cabinet and materials for aseptic treatment.
- v) Cryovials: 2-mL presterilized polypropylene cryovials, pre-labeled with the strain number and date.



- vi) Programmable freezer (e.g. Planer Kryo 320-1.7 is used in the MCC-NIES).
- vii) Liquid nitrogen Dewar vessel: 10-L wide-neck Dewar vessel (Shuttle Drum JIK-S10).
- viii) Long forceps (19cm), cryogloves, a cryoapron, and goggles.
- ix) Nunc polycarbonate storage boxes, 8-decker stainless-steel racks, a liquid nitrogen tank (Taiyo Nippon Sanso DR-245LM; vapor phase).
- x) Water bath (e.g. As-One-Corp. Thermal Robo TR-1).

4.1.2. Freezing

- i) The processes ii)-iv) should be done under aseptic conditions.
- ii) Dilute the cryoprotectant with appropriate medium to obtain double the final concentration, and cool it on ice.
- iii) Dispense 0.5 mL of cell suspension (late log or early stationary phase culture) into each labeled 2-mL-cryovial.
- iv) Add 0.5mL of the cryoprotectant (diluted and cooled) to each cryovial and mix well.
- v) Leave the cryovials at room temperature for 15 min.
- vi) Place the cryovials in a programmable freezer, and start cooling at $-1^{\circ}\text{C}/\text{min}$ to -40°C .



- vii) Hold the cryovials in the programmable freezer at -40°C for 15 min.
- viii) Transfer the cryovials rapidly to the Dewar vessel containing liquid nitrogen.



- ix) After 1 h, transfer the cryovials in the Dewar vessel to a storage box and place the box on a stainless-steel rack set in the vapor phase of liquid nitrogen in a liquid nitrogen tank.



4.1.3. Thawing

- i) Preheat a water bath to 40°C .
- ii) Shake the cryovials well in the water bath until the last ice crystal in the cryovials has melted (Plate 7-12).

- iii) Under aseptic conditions transfer the contents of the cryovials into test tubes each containing fresh liquid medium. Incubate under dim light for a few days (depending on the strain), and transfer to ordinary culture conditions as suggested in the strain data.

4.2. Cryopreservation of freshwater red algae

4.2.1. Materials and instruments

- i) Culture: several thalli cultured for at least 2 weeks after the last transplantation. If a thallus is large, cut it into small pieces with scissors or tweezers, and culture for more than 2 weeks (for recovery), before use.
- ii) Medium: sterile Bold 3N medium.
- iii) Cryoprotectant: 40% dimethyl sulfoxide (DMSO) for cryopreservation of *Thorea okadae*, *T. hispida*, and *Nemalionopsis tortuosa*; and 30% methanol for *N. tortuosa*. These concentrations are double of the final ones. DMSO and methanol are previously sterilized by filtration through an alcohol-stable filter (Millex-LG), and dissolved in sterile Bold 3N medium.
- iv) Instruments: same as the instruments for microalgae.

4.2.3. Freezing

- i) Dilute the cryoprotectant (DMSO or methanol) with medium to obtain double the final concentrations (40% or 30%, respectively), and cool it on ice.
- ii) Dispense a 0.8 mL aliquot of culture into each of the cryovials.
- iii) Add 0.8 mL of 40% DMSO or 30% methanol to ii), and mix well. In the case of DMSO, leave the cryovials at room temperature for 15 min.
- iv) Then same as 4.1.2 vi) to ix).

4.2.4. Thawing

- i) Preheat a water bath to 40°C, and cool appropriate amount of medium in ice water.
- ii) Shake the cryovials well in the water bath, and transfer the cryovials into ice water just before the last ice crystals have begun melting.
- iii) Transfer the contents of the cryovials quickly into 50-mL centrifuge tubes, add 40 mL of cold medium, and leave the tubes until the thalli have settled to the bottom.
- iv) Remove the supernatant with a pipette.
- v) Add 40 mL of cold medium again, and again remove the supernatant with a pipette after the thalli have settled.
- vi) Transfer the thalli into 60 mL of fresh media in 100-mL conical flasks, and incubate under the culture conditions suggested in the strain data.
- vi) All manipulations from iii) to vi) should be done under aseptic conditions.

V. DEPOSITION

1. Conditions for deposition

The Committee for Evaluating Microbial Culture Strains at NIES (abbreviated hereafter to CEMCS) decides whether to accept deposited strains in accordance with the following conditions. In principle, all deposited strains are open to the public once their acceptance is approved by the CEMCS.

- (1) The organisms are scientifically important cyanobacteria, microalgae, or protozoa: e.g. microorganisms that cause or remediate environmental problems, bioindicators, type and authentic strains, microorganisms with useful physiological and biochemical properties, and established strains that have been used for valuable research.
- (2) The background of the strain has been clarified and the species name established. However, strains that have been used in a number of studies may be accepted even if only the genus name is known.
- (3) The strain should be stable under defined culture conditions and shall be in one of the following states:
 - microalgae: clonal or unialgal strain (axenic strains are preferable)
 - protozoa: axenic or xenic strain with supplemented microorganisms as food
 - bacteria: pure strain
- (4) Some other microorganisms may be accepted for deposit if the CEMCS recognizes their importance.

2. Agreement for deposition

The MCC-NIES shall accept the depositor's submission of the Strain Deposit Request and Agreement Form when he/she agrees to the following conditions:

- (1) The depositor shall deposit the strain in the MCC-NIES without charge. Transfer of intellectual property is not included in the agreement. The MCC-NIES may distribute to users the maintained culture the strain (as well as extracted DNA).
- (2) Depositors shall submit accurate strain data to the MCC-NIES; these data shall include patents, properties, and states of the strain (see Strain Deposit Request and Agreement Form).
- (3) The strain shall be free from any limitation, legally and contractually, pursuant to one of

the following reasons:

- The strain was isolated/developed by the depositor.
 - The strain is deposited with the permission of the isolator/ developer/ collaborator from the original country (if collected in a foreign country)
 - The strain has been purchased without any limitation regarding the deposit thereof, and with the permission of the original collection.
- (4) The MCC-NIES may distribute the deposited strains to users in accordance with the following condition(s):
 - The strain shall not be disclosed to the public until the paper regarding the strain has been published.
 - Other conditions specified by the depositor. These conditions shall last no longer than 1 year, and the strain will be open to the public after that year, even if the depositor imposes conditions. If the depositor does not specify any conditions, then the strain will be open to the public immediately after approval by the CEMCS.
 - (5) The MCC-NIES shall bear no responsibility for inevitable change and loss during maintenance, or for loss caused by natural disasters.
 - (6) The MCC-NIES may stop the maintenance and distribution of the strain according to a decision of the CEMCS.

3. How to deposit a strain

3.1. Deposition of the strain

Strains are deposited by completing the "Strain Deposit Request and Agreement Form" and by sending two original copies of the "Strain Deposit Request and Agreement Form" to the following address by mail:

Microbial Culture Collection
National Institute for Environmental Studies,
16-2 Onogawa, Tsukuba, Ibaraki 305-8506, Japan
Phone: +81-29-850-2556
Fax: +81-29-850-2587
E-mail: mcc@nies.go.jp

After the acceptance of the deposition, the depositor must send the actively growing cultures in accordance with the instructions of the collection staff.

If the state of the deposited strain does not coincide with the description on the Strain Deposit Request and Agreement Form, or if the strain does

not meet any of the conditions described above, then the MCC-NIES may cancel the deposition.

3.2. Notice for deposition of strains collected from foreign countries

The MCC-NIES shall not accept the deposition of strains collected from foreign countries without the written permission of the collaborator(s) in the original country.

3.3. Notice for the deposition of strains maintained in other culture collections

At present, the MCC-NIES does not accept the deposition of strains maintained in other culture collections by the user without written permission from the original collections, even if the collection does not prohibit distribution of the strains to a third party. We may accept strains from other culture collections only by exchange between the collections.

VI. ORDERING AND DISTRIBUTION

1. Agreement for distribution

The Microbial Culture Collection at the National Institute for Environmental Studies (MCC-NIES) will distribute strains to users who agree to the following conditions:

- (1) The strains (including DNA, replicates and derivatives from the strains) that are distributed from the MCC-NIES shall be available for education, research, tests, and other special purposes permitted by NIES, as well as for purposes in which public safety must be ensured. The strains are not intended to apply directly to humans. If the strains are toxic, the user hereby acknowledges and accepts the risks posed by toxic strains and shall use the strains in compliance with domestic and foreign laws, regulations, and guidelines. The user shall store and discard the strains appropriately. Even if “toxic” is not specified in the strain list, the user hereby acknowledges and accepts the potential risks of the strains and shall use the strains in compliance with domestic and foreign laws, regulations, and guidelines.
- (2) The user shall be requested to submit the application form personally.
- (3) The user shall not acquire any intellectual property rights by the purchase of the strain. The user shall not acquire any intellectual property rights by the purchase of the strain.
- (4) The user shall provide written notice to NIES when the purpose has changed considerably from the purpose that was stated at the time of submission.
- (5) The user shall not distribute the strains, or their replicates and derivatives to any third party.
- (6) The user shall use the NIES strain number (e.g., NIES-125) when he/she uses a NIES strain in a paper that is subsequently published, and shall send two copies of the reprint(s) or photocopies thereof to the MCC-NIES.
- (7) When the use of the strain violates another person’s rights, the user shall bear responsibility for this, and shall deal with the matter on his/her own.
- (8) The user shall acknowledge the possibility that the strain is deficient and harmful, and inadequate for the user’s aim. Thus, if the user suffers any loss by the strain, he/she shall bear responsibility for this and shall deal with the matter on his/her own.

- (9) The user shall submit the Strain Receipt Form within 1 month of the date of receipt of the strain. The user may request that the strain be sent again without charge if the strain does not show good growth during this warranty period. The MCC-NIES shall not bear any responsibility for mistakes by the user.

2. Ordering strains

2.1. Ordering culture strains

Requests to the MCC-NIES for strains shall be made by completing the “Strain Ordering and Agreement Form”, and by sending two original copies via air-mail to the following address. After being signed by the administrator at the NIES, one copy of the “Strain Ordering and Agreement Form” will be sent back to the user. If the user is a student or a part-time employee, the documents should be named and signed by his/her supervisor or an employer.

Requests by e-mail and fax and online orders are available, but in any requests to the MCC-NIES for strains two original copies of the “Strain Ordering and Agreement Form” with the user’s signature (and supervisor’s/employer’s signature, if needed) and date are necessary. We will ship the strain only after we accept the original copies of the “Strain Ordering and Agreement Form”.

Postal address:

Microbial Culture Collection
National Institute for Environmental Studies,
16-2 Onogawa, Tsukuba, Ibaraki 305-8506, Japan

Online ordering:

Refer “How to order” on the MCC-NIES website (<http://mcc.nies.go.jp/>)

Email: mcc@nies.go.jp

Fax: +81-29-850-2587

2.2. Receipt of the strain

Within 1 month of the strain reception, the user is asked to complete and return to the MCC-NIES the Strain Receipt Form”.

3. Price and payment

3.1. Price

	Universities, public institutions	Companies, commercial organizations
About 10 mL aliquot of culture strain	6,300 JPY	10,500 JPY

Sales tax (5%) is included, but postage is additional to the price of the strain. However, the MCC-NIES distributes selected strains without charge for educational use in schools and universities. In this case, the user cannot specify the species or strains. Please contact the staff of the MCC-NIES for details.



3.2. Payment

Payment should be made before the due date by bank transfer to the bank account indicated on the invoice from NIES. Charges for bank transfer are incurred by the user.

In case of international order, the invoice with the payment details is included inside the package together with the strain. Note that if your order is send in several

parts, this invoice will be placed in the last parcel only.

Please, make sure to do the payment before the due date by bank transfer according to the invoice bank references. Bank transfer fee is under your charge

4. Special notes regarding distribution

4.1. "Fragile species to transportation stresses", or "Fragile species to temperature changes" strains

Some strains, such as those of dinoflagellates and raphidophytes, are fragile and can die easily during transportation. The strains are indicated as "Fragile species to transportation stresses", or "Fragile species to temperature changes." in the Remarks column of the list of strains. For transport of these strains to foreign countries, we will use courier services, such as FedEx. Please understand that we may need several trials for transportation of such strains successfully.

4.2. "Cryopreserved" strains

Most of the cyanobacterial strains and some of the green and red algal strains are preserved only in liquid nitrogen. These cryopreserved strains are indicated in the Remarks column of the list of strains. Frozen cells of these cryopreserved strains are thawed and inoculated into fresh medium just after the order is accepted. As a result, it takes at least 1 month for overseas shipping of these strains.

4.3. Toxic strains

Strains that have been reported to produce toxic substance are indicated as "toxic" in the list of strains. Users who order these strains must confirm and appreciate its implications before use of the strain, even if the user's purpose is not relevant to the strain's toxic characteristics.

4.4. Distribution of strains shared with TISTR

We distribute those strains shared with TISTR (Microbiological Resource Centre, Thailand Institute of Scientific and Technological Research) for educational and research purposes only. For these strains, TISTR strain numbers are also indicated in the "Other collection strain no." in the list of strains

4.5. Distribution of strains collected outside Japan since 1993

Distribution of some strains collected and isolated outside Japan since 1993 is now suspended pursuant to the Convention on Biological Diversity, although the strain data are available in the catalog. Please contact the staff of the MCC-NIES if you wish to request these strains.

5. Distribution to NIES researchers, guest

researchers and collaborators

Strains are available to NIES researchers without charge. Please complete the “Strain Ordering and Agreement Form” and send it via in-house mail or pass it on to the staff directly. Online ordering is also available. The “Strain Ordering and Agreement Form” is also required for online orders by NIES researchers.

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460 *Eudorina illinoisensis*
461 *Eunotia pectinalis* var. *minor*
462 *Fibrocapsa japonica*
463 *Glenodiniopsis uliginosa*
464 *Gloeomonas lateperforata*
465 *Gomphonema gracile* var. *gracile*
466 *Gomphonema parvulum* var. *parvulum*
467 *Gomphonema parvulum* var. *parvulum*
468 *Gonium pectorale* var. *pectorale*
469 *Gonium pectorale* var. *pectorale*
471 *Hemidinium nasutum*
472 *Heterocapsa ovata*
473 *Heterocapsa pseudotriquetra*
474 *Lobomonas monstruosa*
475 *Mesostigma viride*
476 *Mesostigma viride*
477 *Mesostigma viride*
478 *Microcystis aeruginosa*
479 *Microthamnion kützingianum*
480 *Monoraphidium circinale*
481 *Myxosarcina burmensis*
483 *Nephroselmis olivacea*
484 *Nephroselmis olivacea*
485 *Nephroselmis olivacea*
486 *Nephroselmis viridis*
487 *Nitzschia palea*
494 *Oxyrrhis marina*
495 *Peridinium bipes* f. *globosum*
497 *Peridinium bipes* f. *occultatum*
501 *Peridinium volzii*
503 *Phormidium foveolarum*
504 *Phormidium foveolarum*
505 *Phormidium foveolarum*
506 *Phormidium jenkelianum*
507 *Phormidium jenkelianum*
509 *Phormidium molle*
510 *Phormidium mucicola*
512 *Pseudanabaena galeata*
514 *Planctonema lauterbornii*
515 *Plectonema radiosum*
522 *Pseudocarteria mucosa*
523 *Pseudocarteria mucosa*
524 *Pseudocarteria mucosa*
527 *Spirulina subsalsa*
528 *Staurastrum paradoxum*
529 *Stichococcus bacillaris*
530 *Stichococcus bacillaris*
531 *Stigeoclonium aestivale*
532 *Stigeoclonium fasciculare* var. *fasciculare*
533 *Tetraselmis cordiformis*
534 *Thalassionema nitzschioides*
536 *Ulothrix zonata*
537 *Ulothrix zonata*
538 *Uronema confervicolum*
539 *Uronema gigas*

540	<i>Uronema gigas</i>	611	<i>Pseudanabaena</i> sp.
541	<i>Volvox aureus</i> var. <i>aureus</i>	612	<i>Alexandrium hiranoi</i>
542	<i>Volvox aureus</i> var. <i>aureus</i>	613	<i>Amphidinium klebsii</i>
543	<i>Volvox kirkiorum</i>	614	<i>Heterocapsa horiguchii</i>
544	<i>Volvox tertius</i>	615	<i>Coolia monotis</i>
545	<i>Volvulina steinii</i>	617	<i>Prorocentrum lima</i>
546	<i>Volvulina steinii</i>	618	<i>Prorocentrum mexicanum</i>
547	<i>Cyanophora paradoxa</i>	620	<i>Gomphonema angustatum</i> var. <i>obtusatum</i>
548	<i>Acinetospora crinita</i>	621	<i>Botrydiopsis arrhiza</i>
553	<i>Chaetoceros sociale</i>	622	<i>Botrydium granulatum</i>
556	<i>Triceratium dubium</i>	623	<i>Pavlova gyrans</i>
557	<i>Chattonella marina</i> var. <i>marina</i>	624	<i>Chlorarachnion reptans</i>
558	<i>Chattonella marina</i> var. <i>antiqua</i>	626	<i>Pterosperma cristatum</i>
559	<i>Chattonella marina</i> var. <i>marina</i>	628	<i>Astrephomene gubernaculifera</i>
560	<i>Fibrocapsa japonica</i>	630	<i>Carteria crucifera</i>
561	<i>Heterosigma akashiwo</i>	631	<i>Carteria eugametos</i>
562	<i>Chrysochromulina parva</i>	632	<i>Carteria eugametos</i>
564	<i>Astrephomene perforata</i>	633	<i>Carteria eugametos</i>
565	<i>Astrephomene perforata</i>	634	<i>Carteria eugametos</i>
566	<i>Basichlamys sacculifera</i>	635	<i>Carteria eugametos</i>
567	<i>Characiochloris sasae</i>	636	<i>Carteria eugametos</i>
568	<i>Eudorina elegans</i> var. <i>synoica</i>	637	<i>Characiochloris acuminata</i>
569	<i>Gonium pectorale</i> var. <i>pectorale</i>	638	<i>Characiochloris sasae</i>
570	<i>Gonium pectorale</i> var. <i>pectorale</i>	639	<i>Characium angustum</i>
571	<i>Tetrabaena socialis</i> var. <i>socialis</i>	640	' <i>Chlorella</i> ' <i>saccharophila</i>
572	<i>Pandorina colemaniae</i>	641	<i>Chlorella vulgaris</i> var. <i>vulgaris</i>
573	<i>Pandorina colemaniae</i>	642	<i>Chlorella vulgaris</i> var. <i>vulgaris</i>
574	<i>Pandorina morum</i> var. <i>morum</i>	643	<i>Eremosphaera viridis</i>
575	<i>Pandorina morum</i> var. <i>morum</i>	644	<i>Eremosphaera viridis</i>
576	<i>Pleodorina californica</i>	645	<i>Gonium pectorale</i> var. <i>pectorale</i>
577	<i>Pleodorina japonica</i>	646	<i>Gonium pectorale</i> var. <i>pectorale</i>
578	<i>Yamagishiella unicocca</i>	647	<i>Gonium quadratum</i>
579	<i>Yamagishiella unicocca</i>	648	<i>Gonium quadratum</i>
580	<i>Volvox carteri</i> f. <i>kawasakienis</i>	649	<i>Gonium quadratum</i>
581	<i>Volvox carteri</i> f. <i>kawasakienis</i>	650	<i>Gonium quadratum</i>
582	<i>Volvulina compacta</i>	651	<i>Gonium quadratum</i>
583	<i>Volvulina compacta</i>	652	<i>Gonium quadratum</i>
584	<i>Volvulina steinii</i>	653	<i>Gonium quadratum</i>
585	<i>Volvulina steinii</i>	654	<i>Gonium viridistellatum</i>
586	<i>Chaetoceros didymus</i>	655	<i>Gonium viridistellatum</i>
587	<i>Hantzschia amphioxys</i> var. <i>compacta</i>	656	<i>Hafniomonas montana</i>
588	<i>Lithodesmium variabile</i>	657	<i>Mesotaenium kramstae</i>
589	<i>Odontella aurita</i>	658	<i>Mesotaenium kramstae</i>
590	<i>Odontella longicuris</i>	659	<i>Oocystis borgei</i>
592	<i>Fischerella major</i>	660	<i>Oocystis lacustris</i>
593	<i>Hydrococcus rivularis</i>	661	<i>Oocystis lacustris</i>
594	<i>Planktothrix agardhii</i>	662	<i>Oocystis lacustris</i>
595	<i>Planktothrix agardhii</i>	663	<i>Pleurotaenium nodosum</i> var. <i>borgei</i>
596	<i>Planktothrix agardhii</i>	664	<i>Pleurotaenium nodosum</i> var. <i>borgei</i>
597	<i>Arthrospira platensis</i>	665	<i>Staurastrum dorsidentiferum</i>
598	<i>Spirulina subsalsa</i>	666	<i>Yamagishiella unicocca</i>
601	<i>Prorocentrum micans</i>	667	<i>Yamagishiella unicocca</i>
603	<i>Chattonella marina</i> var. <i>ovata</i>	670	<i>Pseudochattonella verruculosa</i>
604	<i>Microcystis aeruginosa</i>	671	<i>Chattonella marina</i> var. <i>ovata</i>
605	<i>Fibrocapsa japonica</i>	672	<i>Oltmannsiellopsis geminata</i>
608	<i>Prorocentrum micans</i>	675	<i>Alexandrium catenella</i>
609	<i>Pyrocystis lunura</i>	677	<i>Alexandrium catenella</i>
610	<i>Planktothrix rubescens</i>	678	<i>Alexandrium insuetum</i>

682	<i>Prorocentrum dentatum</i>	741	<i>Chrysochromulina hirta</i>
684	<i>Scrippsiella sweeneyae</i>	742	<i>Chlorogonium capillatum</i>
685	<i>Desmodesmus abundans</i>	743	<i>Chlorogonium capillatum</i>
686	<i>Chlorella vulgaris</i> var. <i>vulgaris</i>	744	<i>Chlorogonium capillatum</i>
687	<i>Graesiella emersonii</i>	745	<i>Chlorogonium capillatum</i>
688	<i>Graesiella emersonii</i>	746	<i>Chlorogonium capillatum</i>
689	<i>Graesiella emersonii</i>	747	<i>Chlorogonium capillatum</i>
690	<i>Graesiella emersonii</i>	748	<i>Chlorogonium capillatum</i>
691	<i>Tetrabaena socialis</i>	749	<i>Chlorogonium capillatum</i>
692	<i>Chlorogonium capillatum</i>	750	<i>Chlorogonium capillatum</i>
693	<i>Volvox aureus</i>	751	<i>Chlorogonium elongatum</i>
694	<i>Volvox aureus</i>	752	<i>Chlorogonium elongatum</i>
695	<i>Synura sphagnicola</i>	753	<i>Chlorogonium elongatum</i>
696	<i>Synura sphagnicola</i>	754	<i>Chlorogonium euchlorum</i>
697	<i>Cryptomonas acuta</i>	755	<i>Chlorogonium euchlorum</i>
698	<i>Cryptomonas irregularis</i>	756	<i>Chlorogonium euchlorum</i>
699	<i>Rhodomonas atrorosea</i>	757	<i>Chlorogonium euchlorum</i>
700	<i>Rhodomonas baltica</i>	758	<i>Chlorogonium euchlorum</i>
701	<i>Rhodomonas chrysoidea</i>	759	<i>Chlorogonium euchlorum</i>
702	<i>Rhodomonas falcata</i>	760	<i>Chlorogonium euchlorum</i>
703	<i>Chroomonas collegionis</i>	761	<i>Gungnir kasakii</i>
704	<i>Chroomonas dispersa</i>	763	<i>Cyanophora paradoxa</i>
705	<i>Chroomonas placoidea</i>	764	<i>Cyanophora tetracyanea</i>
706	<i>Chroomonas nordstedtii</i>	765	<i>Rhodomonas duplex</i>
707	<i>Chroomonas nordstedtii</i>	766	<i>Cryptomonas paramaecium</i>
708	<i>Chroomonas nordstedtii</i>	767	<i>Cryptomonas paramaecium</i>
709	<i>Chroomonas nordstedtii</i>	768	<i>Cosmarium askenasyi</i>
710	<i>Chroomonas nordstedtii</i>	769	<i>Cosmarium askenasyi</i>
711	<i>Chroomonas nordstedtii</i>	770	<i>Cosmarium askenasyi</i>
712	<i>Chroomonas caudata</i>	771	<i>Cosmarium askenasyi</i>
713	<i>Chroomonas coerulea</i>	772	<i>Euastrum turgidum</i>
714	<i>Chroomonas coerulea</i>	773	<i>Euastrum turgidum</i>
715	<i>Cryptomonas paramaecium</i>	774	<i>Micrasterias anomala</i>
716	<i>Haramonas dimorpha</i>	776	<i>Micrasterias anomala</i>
717	<i>Eudorina elegans</i> var. <i>elegans</i>	777	<i>Micrasterias foliacea</i>
718	<i>Eudorina elegans</i> var. <i>elegans</i>	778	<i>Micrasterias foliacea</i>
719	<i>Eudorina elegans</i> var. <i>elegans</i>	779	<i>Micrasterias mahabuleshwarensis</i>
720	<i>Eudorina elegans</i> var. <i>elegans</i>	780	<i>Micrasterias mahabuleshwarensis</i>
721	<i>Eudorina elegans</i> var. <i>carteri</i>	781	<i>Micrasterias thomasiana</i> var. <i>notata</i>
722	<i>Eudorina cylindrica</i>	782	<i>Micrasterias thomasiana</i> var. <i>notata</i>
723	<i>Eudorina illinoisensis</i>	783	<i>Micrasterias truncata</i> var. <i>pusilla</i>
724	<i>Eudorina unicocca</i>	784	<i>Micrasterias truncata</i> var. <i>pusilla</i>
725	<i>Eudorina unicocca</i>	785	<i>Pleurotaenium nodosum</i> var. <i>nodosum</i>
726	<i>Eudorina peripheralis</i>	786	<i>Pleurotaenium nodosum</i> var. <i>nodosum</i>
727	<i>Paulschulzia pseudovolvox</i>	787	<i>Pleurotaenium nodosum</i> var. <i>gutwinskii</i>
728	<i>Platydorina caudata</i>	788	<i>Pleurotaenium nodosum</i> var. <i>gutwinskii</i>
729	<i>Platydorina caudata</i>	789	<i>Triploceras gracile</i>
730	<i>Volvox barberi</i>	790	<i>Triploceras gracile</i>
731	<i>Volvox dissipatrix</i>	791	<i>Triploceras gracile</i>
732	<i>Volvox carteri</i> f. <i>kawasakensis</i>	792	<i>Triploceras gracile</i>
733	<i>Volvox carteri</i> f. <i>kawasakensis</i>	793	<i>Triploceras gracile</i>
734	<i>Volvox rousseletii</i>	794	<i>Triploceras gracile</i>
735	<i>Pleodorina californica</i>	795	<i>Triploceras gracile</i>
736	<i>Pleodorina indica</i>	796	<i>Triploceras gracile</i>
737	<i>Gonium multicoecum</i>	797	<i>Desmodesmus subspicatus</i>
738	<i>Pteromonas aculeata</i>	798	<i>Desmodesmus subspicatus</i>
739	<i>Pteromonas angulosa</i>	799	<i>Desmodesmus subspicatus</i>
740	<i>Pteromonas multipyrenoidea</i>	800	<i>Desmodesmus subspicatus</i>

801	<i>Desmodesmus subspicatus</i>	867	<i>Volvox gigas</i>
802	<i>Desmodesmus subspicatus</i>	868	<i>Volvox obversus</i>
803	<i>Cyclotella meneghiniana</i>	869	<i>Volvox tertius</i>
804	<i>Cyclotella meneghiniana</i>	870	<i>Yamagishiella unicocca</i>
805	<i>Cyclotella meneghiniana</i>	871	<i>Yamagishiella unicocca</i>
806	<i>Anabaena compacta</i>	872	<i>Yamagishiella unicocca</i>
807	<i>Anabaena kisseleviana</i>	873	<i>Yamagishiella unicocca</i>
808	<i>Anabaena lemmermannii</i>	874	<i>Yamagishiella unicocca</i>
809	<i>Anabaena mucosa</i>	875	<i>Vitreochlamys aulata</i>
810	<i>Anabaena planctonica</i>	876	<i>Vitreochlamys aulata</i>
811	<i>Anabaena planctonica</i>	877	<i>Vitreochlamys aulata</i>
812	<i>Anabaena planctonica</i>	878	<i>Vitreochlamys aulata</i>
813	<i>Anabaena planctonica</i>	879	<i>Vitreochlamys fluviatilis</i>
814	<i>Anabaena planctonica</i>	880	<i>Vitreochlamys gloeocystiformis</i>
815	<i>Anabaena planctonica</i>	881	<i>Vitreochlamys nekrassovii</i>
816	<i>Anabaena planctonica</i>	882	<i>Vitreochlamys ordinata</i>
817	<i>Anabaena planctonica</i>	883	<i>Vitreochlamys pinguis</i>
818	<i>Anabaena smithii</i>	884	<i>Chlamydomonas debaryana</i> var. <i>cristata</i>
819	<i>Anabaena smithii</i>	885	<i>Gonium multicoccum</i>
820	<i>Anabaena smithii</i>	886	<i>Pandorina morum</i>
821	<i>Anabaena smithii</i>	887	<i>Pandorina morum</i>
822	<i>Anabaena smithii</i>	888	<i>Pandorina morum</i>
823	<i>Anabaena smithii</i>	889	<i>Pandorina morum</i>
824	<i>Anabaena smithii</i>	890	<i>Pandorina morum</i>
825	<i>Anabaena ucrainica</i>	891	<i>Volvox aureus</i>
826	<i>Anabaena ucrainica</i>	892	<i>Volvox aureus</i>
827	<i>Anabaena viguieri</i>	893	<i>Volvulina boldii</i>
833	<i>Anabaena lemmermannii</i>	894	<i>Volvulina boldii</i>
834	<i>Anabaena planctonica</i>	895	<i>Volvulina pringsheimii</i>
835	<i>Anabaena compacta</i>	896	<i>Volvulina steinii</i>
836	<i>Botryococcus braunii</i>	897	<i>Volvulina steinii</i>
837	<i>Emiliana huxleyi</i>	898	<i>Volvulina steinii</i>
838	<i>Gephyrocapsa oceanica</i>	900	<i>Prorocentrum dentatum</i>
839	<i>Cosmarium dilatatum</i>	901	<i>Microcystis aeruginosa</i>
840	<i>Euastrum diverrucosum</i>	905	<i>Planktothrix agardhii</i>
841	<i>Staurastrum levanderi</i>	917	<i>Planktothricoides raciborskii</i>
842	<i>Staurastrum tsukubicum</i>	928	<i>Planktothrix rubescens</i>
843	<i>Microcystis aeruginosa</i>	930	<i>Cylindrospermopsis raciborskii</i>
846	<i>Tychonema bourrellyi</i>	931	<i>Gloeocapsa decorticans</i>
847	<i>Limnothrix redekei</i>	932	<i>Raphidiopsis curvata</i>
849	<i>Chattonella marina</i> var. <i>ovata</i>	933	<i>Microcystis aeruginosa</i>
850	<i>Pseudochattonella verruculosa</i>	934	<i>Nephroselmis spinosa</i>
851	<i>Gonium octonarium</i>	935	<i>Nephroselmis spinosa</i>
852	<i>Gonium octonarium</i>	936	<i>Pterosperma cristatum</i>
853	<i>Astrephomene gubernaculifera</i>	937	<i>Synechococcus</i> sp.
854	<i>Astrephomene gubernaculifera</i>	938	<i>Synechococcus</i> sp.
855	<i>Astrephomene gubernaculifera</i>	939	<i>Synechococcus</i> sp.
856	<i>Eudorina minodii</i>	940	<i>Synechococcus</i> sp.
857	<i>Gonium viridistellatum</i>	941	<i>Synechococcus</i> sp.
858	<i>Phacotus lenticularis</i>	942	<i>Synechococcus</i> sp.
859	<i>Phacotus lenticularis</i>	943	<i>Synechococcus</i> sp.
860	<i>Pteromonas aculeata</i>	944	<i>Synechococcus</i> sp.
861	<i>Pteromonas angulosa</i>	945	<i>Synechococcus</i> sp.
862	<i>Pteromonas angulosa</i>	946	<i>Synechococcus</i> sp.
863	<i>Volvox africanus</i>	947	<i>Synechococcus</i> sp.
864	<i>Volvox aureus</i>	948	<i>Synechococcus</i> sp.
865	<i>Volvox carteri</i> f. <i>nagariensis</i>	949	<i>Synechococcus</i> sp.
866	<i>Volvox carteri</i> f. <i>weismannia</i>	950	<i>Synechococcus</i> sp.

951	<i>Synechococcus</i> sp.	1011	<i>Ophiocytium capitatum</i>
952	<i>Synechococcus</i> sp.	1012	<i>Cafeteria roenbergensis</i>
953	<i>Synechococcus</i> sp.	1013	<i>Placidia cafeteriopsis</i>
954	<i>Synechococcus</i> sp.	1014	<i>Placidia cafeteriopsis</i>
955	<i>Synechococcus</i> sp.	1015	<i>Wobblia lunata</i>
956	<i>Synechococcus</i> sp.	1016	<i>Hymenomonas coronata</i>
957	<i>Synechococcus</i> sp.	1017	<i>Prymnesium parvum</i>
958	<i>Synechococcus</i> sp.	1018	<i>Prymnesium parvum</i>
959	<i>Synechococcus</i> sp.	1019	<i>Tetraselmis striata</i>
960	<i>Synechococcus</i> sp.	1020	<i>Apiocystis brauniana</i>
961	<i>Synechococcus</i> sp.	1021	<i>Chlamydomonas kuwadae</i>
962	<i>Synechococcus</i> sp.	1022	<i>Chlamydomonas</i> sp.
963	<i>Synechococcus</i> sp.	1025	<i>Microcystis aeruginosa</i>
964	<i>Synechococcus</i> sp.	1026	<i>Microcystis aeruginosa</i>
965	<i>Synechococcus</i> sp.	1027	<i>Microcystis aeruginosa</i>
966	<i>Glaucocystis nostochinearum</i>	1028	<i>Microcystis aeruginosa</i>
967	<i>Trentepohlia</i> sp.	1029	<i>Microcystis aeruginosa</i>
968	<i>Chlamydomonas kuwadae</i>	1031	<i>Chroogloeocystis siderophila</i>
969	<i>Synechococcus</i> sp.	1032	<i>Porphyridium</i> sp.
970	<i>Synechococcus</i> sp.	1033	<i>Porphyridium</i> sp.
971	<i>Synechococcus</i> sp.	1034	<i>Porphyridium</i> sp.
972	<i>Synechococcus</i> sp.	1035	<i>Porphyridium</i> sp.
973	<i>Synechococcus</i> sp.	1036	<i>Rhodella</i> sp.
974	<i>Synechococcus</i> sp.	1037	<i>Rhodella</i> sp.
975	<i>Synechococcus</i> sp.	1038	<i>Gonium multicoccum</i>
976	<i>Synechococcus</i> sp.	1039	<i>Gonium multicoccum</i>
977	<i>Synechococcus</i> sp.	1040	<i>Cylindrospermopsis raciborskii</i>
978	<i>Synechococcus</i> sp.	1041	<i>Cylindrospermopsis raciborskii</i>
979	<i>Synechococcus</i> sp.	1043	<i>Microcystis aeruginosa</i>
980	<i>Synechococcus</i> sp.	1044	<i>Schizocladia ischiensis</i>
981	<i>Synechococcus</i> sp.	1045	<i>Cylindrotheca closterium</i>
982	<i>Synechococcus</i> sp.	1046	<i>Cylindrotheca fusiformis</i>
983	<i>Synechococcus</i> sp.	1047	<i>Cylindrotheca</i> sp.
984	<i>Synechococcus</i> sp.	1048	<i>Chlamydomonas noctigama</i>
985	<i>Synechococcus</i> sp.	1050	<i>Microcystis aeruginosa</i>
986	<i>Synechococcus</i> sp.	1051	<i>Microcystis aeruginosa</i>
987	<i>Synechococcus</i> sp.	1052	<i>Microcystis aeruginosa</i>
988	<i>Synechococcus</i> sp.	1053	<i>Microcystis aeruginosa</i>
989	<i>Planktothrix agardhii</i>	1054	<i>Microcystis aeruginosa</i>
990	<i>Planktothrix agardhii</i>	1055	<i>Microcystis aeruginosa</i>
991	<i>Cylindrospermopsis raciborskii</i>	1056	<i>Microcystis aeruginosa</i>
992	<i>Cylindrospermopsis raciborskii</i>	1057	<i>Microcystis aeruginosa</i>
993	<i>Cylindrospermopsis raciborskii</i>	1058	<i>Microcystis aeruginosa</i>
994	<i>Cylindrospermopsis raciborskii</i>	1059	<i>Microcystis aeruginosa</i>
995	<i>Mesostigma viride</i>	1060	<i>Microcystis aeruginosa</i>
996	<i>Stichococcus ampulliformis</i>	1061	<i>Microcystis aeruginosa</i>
997	<i>Calyptrosphaera sphaeroidea</i>	1062	<i>Microcystis aeruginosa</i>
998	<i>Chrysochromulina quadrikonta</i>	1063	<i>Microcystis aeruginosa</i>
1000	<i>Gephyrocapsa oceanica</i>	1064	<i>Microcystis aeruginosa</i>
1001	<i>Imantonia rotunda</i>	1065	<i>Microcystis aeruginosa</i>
1002	<i>Glossomastix chrysoplata</i>	1066	<i>Microcystis aeruginosa</i>
1003	<i>Pelagomonas calceolata</i>	1067	<i>Microcystis aeruginosa</i>
1004	<i>Chroomonas coerulea</i>	1068	<i>Microcystis aeruginosa</i>
1005	<i>Rhodomonas</i> sp.	1069	<i>Microcystis aeruginosa</i>
1006	<i>Rhodomonas salina</i>	1070	<i>Microcystis aeruginosa</i>
1007	<i>Synura petersenii</i>	1071	<i>Microcystis aeruginosa</i>
1008	<i>Pedinella squamata</i>	1072	<i>Microcystis aeruginosa</i>
1009	<i>Gonyostomum semen</i>	1073	<i>Microcystis aeruginosa</i>

1190	<i>Microcystis aeruginosa</i>	1248	<i>Microcystis aeruginosa</i>
1191	<i>Microcystis aeruginosa</i>	1249	<i>Microcystis aeruginosa</i>
1192	<i>Microcystis aeruginosa</i>	1250	<i>Microcystis aeruginosa</i>
1193	<i>Microcystis aeruginosa</i>	1251	<i>Microcystis aeruginosa</i>
1194	<i>Microcystis aeruginosa</i>	1252	<i>Microcystis aeruginosa</i>
1195	<i>Microcystis aeruginosa</i>	1253	<i>Microcystis aeruginosa</i>
1196	<i>Microcystis aeruginosa</i>	1254	<i>Microcystis aeruginosa</i>
1197	<i>Microcystis aeruginosa</i>	1255	<i>Microcystis aeruginosa</i>
1198	<i>Microcystis aeruginosa</i>	1256	<i>Microcystis aeruginosa</i>
1199	<i>Microcystis aeruginosa</i>	1257	<i>Microcystis aeruginosa</i>
1200	<i>Microcystis aeruginosa</i>	1258	<i>Aphanizomenon flos-aquae</i>
1201	<i>Microcystis aeruginosa</i>	1259	<i>Cylindrospermopsis raciborskii</i>
1202	<i>Microcystis aeruginosa</i>	1260	<i>Cylindrospermopsis raciborskii</i>
1203	<i>Microcystis aeruginosa</i>	1261	<i>Cylindrospermopsis raciborskii</i>
1204	<i>Microcystis aeruginosa</i>	1262	<i>Cylindrospermopsis raciborskii</i>
1205	<i>Microcystis aeruginosa</i>	1263	<i>Planktothrix agardhii</i>
1206	<i>Microcystis aeruginosa</i>	1264	<i>Planktothrix agardhii</i>
1207	<i>Microcystis aeruginosa</i>	1265	<i>Planktothrix agardhii</i>
1208	<i>Microcystis aeruginosa</i>	1266	<i>Planktothrix rubescens</i>
1209	<i>Microcystis aeruginosa</i>	1267	<i>Planktothrix rubescens</i>
1210	<i>Microcystis aeruginosa</i>	1268	<i>Amphidinium testudo</i>
1211	<i>Microcystis aeruginosa</i>	1269	<i>Chlorella vulgaris</i>
1212	<i>Microcystis aeruginosa</i>	1270	<i>Picochlorum</i> sp.
1213	<i>Microcystis aeruginosa</i>	1271	<i>Trebouxia anticipata</i>
1214	<i>Microcystis aeruginosa</i>	1272	<i>Trebouxia anticipata</i>
1215	<i>Microcystis aeruginosa</i>	1273	<i>Trebouxia anticipata</i>
1216	<i>Microcystis aeruginosa</i>	1274	<i>Trebouxia arboricola</i>
1217	<i>Microcystis aeruginosa</i>	1275	<i>Trebouxia arboricola</i>
1218	<i>Microcystis aeruginosa</i>	1276	<i>Trebouxia arboricola</i>
1219	<i>Microcystis aeruginosa</i>	1277	<i>Trebouxia arboricola</i>
1220	<i>Microcystis aeruginosa</i>	1278	<i>Trebouxia corticola</i>
1221	<i>Microcystis aeruginosa</i>	1279	<i>Trebouxia corticola</i>
1222	<i>Microcystis aeruginosa</i>	1280	<i>Trebouxia corticola</i>
1223	<i>Microcystis aeruginosa</i>	1281	<i>Trebouxia corticola</i>
1224	<i>Microcystis aeruginosa</i>	1282	<i>Trebouxia corticola</i>
1225	<i>Microcystis aeruginosa</i>	1283	<i>Trebouxia corticola</i>
1226	<i>Microcystis aeruginosa</i>	1284	<i>Trebouxia corticola</i>
1227	<i>Microcystis aeruginosa</i>	1286	<i>Trebouxia corticola</i>
1228	<i>Microcystis aeruginosa</i>	1287	<i>Trebouxia corticola</i>
1229	<i>Microcystis aeruginosa</i>	1288	<i>Trebouxia corticola</i>
1230	<i>Microcystis aeruginosa</i>	1289	<i>Trebouxia higginsiae</i>
1231	<i>Microcystis aeruginosa</i>	1290	<i>Trebouxia higginsiae</i>
1232	<i>Microcystis aeruginosa</i>	1291	<i>Trebouxia higginsiae</i>
1233	<i>Microcystis aeruginosa</i>	1292	<i>Trebouxia higginsiae</i>
1234	<i>Microcystis aeruginosa</i>	1293	<i>Trebouxia higginsiae</i>
1235	<i>Microcystis aeruginosa</i>	1294	<i>Trebouxia higginsiae</i>
1236	<i>Microcystis aeruginosa</i>	1295	<i>Trebouxia higginsiae</i>
1237	<i>Microcystis aeruginosa</i>	1296	<i>Trebouxia higginsiae</i>
1238	<i>Microcystis aeruginosa</i>	1297	<i>Trebouxia showmanii</i>
1239	<i>Microcystis aeruginosa</i>	1298	<i>Asterochloris</i> cf. <i>glomerata</i>
1240	<i>Microcystis aeruginosa</i>	1299	<i>Asterochloris</i> cf. <i>glomerata</i>
1241	<i>Microcystis aeruginosa</i>	1300	<i>Asterochloris</i> cf. <i>glomerata</i>
1242	<i>Microcystis aeruginosa</i>	1301	<i>Asterochloris</i> cf. <i>glomerata</i>
1243	<i>Microcystis aeruginosa</i>	1302	<i>Glossomastix chrysoplata</i>
1244	<i>Microcystis aeruginosa</i>	1303	<i>Fibrocapsa japonica</i>
1245	<i>Microcystis aeruginosa</i>	1304	<i>Calcidiscus leptoporus</i>
1246	<i>Microcystis aeruginosa</i>	1305	<i>Calcidiscus leptoporus</i>
1247	<i>Microcystis aeruginosa</i>	1308	<i>Calyptrosphaera sphaeroidea</i>

1309	<i>Calyptrosphaera sphaeroidea</i>	1370	<i>Chroomonas mesostigmatica</i>
1310	<i>Emiliana huxleyi</i>	1371	<i>Goniomonas amphinema</i>
1311	<i>Emiliana huxleyi</i>	1372	<i>Goniomonas pacifica</i>
1312	<i>Emiliana huxleyi</i>	1373	<i>Goniomonas truncata</i>
1313	<i>Emiliana huxleyi</i>	1374	<i>Goniomonas</i> sp.
1314	<i>Emiliana huxleyi</i>	1375	<i>Rhodomonas salina</i>
1315	<i>Gephyrocapsa oceanica</i>	1376	<i>Mallomonas</i> sp.
1316	<i>Gephyrocapsa oceanica</i>	1377	<i>Paraphysomonas vestita</i>
1317	<i>Gephyrocapsa oceanica</i>	1378	<i>Fibrocapsa</i> sp.
1318	<i>Gephyrocapsa oceanica</i>	1379	<i>Olisthodiscus luteus</i>
1319	<i>Gephyrocapsa oceanica</i>	1380	<i>Gonyostomum semen</i>
1320	<i>Oolithotus fragilis</i>	1381	<i>Pseudopedinella pyriformis</i>
1321	<i>Oolithotus fragilis</i>	1382	<i>Rhizochromulina</i> sp.
1322	<i>Oolithotus fragilis</i>	1383	<i>Pseudonitzschia</i> sp.
1324	<i>Umbilicosphaera sibogae</i> var. <i>sibogae</i>	1384	<i>Ophiocytium capitatum</i>
1325	<i>Thoracosphaera heimii</i>	1385	<i>Ophiocytium parvulum</i>
1326	<i>Thoracosphaera heimii</i>	1386	<i>Unidentified pelagophyte</i>
1327	<i>Cryptomonas rostratiformis</i>	1387	<i>Unidentified pelagophyte</i>
1328	<i>Gephyrocapsa oceanica</i>	1388	<i>Developayella elegans</i>
1329	<i>Gephyrocapsa oceanica</i>	1389	<i>Unidentified yellow heterokontophyte</i>
1330	<i>Prymnesium calathiferum</i>	1391	<i>Chrysochromulina</i> sp.
1331	<i>Asterococcus superbus</i>	1392	<i>Chrysochromulina simplex</i>
1332	<i>Cyanidioschyzon merolae</i>	1393	<i>Hyalolithus neolepis</i>
1333	<i>Chrysochromulina</i> sp.	1394	<i>Imantonia rotunda</i>
1334	<i>Kathablepharis japonica</i>	1395	<i>Ochrosphaera neapolitana</i>
1335	<i>Leucocryptos marina</i>	1396	<i>Phaeocystis globosa</i>
1336	<i>Carteria palmata</i>	1397	<i>Prymnesium</i> sp.
1337	<i>Carteria palmata</i>	1398	<i>Pavlova pinguis</i>
1338	<i>Carteria palmata</i>	1399	<i>Pavlova</i> sp.
1339	<i>Nitzschia</i> sp.	1400	<i>Pavlova</i> sp.
1340	<i>Nitzschia</i> sp.	1401	<i>Pavlova</i> sp.
1341	<i>Synechococcus</i> sp.	1402	<i>Adenoides eludens</i>
1342	<i>Synechococcus</i> sp.	1403	<i>Heterocapsa</i> sp.
1343	<i>Synechococcus</i> sp.	1404	<i>Ostreopsis siamensis</i>
1344	<i>Synechococcus</i> sp.	1405	<i>Peridinium pseudolaeve</i>
1345	<i>Synechococcus</i> sp.	1406	<i>Prorocentrum micans</i>
1346	<i>Synechococcus</i> sp.	1407	<i>Cryptoglena pigra</i>
1347	<i>Synechococcus</i> sp.	1408	<i>Chlorarachnion</i> sp.
1348	<i>Synechococcus</i> sp.	1409	<i>Mantoniella squamata</i>
1349	<i>Achnanthes kuwaitensis</i>	1410	<i>Marsupiomonas</i> sp.
1350	<i>Achnantheidium minutissimum</i>	1411	<i>Micromonas pusilla</i>
1353	<i>Sellaphora seminulum</i>	1412	<i>Micromonas pusilla</i>
1354	<i>Microcystis aeruginosa</i>	1413	<i>Micromonas pusilla</i>
1355	<i>Microcystis aeruginosa</i>	1414	<i>Nephroselmis</i> sp.
1356	<i>Microcystis aeruginosa</i>	1415	<i>Nephroselmis astigmatica</i>
1357	<i>Chlorogonium elongatum</i>	1416	<i>Nephroselmis pyriformis</i>
1358	<i>Chlorogonium elongatum</i>	1417	<i>Nephroselmis</i> sp.
1359	<i>Gungnir kasakii</i>	1418	<i>Nephroselmis</i> sp.
1360	<i>Gungnir kasakii</i>	1419	<i>Pseudoscourfieldia marina</i>
1361	<i>Pleodorina starrii</i>	1420	<i>Pseudoscourfieldia marina</i>
1362	<i>Pleodorina starrii</i>	1421	<i>Pyramimonas cordata</i>
1363	<i>Pleodorina starrii</i>	1422	<i>Pyramimonas cordata</i>
1364	<i>Pleodorina starrii</i>	1423	<i>Pyramimonas cordata</i>
1365	<i>Pleodorina starrii</i>	1424	<i>Pyramimonas grossii</i>
1366	<i>Pleodorina starrii</i>	1425	<i>Pyramimonas grossii</i>
1367	<i>Adenoides eludens</i>	1426	<i>Pyramimonas</i> sp.
1368	<i>Amphidinium operculatum</i>	1427	<i>Pyramimonas</i> sp.
1369	<i>Glaucocystis nostochinearum</i>	1428	<i>Unidentified prasinophyte</i>

1429	<i>Tetraselmis</i> sp.	1487	<i>Thorea okadae</i>
1430	<i>Tetraselmis levis</i>	1488	<i>Thorea okadae</i>
1431	<i>Tetraselmis</i> sp.	1489	<i>Thorea okadae</i>
1432	<i>Tetraselmis</i> sp.	1490	<i>Thorea okadae</i>
1433	<i>Tetraselmis</i> sp.	1491	<i>Thorea okadae</i>
1434	<i>Tetraselmis</i> sp.	1492	<i>Thorea okadae</i>
1435	<i>Unidentified coccoid prasinophyte</i>	1493	<i>Thorea okadae</i>
1436	<i>Choricystis minor</i>	1494	<i>Thorea okadae</i>
1437	<i>Tetrabaena socialis</i>	1495	<i>Thorea okadae</i>
1438	<i>Bicosoeca</i> sp.	1496	<i>Thorea okadae</i>
1439	<i>Bodo saltans</i>	1497	<i>Thorea okadae</i>
1440	<i>Hexamita</i> sp.	1498	<i>Thorea okadae</i>
1441	<i>Percolomonas</i> sp.	1499	<i>Thorea okadae</i>
1442	<i>Salpingoeca infusionum</i>	1500	<i>Thorea okadae</i>
1443	<i>Thaumatomastix</i> sp.	1501	<i>Thorea okadae</i>
1444	<i>Trepomonas</i> sp.	1502	<i>Thorea okadae</i>
1445	<i>Rubratella</i> sp.	1503	<i>Thorea okadae</i>
1446	<i>Trebouxia corticola</i>	1504	<i>Thorea okadae</i>
1447	<i>Trebouxia corticola</i>	1505	<i>Thorea okadae</i>
1448	<i>Trebouxia corticola</i>	1506	<i>Thorea okadae</i>
1449	<i>Trebouxia corticola</i>	1507	<i>Thorea okadae</i>
1450	<i>Trebouxia corticola</i>	1508	<i>Thorea okadae</i>
1451	<i>Trebouxia corticola</i>	1509	<i>Thorea okadae</i>
1452	<i>Trebouxia corticola</i>	1510	<i>Thorea okadae</i>
1453	<i>Trebouxia corticola</i>	1511	<i>Thorea okadae</i>
1454	<i>Trebouxia corticola</i>	1512	<i>Thorea okadae</i>
1455	<i>Trebouxia corticola</i>	1513	<i>Thorea okadae</i>
1456	<i>Batrachospermum atrum</i>	1514	<i>Thorea okadae</i>
1457	<i>Batrachospermum helminthosum</i>	1515	<i>Thorea okadae</i>
1458	<i>Batrachospermum virgato-decaisneanum</i>	1516	<i>Thorea okadae</i>
1459	<i>Batrachospermum</i> sp.	1517	<i>Thorea okadae</i>
1460	<i>Batrachospermum</i> sp.	1518	<i>Thorea okadae</i>
1461	<i>Compsopogon coeruleus</i>	1519	<i>Thorea okadae</i>
1462	<i>Compsopogon coeruleus</i>	1520	<i>Thorea okadae</i>
1463	<i>Compsopogonopsis japonica</i>	1521	<i>Thorea okadae</i>
1464	<i>Nemalionopsis tortuosa</i>	1522	<i>Thorea okadae</i>
1465	<i>Nemalionopsis tortuosa</i>	1523	<i>Thorea okadae</i>
1466	<i>Nemalionopsis tortuosa</i>	1524	<i>Thorea okadae</i>
1467	<i>Nemalionopsis tortuosa</i>	1525	<i>Thorea okadae</i>
1468	<i>Nemalionopsis tortuosa</i>	1526	<i>Thorea okadae</i>
1469	<i>Nemalionopsis tortuosa</i>	1527	<i>Thorea okadae</i>
1470	<i>Nemalionopsis tortuosa</i>	1528	<i>Thorea okadae</i>
1471	<i>Nemalionopsis tortuosa</i>	1529	<i>Thorea okadae</i>
1472	<i>Nemalionopsis tortuosa</i>	1530	<i>Thorea okadae</i>
1473	<i>Thorea gaudichaudii</i>	1531	<i>Thorea okadae</i>
1474	<i>Thorea gaudichaudii</i>	1532	<i>Thorea okadae</i>
1475	<i>Thorea gaudichaudii</i>	1533	<i>Thorea okadae</i>
1476	<i>Thorea gaudichaudii</i>	1534	<i>Thorea okadae</i>
1477	<i>Thorea gaudichaudii</i>	1535	<i>Thorea okadae</i>
1478	<i>Thorea gaudichaudii</i>	1536	<i>Thorea okadae</i>
1479	<i>Thorea gaudichaudii</i>	1537	<i>Thorea okadae</i>
1480	<i>Thorea gaudichaudii</i>	1538	<i>Thorea okadae</i>
1481	<i>Thorea gaudichaudii</i>	1539	<i>Thorea okadae</i>
1482	<i>Thorea gaudichaudii</i>	1540	<i>Thorea okadae</i>
1483	<i>Thorea okadae</i>	1541	<i>Thorea okadae</i>
1484	<i>Thorea okadae</i>	1542	<i>Thorea okadae</i>
1485	<i>Thorea okadae</i>	1543	<i>Thorea okadae</i>
1486	<i>Thorea okadae</i>	1544	<i>Thorea okadae</i>

1545	<i>Thorea okadae</i>	1609	<i>Nitella axilliformis</i>
1546	<i>Thorea okadae</i>	1610	<i>Nitella flexilis</i>
1547	<i>Thorea okadae</i>	1611	<i>Nitella flexilis</i>
1548	<i>Thorea okadae</i>	1612	<i>Nitella flexilis</i>
1549	<i>Thorea okadae</i>	1613	<i>Nitella flexilis</i>
1550	<i>Thorea okadae</i>	1614	<i>Nitella furcata</i> var. <i>furcata</i>
1551	<i>Thorea okadae</i>	1615	<i>Nitella furcata</i> var. <i>furcata</i>
1552	<i>Thorea okadae</i>	1616	<i>Nitella moriokae</i>
1553	<i>Thorea okadae</i>	1617	<i>Nitella furcata</i> var. <i>furcata</i>
1554	<i>Thorea okadae</i>	1618	<i>Nitella</i> sp.
1555	<i>Thorea okadae</i>	1619	<i>Nitella gracilens</i>
1556	<i>Thorea okadae</i>	1620	<i>Nitella gracilens</i>
1558	<i>Thorea okadae</i>	1621	<i>Nitella gracilens</i>
1559	<i>Thorea okadae</i>	1622	<i>Nitella gracilens</i>
1560	<i>Thorea okadae</i>	1623	<i>Nitella hyalina</i>
1561	<i>Thorea okadae</i>	1624	<i>Nitella japonica</i>
1562	<i>Thorea okadae</i>	1628	<i>Nitella megaspora</i>
1563	<i>Thorea okadae</i>	1629	<i>Nitella mirabilis</i>
1564	<i>Thorea okadae</i>	1632	<i>Nitella moriokae</i>
1565	<i>Thorea okadae</i>	1633	<i>Nitella moriokae</i>
1566	<i>Thorea okadae</i>	1634	<i>Nitella pulchella</i>
1568	<i>Thorea okadae</i>	1635	<i>Nitella</i> sp.
1569	<i>Thorea okadae</i>	1636	<i>Nitella</i> sp.
1570	<i>Thorea okadae</i>	1637	<i>Nitellopsis obtusa</i>
1571	<i>Thorea okadae</i>	1638	<i>Nitellopsis obtusa</i>
1572	<i>Thorea hispida</i>	1639	<i>Anabaena affinis</i>
1573	<i>Thorea hispida</i>	1640	<i>Anabaena affinis</i>
1574	<i>Thorea hispida</i>	1641	<i>Anabaena affinis</i>
1575	<i>Thorea hispida</i>	1642	<i>Anabaena affinis</i>
1576	<i>Thorea hispida</i>	1643	<i>Anabaena aphanizomenoides</i>
1577	<i>Thorea hispida</i>	1644	<i>Anabaena aphanizomenoides</i>
1578	<i>Thorea hispida</i>	1645	<i>Anabaena circinalis</i>
1579	<i>Thorea hispida</i>	1646	<i>Anabaena circinalis</i>
1580	<i>Thorea hispida</i>	1647	<i>Anabaena circinalis</i>
1582	<i>Thorea hispida</i>	1648	<i>Anabaena circinalis</i>
1583	<i>Thorea hispida</i>	1649	<i>Anabaena circinalis</i>
1584	<i>Thorea hispida</i>	1650	<i>Anabaena circinalis</i>
1585	<i>Chara australis</i>	1651	<i>Anabaena</i> sp.
1586	<i>Chara braunii</i>	1652	<i>Anabaena crassa</i>
1587	<i>Chara braunii</i>	1653	<i>Anabaena crassa</i>
1588	<i>Chara braunii</i>	1654	<i>Anabaena crassa</i>
1589	<i>Chara braunii</i>	1655	<i>Anabaena crassa</i>
1590	<i>Chara braunii</i>	1656	<i>Anabaena crassa</i>
1591	<i>Chara braunii</i>	1657	<i>Anabaena crassa</i>
1592	<i>Chara braunii</i>	1658	<i>Anabaena crassa</i>
1593	<i>Chara braunii</i>	1659	<i>Anabaena crassa</i>
1594	<i>Chara braunii</i>	1660	<i>Anabaena crassa</i>
1595	<i>Chara globularis</i>	1661	<i>Anabaena crassa</i>
1597	<i>Chara globularis</i>	1662	<i>Anabaena crassa</i>
1599	<i>Chara leptospora</i>	1663	<i>Anabaena crassa</i>
1601	<i>Chara zeylanica</i>	1664	<i>Anabaena crassa</i>
1602	<i>Chara</i> sp.	1665	<i>Anabaena crassa</i>
1603	<i>Chara</i> sp.	1666	<i>Anabaena crassa</i>
1604	<i>Chara braunii</i>	1667	<i>Anabaena danica</i>
1605	<i>Chara</i> sp.	1668	<i>Anabaena flos-aquae</i>
1606	<i>Lamprothamnium succinctum</i>	1669	<i>Anabaena flos-aquae</i>
1607	<i>Nitella acuminata</i> var. <i>capitulifera</i>	1670	<i>Anabaena flos-aquae</i>
1608	<i>Nitella axilliformis</i>	1671	<i>Anabaena flos-aquae</i>

1672	<i>Anabaena flos-aquae</i>	1733	<i>Chlamydomonas</i> sp.
1673	<i>Anabaena lemmermannii</i>	1735	<i>Nemalionopsis tortuosa</i>
1674	<i>Anabaena lemmermannii</i>	1736	<i>Nemalionopsis tortuosa</i>
1675	<i>Anabaena lemmermannii</i>	1737	<i>Nemalionopsis tortuosa</i>
1676	<i>Anabaena lemmermannii</i>	1738	<i>Nemalionopsis tortuosa</i>
1677	<i>Anabaena mucosa</i>	1739	<i>Nemalionopsis tortuosa</i>
1678	<i>Anabaena oumiana</i>	1740	<i>Nemalionopsis tortuosa</i>
1679	<i>Anabaena oumiana</i>	1741	<i>Nemalionopsis tortuosa</i>
1680	<i>Anabaena planctonica</i>	1742	<i>Nemalionopsis tortuosa</i>
1681	<i>Anabaena planctonica</i>	1743	<i>Nemalionopsis tortuosa</i>
1682	<i>Anabaena planctonica</i>	1744	<i>Nemalionopsis tortuosa</i>
1683	<i>Anabaena planctonica</i>	1745	<i>Nemalionopsis tortuosa</i>
1684	<i>Anabaena pseudocompacta</i>	1746	<i>Nemalionopsis tortuosa</i>
1685	<i>Anabaena reniformis</i>	1747	<i>Nemalionopsis tortuosa</i>
1686	<i>Anabaena reniformis</i>	1748	<i>Nemalionopsis tortuosa</i>
1687	<i>Anabaena reniformis</i>	1749	<i>Nemalionopsis tortuosa</i>
1688	<i>Anabaena reniformis</i>	1750	<i>Nemalionopsis tortuosa</i>
1689	<i>Anabaena reniformis</i>	1751	<i>Thorea gaudichaudii</i>
1690	<i>Anabaena reniformis</i>	1752	<i>Thorea gaudichaudii</i>
1691	<i>Anabaena reniformis</i>	1753	<i>Thorea gaudichaudii</i>
1692	<i>Anabaena reniformis</i>	1754	<i>Thorea gaudichaudii</i>
1693	<i>Anabaena reniformis</i>	1755	<i>Thorea gaudichaudii</i>
1694	<i>Anabaena reniformis</i>	1756	<i>Thorea gaudichaudii</i>
1695	<i>Anabaena smithii</i>	1757	<i>Thorea gaudichaudii</i>
1696	<i>Anabaena ucrainica</i>	1758	<i>Thorea gaudichaudii</i>
1697	<i>Anabaena heterospora</i> *	1759	<i>Thorea gaudichaudii</i>
1698	<i>Anabaenopsis</i> sp.	1760	<i>Thorea gaudichaudii</i>
1699	<i>Chrysophaeum taylorii</i>	1761	<i>Thorea gaudichaudii</i>
1700	<i>Chrysophaeum taylorii</i>	1762	<i>Thorea gaudichaudii</i>
1701	<i>Haramonas</i> sp.	1763	<i>Thorea gaudichaudii</i>
1703	<i>Protodesmus globulifer</i>	1764	<i>Thorea gaudichaudii</i>
1704	<i>Nitella comptonii</i>	1765	<i>Thorea gaudichaudii</i>
1705	<i>Nitella comptonii</i>	1766	<i>Thorea gaudichaudii</i>
1706	<i>Nitella comptonii</i>	1767	<i>Thorea gaudichaudii</i>
1707	<i>Gonium multicocum</i>	1768	<i>Thorea gaudichaudii</i>
1708	<i>Gonium multicocum</i>	1769	<i>Thorea gaudichaudii</i>
1709	<i>Gonium multicocum</i>	1770	<i>Thorea gaudichaudii</i>
1710	<i>Gonium pectorale</i>	1771	<i>Thorea gaudichaudii</i>
1711	<i>Gonium pectorale</i>	1772	<i>Thorea gaudichaudii</i>
1712	<i>Gonium pectorale</i>	1773	<i>Thorea okadae</i>
1713	<i>Gonium pectorale</i>	1774	<i>Thorea okadae</i>
1714	<i>Hafniomonas conica</i>	1775	<i>Thorea okadae</i>
1715	<i>Hafniomonas reticulata</i>	1776	<i>Thorea okadae</i>
1716	<i>Hafniomonas reticulata</i>	1777	<i>Thorea okadae</i>
1717	<i>Hafniomonas reticulata</i>	1778	<i>Thorea okadae</i>
1718	<i>Hafniomonas reticulata</i>	1779	<i>Thorea okadae</i>
1719	<i>Hafniomonas turbinea</i>	1780	<i>Thorea okadae</i>
1720	<i>Hafniomonas turbinea</i>	1781	<i>Thorea okadae</i>
1721	<i>Hafniomonas turbinea</i>	1782	<i>Thorea okadae</i>
1722	<i>Hemiflagellochloris kazakhstanica</i>	1783	<i>Thorea okadae</i>
1723	<i>Anabaena planctonica</i>	1784	<i>Thorea okadae</i>
1724	<i>Anabaena smithii</i>	1785	<i>Thorea okadae</i>
1725	<i>Anabaenopsis</i> sp.	1786	<i>Thorea okadae</i>
1726	<i>Aphanizomenon flos-aquae</i>	1787	<i>Thorea okadae</i>
1727	<i>Aphanizomenon flos-aquae</i>	1788	<i>Thorea okadae</i>
1728	<i>Aphanizomenon flos-aquae</i>	1789	<i>Thorea okadae</i>
1729	<i>Raphidiopsis</i> sp.	1790	<i>Thorea okadae</i>
1730	<i>Rhodomonas</i> sp.	1791	<i>Thorea okadae</i>

1792	<i>Thorea okadae</i>	1856	<i>Eudorina unicocca</i>
1793	<i>Thorea okadae</i>	1857	<i>Eudorina unicocca</i>
1794	<i>Thorea okadae</i>	1858	<i>Eudorina unicocca</i>
1795	<i>Thorea okadae</i>	1859	<i>Yamagishiella unicocca</i>
1796	<i>Thorea okadae</i>	1860	<i>Yamagishiella unicocca</i>
1797	<i>Thorea okadae</i>	1861	<i>Yamagishiella unicocca</i>
1798	<i>Thorea okadae</i>	1862	<i>Giraudyopsis</i> sp.
1799	<i>Thorea okadae</i>	1863	<i>Aurearena cruciata</i>
1800	<i>Thorea okadae</i>	1864	<i>Aurearena cruciata</i>
1801	<i>Thorea okadae</i>	1865	<i>Aurearena cruciata</i>
1802	<i>Thorea okadae</i>	1868	<i>Lepidodinium chlorophorum</i>
1803	<i>Thorea okadae</i>	1869	<i>Gungnir neglectum</i>
1804	<i>Cyanidioschyzon merolae</i>	1870	<i>Haramonas pauciplastida</i>
1805	<i>Cyanidioschyzon merolae</i>	1871	<i>Luteocerasus tetraplastida</i>
1806	<i>Cyanidioschyzon merolae</i>	1872	<i>Chattonella marina</i> var. <i>ovata</i>
1807	<i>Porphyridium</i> sp.	1873	<i>Chattonella marina</i> var. <i>ovata</i>
1808	<i>Gonyostomum latum</i>	1874	<i>Chrysoculter rhomboideus</i>
1809	<i>Merotricha bacillata</i>	1875	<i>Anabaena akankoensis</i>
1810	<i>Pseudopedinella pyriformis</i>	1876	<i>Anabaena akankoensis</i>
1811	<i>Calyptrosphaera sphaeroidea</i>	1877	<i>Anabaena circinalis</i>
1812	<i>Prymnesium parvum</i>	1878	<i>Anabaena circinalis</i>
1813	<i>Pleurochrysis haptonemofera</i>	1879	<i>Anabaena circinalis</i>
1814	<i>Pleurochrysis</i> sp.	1880	<i>Anabaena circinalis</i> *
1815	<i>Pavlova</i> sp.	1881	<i>Anabaena crassa</i>
1816	<i>Pavlova</i> sp.	1882	<i>Anabaena crassa</i>
1817	<i>Nephroselmis pyriformis</i>	1883	<i>Anabaena crassa</i>
1818	<i>Nephroselmis</i> sp.	1884	<i>Anabaena crassa</i>
1819	<i>Pyramimonas dissomata</i>	1885	<i>Anabaena crassa</i>
1820	<i>Pyramimonas grossii</i>	1886	<i>Anabaena crassa</i>
1821	<i>Pyramimonas propulsa</i>	1887	<i>Anabaena crassa</i>
1822	<i>Pyramimonas propulsa</i>	1888	<i>Anabaena crassa</i>
1823	<i>Pyramimonas propulsa</i>	1889	<i>Anabaena crassa</i>
1824	<i>Marsupiomonas</i> sp.	1890	<i>Anabaena crassa</i>
1825	<i>Oltmannsiellopsis viridis</i>	1891	<i>Anabaena crassa</i>
1826	<i>Epipyxis glabra</i>	1892	<i>Anabaena crassa</i>
1827	<i>Lagynion subglobosum</i>	1893	<i>Anabaena crassa</i> *
1828	<i>Ochromonas</i> sp.	1894	<i>Anabaena crassa</i> *
1829	<i>Fibrocapsa japonica</i>	1895	<i>Anabaena crassa</i> *
1830	<i>Heterosigma akashiwo</i>	1896	<i>Anabaena crassa</i> *
1831	<i>Olisthodiscus luteus</i>	1897	<i>Anabaena crassa</i> *
1832	<i>Akashiwo sanguinea</i>	1898	<i>Anabaena crassa</i> *
1833	<i>Coolia monotis</i>	1899	<i>Anabaena crassa</i> *
1834	<i>Gymnodinium catenatum</i>	1900	<i>Anabaena crassa</i> *
1836	<i>Tetraselmis verrucosa</i>	1901	<i>Anabaena crassa</i> *
1837	<i>Blidingia minima</i>	1902	<i>Anabaena crassa</i> *
1838	<i>Halochlorococcum</i> sp.	1903	<i>Anabaena flos-aquae</i>
1839	<i>Halochlorococcum</i> sp.	1904	<i>Anabaena oumiana</i>
1840	<i>Choricystis</i> sp.	1905	<i>Anabaena spiroides</i>
1841	<i>Hafniomonas</i> sp.	1906	<i>Anabaena akankoensis</i>
1843	<i>Dysnectes brevis</i>	1907	<i>Anabaena akankoensis</i>
1846	<i>Spumella</i> sp.	1908	<i>Anabaena circinalis</i>
1848	<i>Chlamydomonas perpusilla</i> var. <i>perpusilla</i>	1909	<i>Anabaena circinalis</i>
1849	<i>Chlamydomonas perpusilla</i> var. <i>perpusilla</i>	1910	<i>Anabaena crassa</i>
1850	<i>Chlamydomonas pumilio</i> var. <i>pumilio</i>	1911	<i>Anabaena crassa</i>
1852	<i>Pleodorina starrii</i>	1912	<i>Anabaena crassa</i>
1853	<i>Pleodorina starrii</i>	1913	<i>Anabaena crassa</i>
1854	<i>Pleodorina starrii</i>	1914	<i>Anabaena crassa</i>
1855	<i>Eudorina unicocca</i>	1915	<i>Anabaena crassa</i>

1916	<i>Anabaena crassa</i>	1989	<i>Alexandrium</i> sp.
1917	<i>Anabaena crassa</i>	1991	<i>Alexandrium</i> sp.
1918	<i>Anabaena crassa</i>	1993	<i>Alexandrium</i> sp.
1919	<i>Anabaena crassa</i>	2000	<i>Gyrodinium instriatum</i>
1920	<i>Anabaena lemmermannii</i>	2002	<i>Gymnodinium</i> sp.
1921	<i>Anabaena lemmermannii</i>	2003	<i>Gymnodinium</i> sp.
1922	<i>Anabaena minispora</i>	2004	<i>Gymnodinium</i> sp.
1923	<i>Anabaena minispora</i>	2007	<i>Gymnodinium</i> sp.
1924	<i>Anabaena minispora</i>	2008	<i>Katodinium</i> sp.
1925	<i>Anabaena mucosa</i> *	2009	<i>Katodinium</i> sp.
1926	<i>Anabaena mucosa</i> *	2010	<i>Prorocentrum dentatum</i>
1927	<i>Anabaena mucosa</i> *	2011	<i>Prorocentrum dentatum</i>
1928	<i>Anabaena mucosa</i> *	2013	<i>Prorocentrum dentatum</i>
1929	<i>Anabaena circinalis</i>	2014	<i>Prorocentrum dentatum</i>
1930	<i>Anabaena circinalis</i>	2015	<i>Scrippsiella trochoidea</i>
1931	<i>Anabaena oumiana</i>	2016	<i>Scrippsiella</i> sp.
1932	<i>Anabaena oumiana</i>	2017	<i>Scrippsiella</i> sp.
1933	<i>Anabaena oumiana</i>	2018	<i>Scrippsiella</i> sp.
1934	<i>Anabaena planctonica</i>	2019	<i>Scrippsiella</i> sp.
1935	<i>Anabaena pseudocompacta</i>	2020	<i>Scrippsiella</i> sp.
1936	<i>Anabaena pseudocompacta</i>	2021	<i>Scrippsiella</i> sp.
1937	<i>Anabaena pseudocompacta</i>	2022	<i>Scrippsiella</i> sp.
1938	<i>Anabaena pseudocompacta</i>	2023	<i>Nemalionopsis tortuosa</i>
1939	<i>Anabaena pseudocompacta</i> *	2024	<i>Nemalionopsis tortuosa</i>
1940	<i>Anabaena pseudocompacta</i> *	2025	<i>Nemalionopsis tortuosa</i>
1941	<i>Anabaena reniformis</i>	2026	<i>Nemalionopsis tortuosa</i>
1942	<i>Anabaena reniformis</i>	2027	<i>Nemalionopsis tortuosa</i>
1943	<i>Anabaena reniformis</i>	2028	<i>Nemalionopsis tortuosa</i>
1944	<i>Anabaena reniformis</i>	2029	<i>Nemalionopsis tortuosa</i>
1945	<i>Anabaena reniformis</i>	2030	<i>Nemalionopsis tortuosa</i>
1946	<i>Anabaena reniformis</i>	2031	<i>Nemalionopsis tortuosa</i>
1947	<i>Anabaena reniformis</i>	2032	<i>Thorea gaudichaudii</i>
1948	<i>Anabaena reniformis</i>	2033	<i>Thorea gaudichaudii</i>
1949	<i>Anabaena reniformis</i>	2034	<i>Thorea gaudichaudii</i>
1950	<i>Anabaena spiroides</i>	2035	<i>Thorea gaudichaudii</i>
1951	<i>Anabaena viguieri</i> *	2036	<i>Thorea gaudichaudii</i>
1952	<i>Anabaena viguieri</i> *	2037	<i>Thorea gaudichaudii</i>
1953	<i>Anabaena</i> sp.	2038	<i>Thorea gaudichaudii</i>
1954	<i>Anabaena</i> sp.	2039	<i>Thorea gaudichaudii</i>
1955	<i>Anabaena</i> sp.	2040	<i>Thorea gaudichaudii</i>
1956	<i>Scytonema javanicum</i>	2041	<i>Thorea gaudichaudii</i>
1957	<i>Porphyridium aerugineum</i>	2042	<i>Thorea gaudichaudii</i>
1958	<i>Porphyridium aerugineum</i>	2043	<i>Thorea hispida</i>
1959	<i>Porphyridium aerugineum</i>	2044	<i>Thorea hispida</i>
1960	<i>Porphyridium aerugineum</i>	2045	<i>Thorea okadae</i>
1961	<i>Glaucocystis nostochinearum</i>	2046	<i>Thorea okadae</i>
1963	<i>Mischococcus</i> sp.	2047	<i>Thorea okadae</i>
1964	<i>Ochrosphaera neapolitana</i>	2048	<i>Thorea okadae</i>
1965	<i>Pavlova</i> sp.	2049	<i>Thorea okadae</i>
1966	<i>Karlodinium veneficum</i>	2050	<i>Thorea okadae</i>
1967	<i>Prorocentrum mexicanum</i>	2051	<i>Thorea okadae</i>
1968	<i>Unidentified metamonad</i>	2052	<i>Thorea okadae</i>
1969	<i>Chroodactylon ornatum</i>	2053	<i>Thorea okadae</i>
1970	<i>Chroodactylon ornatum</i>	2054	<i>Thorea okadae</i>
1971	<i>Chroodactylon ornatum</i>	2055	<i>Thorea okadae</i>
1972	<i>Rhodella</i> sp.	2056	<i>Thorea okadae</i>
1987	<i>Akashiwo sanguinea</i>	2057	<i>Thorea okadae</i>
1988	<i>Alexandrium</i> sp.	2058	<i>Thorea okadae</i>

2059	<i>Thorea okadae</i>	2121	<i>Phormidium ambiguum</i>
2060	<i>Thorea okadae</i>	2122	<i>Phormidium ambiguum</i>
2061	<i>Thorea okadae</i>	2123	<i>Phormidium angustissimum</i>
2062	<i>Thorea okadae</i>	2124	<i>Phormidium henningsii</i>
2063	<i>Thorea okadae</i>	2125	<i>Phormidium luridum</i>
2064	<i>Thorea okadae</i>	2126	<i>Phormidium molle</i>
2065	<i>Thorea okadae</i>	2128	<i>Phormidium</i> sp.
2066	<i>Thorea okadae</i>	2129	<i>Plectonema calothricoides</i>
2067	<i>Thorea okadae</i>	2130	<i>Scytonema</i> sp.
2068	<i>Thorea okadae</i>	2131	<i>Stigonema ocellatum</i>
2069	<i>Thorea okadae</i>	2132	<i>Symploca muscorum</i>
2070	<i>Thorea okadae</i>	2133	<i>Thermosynechococcus elongatus</i>
2071	<i>Thorea okadae</i>	2134	<i>Thermosynechococcus vulcanus</i>
2072	<i>Thorea okadae</i>	2135	<i>Tolythrix tenuis</i>
2073	<i>Thorea okadae</i>	2136	<i>Batrachospermum turfosum</i>
2074	<i>Thorea okadae</i>	2137	<i>Cyanidium caldarium</i>
2075	<i>Nemalionopsis tortuosa</i>	2138	<i>Porphyridium purpureum</i>
2076	<i>Nemalionopsis tortuosa</i>	2139	<i>Porphyridium purpureum</i>
2077	<i>Nemalionopsis tortuosa</i>	2140	<i>Porphyridium purpureum</i>
2078	<i>Nemalionopsis tortuosa</i>	2141	<i>Glaucocystis nostochinearum</i>
2079	<i>Nemalionopsis tortuosa</i>	2142	<i>Ochromonas danica</i>
2080	<i>Nemalionopsis tortuosa</i>	2143	<i>Ochromonas minuta</i>
2081	<i>Nemalionopsis tortuosa</i>	2144	<i>Poterioochromonas malhamensis</i>
2082	<i>Nemalionopsis tortuosa</i>	2145	<i>Nannochloropsis oculata</i>
2083	<i>Nemalionopsis tortuosa</i>	2146	<i>Nannochloropsis oculata</i>
2084	<i>Chara australis</i>	2147	<i>Vischeria punctata</i>
2085	<i>Chara australis</i>	2148	<i>Vischeria stellata</i>
2086	<i>Prochlorococcus marinus</i>	2149	<i>Euglena viridis</i>
2087	<i>Prochlorococcus marinus</i>	2150	' <i>Chlorella ellipsoidea</i> '
2088	<i>Microcystis aeruginosa</i>	2151	<i>Graesiella emersonii</i>
2089	<i>Microcystis aeruginosa</i>	2152	<i>Parachlorella kessleri</i>
2090	<i>Microcystis aeruginosa</i>	2153	<i>Parachlorella kessleri</i>
2091	<i>Microcystis aeruginosa</i>	2154	<i>Parachlorella kessleri</i>
2093	<i>Anabaena variabilis</i>	2155	<i>Parachlorella kessleri</i>
2094	<i>Anabaena variabilis</i>	2156	<i>Parachlorella kessleri</i>
2095	<i>Anabaena variabilis</i>	2157	<i>Parachlorella kessleri</i>
2096	<i>Anacystis marina</i>	2158	<i>Parachlorella kessleri</i>
2097	<i>Calothrix brevissima</i>	2159	<i>Parachlorella kessleri</i>
2098	<i>Calothrix elenkinii</i>	2160	<i>Parachlorella kessleri</i>
2099	<i>Calothrix gracilis</i>	2161	<i>Parachlorella kessleri</i>
2100	<i>Calothrix gracilis</i>	2162	<i>Parachlorella kessleri</i>
2101	<i>Calothrix</i> sp.	2163	<i>Auxenochlorella protothecoides</i>
2102	<i>Cylindrospermum muscicola</i>	2164	<i>Auxenochlorella protothecoides</i>
2103	<i>Leptolyngbya</i> sp.	2165	<i>Auxenochlorella protothecoides</i>
2104	<i>Leptolyngbya</i> sp.	2166	<i>Coccomyxa</i> sp.
2107	<i>Nostoc carneum</i>	2167	<i>Chlorella sorokiniana</i>
2108	<i>Nostoc punctiforme</i>	2168	<i>Chlorella sorokiniana</i>
2109	<i>Nostoc</i> sp.	2169	<i>Chlorella sorokiniana</i>
2110	<i>Nostoc</i> sp.	2170	<i>Chlorella vulgaris</i>
2111	<i>Nostoc</i> sp.	2171	<i>Chlorella</i> sp.
2112	<i>Nostoc</i> sp.	2172	<i>Chlorella vulgaris</i>
2113	<i>Nostoc</i> sp.	2173	<i>Chlorella vulgaris</i>
2114	<i>Nostoc</i> sp.	2175	<i>Muriella zofingiensis</i>
2115	<i>Oscillatoria mougeotii</i>	2176	<i>Auxenochlorella protothecoides</i>
2116	<i>Oscillatoria neglecta</i>	2177	<i>Parachlorella kessleri</i>
2118	<i>Oscillatoria</i> sp.	2178	<i>Parachlorella kessleri</i>
2119	<i>Phormidium ambiguum</i>	2179	<i>Parachlorella kessleri</i>
2120	<i>Phormidium ambiguum</i>	2180	<i>Interfilum paradoxum</i>

2181	<i>Myrmecia biatorellae</i>	2247	<i>Chlamydomonas ulvaensis</i>
2182	<i>Prototheca portoricensis</i> var. <i>ciferrii</i>	2248	<i>Chlamydomonas zebra</i>
2183	<i>Pseudotrebouxia corticola</i>	2249	<i>Chlorococcum echinozygotum</i>
2184	<i>Stichococcus bacillaris</i>	2250	<i>Chlorococcum elkhartiense</i>
2185	<i>Trebouxia erici</i>	2252	<i>Coccomyxa dispar</i>
2186	<i>Trebouxia erici</i>	2253	<i>Dunaliella bioculata</i>
2187	<i>Trebouxia glomerata</i>	2254	<i>Dunaliella parva</i>
2188	<i>Trebouxia glomerata</i>	2255	<i>Dunaliella peircei</i>
2189	<i>Watanabea reniformis</i>	2256	<i>Dunaliella primolecta</i>
2190	<i>Ankistrodesmus angustus</i>	2257	<i>Dunaliella salina</i>
2191	<i>Ankistrodesmus angustus</i>	2258	<i>Dunaliella tertiolecta</i>
2192	<i>Ankistrodesmus angustus</i>	2259	<i>Eudorina illinoisensis</i>
2193	<i>Ankistrodesmus braunii</i>	2260	<i>Eudorina illinoisensis</i>
2194	<i>Ankistrodesmus braunii</i>	2261	<i>Gonium pectorale</i>
2195	<i>Ankistrodesmus falcatus</i> var. <i>acicularis</i>	2262	<i>Gonium pectorale</i>
2196	<i>Ankistrodesmus falcatus</i> var. <i>stipitatus</i>	2263	<i>Haematococcus lacustris</i>
2197	<i>Ankistrodesmus nannoselene</i>	2264	<i>Haematococcus lacustris</i>
2198	<i>Asterococcus superbus</i>	2265	<i>Haematococcus lacustris</i>
2199	<i>Botryococcus braunii</i>	2266	<i>Lobomonas piriformis</i>
2200	<i>Bracteacoccus giganteus</i>	2267	<i>Monoraphidium</i> sp.
2201	<i>Chloromonas actinochloris</i>	2268	<i>Planktosphaeria gelatinosa</i>
2202	<i>Chlamydomonas applanata</i>	2269	<i>Scenedesmus acutus</i>
2203	<i>Chloromonas</i> sp.	2270	<i>Scenedesmus acutus</i>
2204	<i>Chlamydomonas applanata</i>	2271	<i>Scenedesmus basiliensis</i>
2206	<i>Chlamydomonas applanata</i>	2272	<i>Scenedesmus basiliensis</i>
2207	<i>Chlamydomonas asymmetrica</i>	2273	<i>Scenedesmus bijuga</i>
2208	<i>Chlamydomonas asymmetrica</i>	2274	<i>Scenedesmus chlorelloides</i>
2209	<i>Lobochlamys culleus</i>	2275	<i>Scenedesmus coelastroides</i>
2210	<i>Lobochlamys culleus</i>	2276	<i>Scenedesmus costulatus</i>
2211	<i>Chlamydomonas</i> sp.	2277	<i>Desmodesmus</i> sp.
2212	<i>Chlamydomonas debaryana</i>	2278	<i>Desmodesmus</i> sp.
2213	<i>Chlamydomonas noctigama</i>	2279	<i>Scenedesmus obliquus</i>
2214	<i>Lobochlamys segnis</i>	2280	<i>Scenedesmus obliquus</i>
2215	<i>Chlamydomonas gerloffii</i>	2282	<i>Monoraphidium minutum</i>
2216	<i>Chlamydomonas inflexa</i>	2283	<i>Cylindrocystis crassa</i>
2218	<i>Chlamydomonas mexicana</i>	2284	<i>Cylindrocystis</i> sp.
2219	<i>Chlamydomonas moewusii</i>	2285	<i>Klebsormidium flaccidum</i>
2220	<i>Chlamydomonas moewusii</i>	2286	<i>Klebsormidium flaccidum</i>
2222	<i>Chlamydomonas moewusii</i> var. <i>rotunda</i>	2287	<i>Mesotaenium caldariorum</i>
2223	<i>Chlamydomonas moewusii</i> var. <i>rotunda</i>	2288	<i>Netrium digitus</i> var. <i>digitus</i>
2224	<i>Chloromonas actinochloris</i>	2289	<i>Netrium digitus</i> var. <i>lamellosum</i>
2225	<i>Chlamydomonas nasuta</i>	2290	<i>Raphidonema nivale</i>
2228	<i>Chlamydomonas noctigama</i>	2291	<i>Roya anglica</i>
2229	<i>Chlamydomonas noctigama</i>	2293	<i>Hamakko caudatus</i>
2230	<i>Chlamydomonas orbicularis</i>	2294	<i>Tabris heimii</i>
2231	<i>Chlamydomonas proteus</i>	2295	<i>Tabris heimii</i>
2233	<i>Chlamydomonas pulvinata</i>	2296	<i>Chlorogonium complexum</i>
2234	<i>Chlamydomonas rapa</i>	2297	<i>Chlorogonium complexum</i>
2235	<i>Chlamydomonas reinhardtii</i>	2299	<i>Trachelomonas</i> sp.
2236	<i>Chlamydomonas reinhardtii</i>	2300	<i>Ochromonas</i> sp.
2237	<i>Chlamydomonas reinhardtii</i>	2301	<i>Cylindrocystis</i> sp.
2238	<i>Chlamydomonas reinhardtii</i>	2302	<i>Cylindrocystis</i> sp.
2239	<i>Chlamydomonas reinhardtii</i>	2303	<i>Cylindrocystis</i> sp.
2240	<i>Lobochlamys segnis</i>	2304	<i>Chromulina</i> sp.
2241	<i>Chlamydomonas moewusii</i>	2305	<i>Eutreptiella</i> sp.
2242	<i>Chlamydomonas sphaeroides</i>	2306	<i>Sphaeroszoma</i> sp.
2243	<i>Chlamydomonas subangulosa</i>	2307	<i>Volvox</i> sp.
2246	<i>Chlamydomonas typica</i>	2308	<i>Oscillatoria</i> sp.

- 2309 *Nephroselmis* sp.
 2310 *Mamiella* sp.
 2311 *Carteria* sp.
 2312 *Carteria* sp.
 2313 *Carteria* sp.
 2314 *Chlamydomonas* sp.
 2315 *Chlamydomonas* sp.
 2316 *Chlamydomonas* sp.
 2317 *Chlamydomonas* sp.
 2318 *Chlamydomonas* sp.
 2319 *Chlamydomonas* sp.
 2320 *Chlamydomonas* sp.
 2321 *Chlamydomonas* sp.
 2322 *Chlamydomonas* sp.
 2323 *Chlamydomonas* sp.
 2324 *Chlamydomonas* sp.
 2325 *Eutreptiella* sp.
 2326 *Gymnodinium* sp.
 2327 *Cochlodinium* sp.
 2328 *Alexandrium* sp.
 2329 *Mamiella* sp.
 2330 *Chlorella* sp.
 2331 *Chroomonas* sp.
 2332 *Rhodomonas* sp.
 2333 *Choricystis* sp.
 2334 *Mychonastes* sp.
 2335 *Choricystis* sp.
 2336 *Mychonastes* sp.
 2337 *Choricystis* sp.
 2338 *Choricystis* sp.
 2339 *Mychonastes* sp.
 2340 *Mychonastes* sp.
 2341 *Mychonastes* sp.
 2342 *Choricystis* sp.
 2343 *Heterocapsa* sp.
 2344 *Heterocapsa* sp.
 2345 *Euglena* sp.
 2346 *Pedinella* sp.
 2349 *Trebouxia* sp.
 2350 *Prymnesium parvum*
 2351 *Nitzschia closterium*
 2352 '*Chlorella*' *saccharophila*
 2353 *Coccomyxa dispar*
 2363 *Cyclotella meneghiniana*
 2364 *Cyclotella meneghiniana*
 2365 *Cyclotella meneghiniana*
 2367 *Cyclotella meneghiniana*
 2368 *Cyclotella meneghiniana*
 2377 *Ovulinata parva*
 2378 *Thaumatomastix* sp.
 2379 *Chloromonas* sp.
 2380 *Chloromonas* sp.
 2408 *Klebsormidium flaccidum*
 2411 *Karenia mikimotoi*
 2412 *Acaryochloris marina*
 2414 *Allapsa ocior*
 2415 *Allapsa scotia*
 2416 *Neoheteromita caudratti*
 2417 *Neoheteromita hederae*
 2418 *Neoheteromita soli*
 2419 *Sandonia aestiva*
 2421 *Sandonia dimutans*
 2422 *Sandonia disimilis*
 2423 *Sandonia pentamutans*
 2424 *Sandonia similis*
 2425 *Sandonia tetramutans*
 2426 *Sandonia tetrasimilis*
 2427 *Sandonia ubiquita*
 2428 *Sandonia ubiquita*
 2429 *Sandonia ubiquita*
 2430 *Sandonia ubiquita*
 2433 *Norrisiella sphaerica*
 2434 *Cavernomonas stercoris*
 2435 *Cercomonas ambigua*
 2436 *Cercomonas dactyloptera*
 2437 *Cercomonas effusa*
 2438 *Cercomonas fastiga*
 2439 *Cercomonas hederae*
 2440 *Cercomonas hiberna*
 2441 *Cercomonas laeva*
 2442 *Cercomonas lata*
 2443 *Cercomonas magna*
 2444 *Cercomonas mutans*
 2445 *Cercomonas parambigua*
 2449 *Eocercomonas echina*
 2450 *Paracercomonas elongata*
 2451 *Paracercomonas oxoniensis*
 2452 *Paracercomonas paralaciniagerens*
 2453 *Paracercomonas pleomorpha*
 2454 *Paracercomonas producta*
 2455 *Gonium maiaprilis*
 2456 *Gonium maiaprilis*
 2457 *Gonium maiaprilis*
 2458 *Gonium maiaprilis*
 2459 *Gonium maiaprilis*
 2460 *Gonium maiaprilis*
 2461 *Gonium maiaprilis*
 2462 *Chlamydomonas globosa*
 2463 *Chlamydomonas reinhardtii*
 2464 *Chlamydomonas reinhardtii*
 2465 *Microcystis aeruginosa*
 2466 *Microcystis aeruginosa*
 2467 *Microcystis aeruginosa*
 2468 *Microcystis aeruginosa*
 2469 *Microcystis aeruginosa*
 2470 *Microcystis aeruginosa*
 2471 *Microcystis aeruginosa*
 2472 *Microcystis aeruginosa*
 2473 *Microcystis aeruginosa*
 2474 *Microcystis aeruginosa*
 2475 *Microcystis aeruginosa*
 2476 *Microcystis aeruginosa*
 2477 *Microcystis aeruginosa*
 2478 *Microcystis aeruginosa*
 2479 *Microcystis aeruginosa*
 2480 *Microcystis aeruginosa*

2481	<i>Microcystis aeruginosa</i>	2578	<i>Chlamydomonas moewusii</i> var. <i>rotunda</i>
2482	<i>Microcystis aeruginosa</i>	2579	<i>Chlamydomonas noctigama</i>
2483	<i>Microcystis aeruginosa</i>	2580	<i>Chlorococcum hypnosporum</i>
2484	<i>Microcystis aeruginosa</i>	2581	<i>Heterochlamydomonas lobata</i>
2485	<i>Microcystis aeruginosa</i>	2582	<i>Prasinoderma coloniale</i>
2486	<i>Microcystis aeruginosa</i>	2584	<i>Lotharella reticulosa</i>
2487	<i>Microcystis aeruginosa</i>	2586	<i>Picophagus flagellatus</i>
2488	<i>Microcystis aeruginosa</i>	2587	<i>Nannochloropsis gaditana</i>
2489	<i>Microcystis aeruginosa</i>	2588	<i>Nannochloropsis granulata</i>
2490	<i>Microcystis aeruginosa</i>	2589	<i>Symbiodinium scintillans</i>
2491	<i>Microcystis aeruginosa</i>	2590	<i>Isochrysis galbana</i>
2492	<i>Microcystis aeruginosa</i>	2591	<i>Microcystis aeruginosa</i>
2493	<i>Microcystis aeruginosa</i>	2592	<i>Microcystis aeruginosa</i>
2494	<i>Microcystis aeruginosa</i>	2593	<i>Microcystis aeruginosa</i>
2495	<i>Microcystis aeruginosa</i>	2594	<i>Microcystis aeruginosa</i>
2496	<i>Microcystis aeruginosa</i>	2595	<i>Microcystis aeruginosa</i>
2497	<i>Actinophrys sol</i>	2596	<i>Microcystis aeruginosa</i>
2498	<i>Raphidiophrys contractilis</i>	2597	<i>Microcystis aeruginosa</i>
2499	<i>Chlamydomonas eustigma</i>	2598	<i>Microcystis aeruginosa</i>
2500	<i>Chara braunii</i>	2599	<i>Microcystis aeruginosa</i>
2501	<i>Pseudendoclonium</i> sp.	2600	<i>Microcystis aeruginosa</i>
2502	Unidentified chlorarachniophyte	2601	<i>Microcystis aeruginosa</i>
2503	<i>Glossomastix</i> sp.	2602	<i>Microcystis aeruginosa</i>
2504	<i>Glossomastix</i> sp.	2603	<i>Microcystis aeruginosa</i>
2505	<i>Bumilleriopsis petersiana</i>	2604	<i>Microcystis aeruginosa</i>
2506	<i>Chrysochromulina</i> sp.	2605	<i>Microcystis aeruginosa</i>
2507	<i>Flectomonas lenta</i>	2606	<i>Microcystis aeruginosa</i>
2508	<i>Sandona erratica</i>	2607	<i>Microcystis aeruginosa</i>
2538	<i>Nostoc commune</i>	2608	<i>Microcystis aeruginosa</i>
2539	<i>Nostoc verrucosum</i>	2609	<i>Microcystis aeruginosa</i>
2546	<i>Microcystis aeruginosa</i>	2610	<i>Microcystis aeruginosa</i>
2547	<i>Microcystis aeruginosa</i>	2611	<i>Microcystis aeruginosa</i>
2548	<i>Microcystis aeruginosa</i>	2612	<i>Microcystis aeruginosa</i>
2549	<i>Microcystis aeruginosa</i>	2613	<i>Microcystis aeruginosa</i>
2550	<i>Microcystis aeruginosa</i>	2614	<i>Vaucheria frigida</i>
2551	<i>Microcystis aeruginosa</i>	2615	<i>Vaucheria frigida</i>
2552	<i>Microcystis aeruginosa</i>	2616	<i>Vaucheria frigida</i>
2553	<i>Microcystis aeruginosa</i>	2617	<i>Microcystis aeruginosa</i>
2554	<i>Microcystis aeruginosa</i>	2618	<i>Microcystis aeruginosa</i>
2555	<i>Microcystis aeruginosa</i>	2619	<i>Microcystis aeruginosa</i>
2556	<i>Microcystis aeruginosa</i>	2620	<i>Microcystis aeruginosa</i>
2557	<i>Microcystis aeruginosa</i>	2621	<i>Microcystis aeruginosa</i>
2558	<i>Microcystis aeruginosa</i>	2622	<i>Microcystis aeruginosa</i>
2559	<i>Microcystis aeruginosa</i>	2623	<i>Microcystis aeruginosa</i>
2560	<i>Microcystis aeruginosa</i>	2624	<i>Microcystis aeruginosa</i>
2561	<i>Microcystis aeruginosa</i>	2625	<i>Microcystis aeruginosa</i>
2563	<i>Chloromonas pseudoplatyrhyncha</i>	2626	<i>Microcystis aeruginosa</i>
2564	<i>Pyrobotrys squarrosa</i>	2627	<i>Microcystis aeruginosa</i>
2567	<i>Volvulina compacta</i>	2628	<i>Microcystis aeruginosa</i>
2569	<i>Volvox ovalis</i>	2629	<i>Microcystis aeruginosa</i>
2570	<i>Chlamydomonas neoplanoconvexa</i>	2633	<i>Chattonella subsalsa</i>
2571	<i>Tolypothrix distorta</i> var. <i>symplocoides</i>	2634	<i>Chattonella subsalsa</i>
2572	<i>Platymonas subcordiformis</i>	2635	<i>Paulinella chromatophora</i>
2573	<i>Chlorella vulgaris</i>	2636	<i>Chantransia macrospora</i>
2574	<i>Bracteacoccus</i> sp.	2638	<i>Symbiodinium</i> sp. (Clade A)
2575	<i>Chloromonas carrizoensis</i>	2639	<i>Symbiodinium</i> sp. (Clade A)
2576	<i>Chlamydomonas moewusii</i>	2640	<i>Symbiodinium</i> sp. (Clade A)
2577	<i>Chlamydomonas moewusii</i> var. <i>rotunda</i>	2641	<i>Symbiodinium</i> sp. (Clade A)

2642	<i>Symbiodinium</i> sp. (Clade A)
2643	<i>Symbiodinium</i> sp. (Clade A)
2661	<i>Chara braunii</i>
2662	<i>Corynoplastis japonica</i>
2663	<i>Amphidinium</i> sp.
2664	<i>Amphidinium</i> sp.
2666	<i>Closterium peracerosum-strigosum-littorale</i> complex
2668	<i>Eucampia</i> sp.
2669	<i>Rhizosolenia</i> sp.
2670	<i>Bathycoccus prasinos</i>
2672	<i>Micromonas pusilla</i>
2673	<i>Ostreococcus tauri</i>
2674	<i>Ostreococcus</i> sp.
2677	<i>Bigelowiella natans</i>
2681	<i>Bolidomonas mediterranea</i>
2682	<i>Bolidomonas pacifica</i>
2683	<i>Bolidomonas</i> sp.
2684	<i>Florenciella parvula</i>
2687	<i>Mesopedinella arctica</i>
2689	<i>Pelagomonas calceolata</i>
2690	<i>Pelagomonas calceolata</i>
2691	<i>Pelagomonas calceolata</i>
2693	<i>Phaeomonas</i> sp.
2696	<i>Coccolithus braarudii</i>
2697	<i>Emiliana huxleyi</i>
2699	<i>Gephyrocapsa oceanica</i>
2700	<i>Gephyrocapsa oceanica</i>
2736	<i>Volvox ferrisii</i>
2737	<i>Volvox ferrisii</i>
2738	<i>Volvox ferrisii</i>
2739	<i>Volvox ferrisii</i>
2740	<i>Volvox kirkiorum</i>
2743	<i>Chlamydomonas media</i>
2744	<i>Chlamydomonas pseudomacrostigma</i>
2745	<i>Esquamula lacrimiformis</i>
2774	<i>Calyptrosphaera sphaeroidea</i>
2775	<i>Calyptrosphaera sphaeroidea</i>

2. Systematic index

Cyanophyta

Cyanophyceae

<i>Acaryochloris marina</i>	2412	<i>Anabaena crassa</i>	1881
<i>Anabaena affinis</i>	40	<i>Anabaena crassa</i>	1882
<i>Anabaena affinis</i>	1639	<i>Anabaena crassa</i>	1883
<i>Anabaena affinis</i>	1640	<i>Anabaena crassa</i>	1884
<i>Anabaena affinis</i>	1641	<i>Anabaena crassa</i>	1885
<i>Anabaena affinis</i>	1642	<i>Anabaena crassa</i>	1886
<i>Anabaena akankoensis</i>	1875	<i>Anabaena crassa</i>	1887
<i>Anabaena akankoensis</i>	1876	<i>Anabaena crassa</i>	1888
<i>Anabaena akankoensis</i>	1906	<i>Anabaena crassa</i>	1889
<i>Anabaena akankoensis</i>	1907	<i>Anabaena crassa</i>	1890
<i>Anabaena aphanizomenoides</i>	1643	<i>Anabaena crassa</i>	1891
<i>Anabaena aphanizomenoides</i>	1644	<i>Anabaena crassa</i>	1892
<i>Anabaena circinalis</i>	41	<i>Anabaena crassa</i>	1910
<i>Anabaena circinalis</i>	1645	<i>Anabaena crassa</i>	1911
<i>Anabaena circinalis</i>	1646	<i>Anabaena crassa</i>	1912
<i>Anabaena circinalis</i>	1647	<i>Anabaena crassa</i>	1913
<i>Anabaena circinalis</i>	1648	<i>Anabaena crassa</i>	1914
<i>Anabaena circinalis</i>	1649	<i>Anabaena crassa</i>	1915
<i>Anabaena circinalis</i>	1650	<i>Anabaena crassa</i>	1916
<i>Anabaena circinalis</i>	1877	<i>Anabaena crassa</i>	1917
<i>Anabaena circinalis</i>	1878	<i>Anabaena crassa</i> *	1918
<i>Anabaena circinalis</i>	1879	<i>Anabaena crassa</i> *	1919
<i>Anabaena circinalis</i>	1908	<i>Anabaena crassa</i> *	1893
<i>Anabaena circinalis</i>	1909	<i>Anabaena crassa</i> *	1894
<i>Anabaena circinalis</i>	1929	<i>Anabaena crassa</i> *	1895
<i>Anabaena circinalis</i>	1930	<i>Anabaena crassa</i> *	1896
<i>Anabaena circinalis</i> *	1880	<i>Anabaena crassa</i> *	1897
<i>Anabaena compacta</i>	806	<i>Anabaena crassa</i> *	1898
<i>Anabaena compacta</i>	835	<i>Anabaena crassa</i> *	1899
<i>Anabaena crassa</i>	77	<i>Anabaena crassa</i> *	1900
<i>Anabaena crassa</i>	78	<i>Anabaena crassa</i> *	1901
<i>Anabaena crassa</i>	1652	<i>Anabaena crassa</i> *	1902
<i>Anabaena crassa</i>	1653	<i>Anabaena cylindrica</i>	19
<i>Anabaena crassa</i>	1654	<i>Anabaena danica</i>	1667
<i>Anabaena crassa</i>	1655	<i>Anabaena flos-aquae</i>	73
<i>Anabaena crassa</i>	1656	<i>Anabaena flos-aquae</i>	75
<i>Anabaena crassa</i>	1657	<i>Anabaena flos-aquae</i>	1668
<i>Anabaena crassa</i>	1658	<i>Anabaena flos-aquae</i>	1669
<i>Anabaena crassa</i>	1659	<i>Anabaena flos-aquae</i>	1670
<i>Anabaena crassa</i>	1660	<i>Anabaena flos-aquae</i>	1671
<i>Anabaena crassa</i>	1661	<i>Anabaena flos-aquae</i>	1672
<i>Anabaena crassa</i>	1662	<i>Anabaena flos-aquae</i>	1673
<i>Anabaena crassa</i>	1663	<i>Anabaena flos-aquae</i>	1903
<i>Anabaena crassa</i>	1664	<i>Anabaena heterospora</i> *	1697
<i>Anabaena crassa</i>	1665	<i>Anabaena kisseleviana</i>	74
<i>Anabaena crassa</i>	1666	<i>Anabaena kisseleviana</i>	807
		<i>Anabaena lemmermannii</i>	808
		<i>Anabaena lemmermannii</i>	833
		<i>Anabaena lemmermannii</i>	1673

<i>Anabaena lemmermannii</i>	1674	<i>Anabaena reniformis</i>	1692
<i>Anabaena lemmermannii</i>	1675	<i>Anabaena reniformis</i>	1693
<i>Anabaena lemmermannii</i>	1676	<i>Anabaena reniformis</i>	1694
<i>Anabaena lemmermannii</i>	1920	<i>Anabaena reniformis</i>	1941
<i>Anabaena lemmermannii</i>	1921	<i>Anabaena reniformis</i>	1942
<i>Anabaena minispora</i>	1922	<i>Anabaena reniformis</i>	1943
<i>Anabaena minispora</i>	1923	<i>Anabaena reniformis</i>	1944
<i>Anabaena minispora</i>	1924	<i>Anabaena reniformis</i>	1945
<i>Anabaena mucosa</i>	809	<i>Anabaena reniformis</i>	1946
<i>Anabaena mucosa</i>	1677	<i>Anabaena reniformis</i>	1947
<i>Anabaena mucosa*</i>	1925	<i>Anabaena reniformis</i>	1948
<i>Anabaena mucosa*</i>	1926	<i>Anabaena reniformis</i>	1949
<i>Anabaena mucosa*</i>	1927	<i>Anabaena smithii</i>	818
<i>Anabaena mucosa*</i>	1928	<i>Anabaena smithii</i>	819
<i>Anabaena oumiana</i>	1678	<i>Anabaena smithii</i>	820
<i>Anabaena oumiana</i>	1679	<i>Anabaena smithii</i>	821
<i>Anabaena oumiana</i>	1904	<i>Anabaena smithii</i>	822
<i>Anabaena oumiana</i>	1931	<i>Anabaena smithii</i>	823
<i>Anabaena oumiana</i>	1932	<i>Anabaena smithii</i>	824
<i>Anabaena oumiana</i>	1933	<i>Anabaena smithii</i>	1695
<i>Anabaena planctonica</i>	80	<i>Anabaena smithii</i>	1724
<i>Anabaena planctonica</i>	810	<i>Anabaena spiroides</i>	76
<i>Anabaena planctonica</i>	811	<i>Anabaena spiroides</i>	1905
<i>Anabaena planctonica</i>	812	<i>Anabaena spiroides</i>	1950
<i>Anabaena planctonica</i>	813	<i>Anabaena ucrainica</i>	263
<i>Anabaena planctonica</i>	814	<i>Anabaena ucrainica</i>	825
<i>Anabaena planctonica</i>	815	<i>Anabaena ucrainica</i>	826
<i>Anabaena planctonica</i>	816	<i>Anabaena ucrainica</i>	1696
<i>Anabaena planctonica</i>	817	<i>Anabaena variabilis</i>	23
<i>Anabaena planctonica</i>	834	<i>Anabaena variabilis</i>	2093
<i>Anabaena planctonica</i>	1680	<i>Anabaena variabilis</i>	2094
<i>Anabaena planctonica</i>	1681	<i>Anabaena variabilis</i>	2095
<i>Anabaena planctonica</i>	1682	<i>Anabaena viguieri</i>	827
<i>Anabaena planctonica</i>	1683	<i>Anabaena viguieri*</i>	1951
<i>Anabaena planctonica</i>	1723	<i>Anabaena viguieri*</i>	1952
<i>Anabaena planctonica</i>	1934	<i>Anabaena sp.</i>	1651
<i>Anabaena pseudocompacta</i>	79	<i>Anabaena sp.</i>	1953
<i>Anabaena pseudocompacta</i>	1684	<i>Anabaena sp.</i>	1954
<i>Anabaena pseudocompacta</i>	1935	<i>Anabaena sp.</i>	1955
<i>Anabaena pseudocompacta</i>	1936	<i>Anabaenopsis circularis</i>	21
<i>Anabaena pseudocompacta</i>	1937	<i>Anabaenopsis sp.</i>	1698
<i>Anabaena pseudocompacta</i>	1938	<i>Anabaenopsis sp.</i>	1725
<i>Anabaena pseudocompacta*</i>	1939	<i>Anacystis marina</i>	2096
<i>Anabaena pseudocompacta*</i>	1940	<i>Aphanizomenon flos-aquae</i>	1258
<i>Anabaena reniformis</i>	1685	<i>Aphanizomenon flos-aquae</i>	1726
<i>Anabaena reniformis</i>	1686	<i>Aphanizomenon flos-aquae</i>	1727
<i>Anabaena reniformis</i>	1687	<i>Aphanizomenon flos-aquae</i>	1728
<i>Anabaena reniformis</i>	1688	<i>Aphanizomenon flos-aquae</i> f. <i>gracile</i>	81
<i>Anabaena reniformis</i>	1689	<i>Aphanocapsa montana</i>	416
<i>Anabaena reniformis</i>	1690	<i>Arthrospira platensis</i>	39
<i>Anabaena reniformis</i>	1691	<i>Arthrospira platensis</i>	45

<i>Arthrospira platensis</i>	46	<i>Microcystis aeruginosa</i>	107
<i>Arthrospira platensis</i>	597	<i>Microcystis aeruginosa</i>	108
<i>Aulosira laxa</i>	50	<i>Microcystis aeruginosa</i>	109
<i>Calothrix brevissima</i>	22	<i>Microcystis aeruginosa</i>	110
<i>Calothrix brevissima</i>	2097	<i>Microcystis aeruginosa</i>	111
<i>Calothrix crustacea</i>	266	<i>Microcystis aeruginosa</i>	112
<i>Calothrix elenkinii</i>	2098	<i>Microcystis aeruginosa</i>	298
<i>Calothrix gracilis</i>	2099	<i>Microcystis aeruginosa</i>	299
<i>Calothrix gracilis</i>	2100	<i>Microcystis aeruginosa</i>	478
<i>Calothrix parasitica</i>	267	<i>Microcystis aeruginosa</i>	604
<i>Calothrix parasitica</i>	334	<i>Microcystis aeruginosa</i>	843
<i>Calothrix scopulorum</i>	268	<i>Microcystis aeruginosa</i>	901
<i>Calothrix</i> sp.	2101	<i>Microcystis aeruginosa</i>	933
<i>Chamaesiphon polymorphus</i>	433	<i>Microcystis aeruginosa</i>	1025
<i>Chamaesiphon subglobosus</i>	434	<i>Microcystis aeruginosa</i>	1026
<i>Chroogloeocystis siderophila</i>	1031	<i>Microcystis aeruginosa</i>	1027
<i>Cylindrospermopsis raciborskii</i>	930	<i>Microcystis aeruginosa</i>	1028
<i>Cylindrospermopsis raciborskii</i>	991	<i>Microcystis aeruginosa</i>	1029
<i>Cylindrospermopsis raciborskii</i>	992	<i>Microcystis aeruginosa</i>	1043
<i>Cylindrospermopsis raciborskii</i>	993	<i>Microcystis aeruginosa</i>	1050
<i>Cylindrospermopsis raciborskii</i>	994	<i>Microcystis aeruginosa</i>	1051
<i>Cylindrospermopsis raciborskii</i>	1040	<i>Microcystis aeruginosa</i>	1052
<i>Cylindrospermopsis raciborskii</i>	1041	<i>Microcystis aeruginosa</i>	1053
<i>Cylindrospermopsis raciborskii</i>	1259	<i>Microcystis aeruginosa</i>	1054
<i>Cylindrospermopsis raciborskii</i>	1260	<i>Microcystis aeruginosa</i>	1055
<i>Cylindrospermopsis raciborskii</i>	1261	<i>Microcystis aeruginosa</i>	1056
<i>Cylindrospermopsis raciborskii</i>	1262	<i>Microcystis aeruginosa</i>	1057
<i>Cylindrospermum muscicola</i>	2102	<i>Microcystis aeruginosa</i>	1058
<i>Fischerella major</i>	592	<i>Microcystis aeruginosa</i>	1059
<i>Gloeocapsa decorticans</i>	931	<i>Microcystis aeruginosa</i>	1060
<i>Hydrococcus rivularis</i>	593	<i>Microcystis aeruginosa</i>	1061
<i>Leptolyngbya</i> sp.	30	<i>Microcystis aeruginosa</i>	1062
<i>Leptolyngbya</i> sp.	2103	<i>Microcystis aeruginosa</i>	1063
<i>Leptolyngbya</i> sp.	2104	<i>Microcystis aeruginosa</i>	1064
<i>Limnothrix redekei</i>	847	<i>Microcystis aeruginosa</i>	1065
<i>Merismopedia tenuissima</i>	230	<i>Microcystis aeruginosa</i>	1066
<i>Microcystis aeruginosa</i>	44	<i>Microcystis aeruginosa</i>	1067
<i>Microcystis aeruginosa</i>	87	<i>Microcystis aeruginosa</i>	1068
<i>Microcystis aeruginosa</i>	88	<i>Microcystis aeruginosa</i>	1069
<i>Microcystis aeruginosa</i>	89	<i>Microcystis aeruginosa</i>	1070
<i>Microcystis aeruginosa</i>	90	<i>Microcystis aeruginosa</i>	1071
<i>Microcystis aeruginosa</i>	91	<i>Microcystis aeruginosa</i>	1072
<i>Microcystis aeruginosa</i>	98	<i>Microcystis aeruginosa</i>	1073
<i>Microcystis aeruginosa</i>	99	<i>Microcystis aeruginosa</i>	1074
<i>Microcystis aeruginosa</i>	100	<i>Microcystis aeruginosa</i>	1075
<i>Microcystis aeruginosa</i>	101	<i>Microcystis aeruginosa</i>	1076
<i>Microcystis aeruginosa</i>	102	<i>Microcystis aeruginosa</i>	1077
<i>Microcystis aeruginosa</i>	103	<i>Microcystis aeruginosa</i>	1078
<i>Microcystis aeruginosa</i>	104	<i>Microcystis aeruginosa</i>	1079
<i>Microcystis aeruginosa</i>	105	<i>Microcystis aeruginosa</i>	1080
<i>Microcystis aeruginosa</i>	106	<i>Microcystis aeruginosa</i>	1081

<i>Microcystis aeruginosa</i>	2486	<i>Microcystis aeruginosa</i>	2618
<i>Microcystis aeruginosa</i>	2487	<i>Microcystis aeruginosa</i>	2619
<i>Microcystis aeruginosa</i>	2488	<i>Microcystis aeruginosa</i>	2620
<i>Microcystis aeruginosa</i>	2489	<i>Microcystis aeruginosa</i>	2621
<i>Microcystis aeruginosa</i>	2490	<i>Microcystis aeruginosa</i>	2622
<i>Microcystis aeruginosa</i>	2491	<i>Microcystis aeruginosa</i>	2623
<i>Microcystis aeruginosa</i>	2492	<i>Microcystis aeruginosa</i>	2624
<i>Microcystis aeruginosa</i>	2493	<i>Microcystis aeruginosa</i>	2625
<i>Microcystis aeruginosa</i>	2494	<i>Microcystis aeruginosa</i>	2626
<i>Microcystis aeruginosa</i>	2495	<i>Microcystis aeruginosa</i>	2627
<i>Microcystis aeruginosa</i>	2496	<i>Microcystis aeruginosa</i>	2628
<i>Microcystis aeruginosa</i>	2546	<i>Microcystis aeruginosa</i>	2629
<i>Microcystis aeruginosa</i>	2547	<i>Myxosarcina burmensis</i>	481
<i>Microcystis aeruginosa</i>	2548	<i>Nostoc carneum</i>	2107
<i>Microcystis aeruginosa</i>	2549	<i>Nostoc commune</i>	24
<i>Microcystis aeruginosa</i>	2550	<i>Nostoc commune</i>	38
<i>Microcystis aeruginosa</i>	2551	<i>Nostoc commune</i>	2538
<i>Microcystis aeruginosa</i>	2552	<i>Nostoc linckia</i>	25
<i>Microcystis aeruginosa</i>	2553	<i>Nostoc linckia</i> var. <i>arvense</i>	28
<i>Microcystis aeruginosa</i>	2554	<i>Nostoc minutum</i>	26
<i>Microcystis aeruginosa</i>	2555	<i>Nostoc minutum</i>	29
<i>Microcystis aeruginosa</i>	2556	<i>Nostoc punctiforme</i>	2108
<i>Microcystis aeruginosa</i>	2557	<i>Nostoc verrucosum</i>	2539
<i>Microcystis aeruginosa</i>	2558	<i>Nostoc</i> sp.	2109
<i>Microcystis aeruginosa</i>	2559	<i>Nostoc</i> sp.	2110
<i>Microcystis aeruginosa</i>	2560	<i>Nostoc</i> sp.	2111
<i>Microcystis aeruginosa</i>	2561	<i>Nostoc</i> sp.	2112
<i>Microcystis aeruginosa</i>	2591	<i>Nostoc</i> sp.	2113
<i>Microcystis aeruginosa</i>	2592	<i>Nostoc</i> sp.	2114
<i>Microcystis aeruginosa</i>	2593	<i>Oscillatoria amphibia</i>	361
<i>Microcystis aeruginosa</i>	2594	<i>Oscillatoria animalis</i>	206
<i>Microcystis aeruginosa</i>	2595	<i>Oscillatoria laetevirens</i>	31
<i>Microcystis aeruginosa</i>	2596	<i>Oscillatoria limnetica</i>	36
<i>Microcystis aeruginosa</i>	2597	<i>Oscillatoria mougeotii</i>	2115
<i>Microcystis aeruginosa</i>	2598	<i>Oscillatoria neglecta</i>	2116
<i>Microcystis aeruginosa</i>	2599	<i>Oscillatoria rosea</i>	208
<i>Microcystis aeruginosa</i>	2600	<i>Oscillatoria tenuis</i>	33
<i>Microcystis aeruginosa</i>	2601	<i>Oscillatoria</i> sp.	2118
<i>Microcystis aeruginosa</i>	2602	<i>Oscillatoria</i> sp.	2308
<i>Microcystis aeruginosa</i>	2603	<i>Phormidium ambiguum</i>	2119
<i>Microcystis aeruginosa</i>	2604	<i>Phormidium ambiguum</i>	2120
<i>Microcystis aeruginosa</i>	2605	<i>Phormidium ambiguum</i>	2121
<i>Microcystis aeruginosa</i>	2606	<i>Phormidium ambiguum</i>	2122
<i>Microcystis aeruginosa</i>	2607	<i>Phormidium angustissimum</i>	2123
<i>Microcystis aeruginosa</i>	2608	<i>Phormidium foveolarum</i>	32
<i>Microcystis aeruginosa</i>	2609	<i>Phormidium foveolarum</i>	34
<i>Microcystis aeruginosa</i>	2610	<i>Phormidium foveolarum</i>	503
<i>Microcystis aeruginosa</i>	2611	<i>Phormidium foveolarum</i>	504
<i>Microcystis aeruginosa</i>	2612	<i>Phormidium foveolarum</i>	505
<i>Microcystis aeruginosa</i>	2613	<i>Phormidium henningsii</i>	2124
<i>Microcystis aeruginosa</i>	2617	<i>Phormidium jenkelianum</i>	506

<i>Phormidium jenkelianum</i>	507	<i>Synechococcus</i> sp.	949
<i>Phormidium luridum</i>	2125	<i>Synechococcus</i> sp.	950
<i>Phormidium molle</i>	509	<i>Synechococcus</i> sp.	951
<i>Phormidium molle</i>	2126	<i>Synechococcus</i> sp.	952
<i>Phormidium mucicola</i>	510	<i>Synechococcus</i> sp.	953
<i>Phormidium ramosum</i>	305	<i>Synechococcus</i> sp.	954
<i>Phormidium</i> sp.	2128	<i>Synechococcus</i> sp.	955
<i>Planktothricoides raciborskii</i>	207	<i>Synechococcus</i> sp.	956
<i>Planktothricoides raciborskii</i>	917	<i>Synechococcus</i> sp.	957
<i>Planktothrix agardhii</i>	204	<i>Synechococcus</i> sp.	958
<i>Planktothrix agardhii</i>	205	<i>Synechococcus</i> sp.	959
<i>Planktothrix agardhii</i>	594	<i>Synechococcus</i> sp.	960
<i>Planktothrix agardhii</i>	595	<i>Synechococcus</i> sp.	961
<i>Planktothrix agardhii</i>	596	<i>Synechococcus</i> sp.	962
<i>Planktothrix agardhii</i>	905	<i>Synechococcus</i> sp.	963
<i>Planktothrix agardhii</i>	989	<i>Synechococcus</i> sp.	964
<i>Planktothrix agardhii</i>	990	<i>Synechococcus</i> sp.	965
<i>Planktothrix agardhii</i>	1263	<i>Synechococcus</i> sp.	969
<i>Planktothrix agardhii</i>	1264	<i>Synechococcus</i> sp.	970
<i>Planktothrix agardhii</i>	1265	<i>Synechococcus</i> sp.	971
<i>Planktothrix rubescens</i>	610	<i>Synechococcus</i> sp.	972
<i>Planktothrix rubescens</i>	928	<i>Synechococcus</i> sp.	973
<i>Planktothrix rubescens</i>	1266	<i>Synechococcus</i> sp.	974
<i>Planktothrix rubescens</i>	1267	<i>Synechococcus</i> sp.	975
<i>Plectonema calothricoides</i>	2129	<i>Synechococcus</i> sp.	976
<i>Plectonema radiusum</i>	515	<i>Synechococcus</i> sp.	977
<i>Prochlorococcus marinus</i>	2086	<i>Synechococcus</i> sp.	978
<i>Prochlorococcus marinus</i>	2087	<i>Synechococcus</i> sp.	979
<i>Pseudanabaena galeata</i>	512	<i>Synechococcus</i> sp.	980
<i>Pseudanabaena</i> sp.	611	<i>Synechococcus</i> sp.	981
<i>Raphidiopsis curvata</i>	932	<i>Synechococcus</i> sp.	982
<i>Raphidiopsis</i> sp.	1729	<i>Synechococcus</i> sp.	983
<i>Scytonema javanicum</i>	1956	<i>Synechococcus</i> sp.	984
<i>Scytonema</i> sp.	2130	<i>Synechococcus</i> sp.	985
<i>Spirulina subsalsa</i>	27	<i>Synechococcus</i> sp.	986
<i>Spirulina subsalsa</i>	527	<i>Synechococcus</i> sp.	987
<i>Spirulina subsalsa</i>	598	<i>Synechococcus</i> sp.	988
<i>Stigonema ocellatum</i>	2131	<i>Synechococcus</i> sp.	1341
<i>Symploca muscorum</i>	2132	<i>Synechococcus</i> sp.	1342
<i>Synechococcus</i> sp.	937	<i>Synechococcus</i> sp.	1343
<i>Synechococcus</i> sp.	938	<i>Synechococcus</i> sp.	1344
<i>Synechococcus</i> sp.	939	<i>Synechococcus</i> sp.	1345
<i>Synechococcus</i> sp.	940	<i>Synechococcus</i> sp.	1346
<i>Synechococcus</i> sp.	941	<i>Synechococcus</i> sp.	1347
<i>Synechococcus</i> sp.	942	<i>Synechococcus</i> sp.	1348
<i>Synechococcus</i> sp.	943	<i>Thermosynechococcus elongatus</i>	2133
<i>Synechococcus</i> sp.	944	<i>Thermosynechococcus vulcanus</i> nom. nud.	2134
<i>Synechococcus</i> sp.	945	<i>Tolypothrix distorta</i> var. <i>symplocoides</i>	2571
<i>Synechococcus</i> sp.	946	<i>Tolypothrix tenuis</i>	37
<i>Synechococcus</i> sp.	947	<i>Tolypothrix tenuis</i>	2135
<i>Synechococcus</i> sp.	948	<i>Tychonema bourrellyi</i>	846

		<i>Nemalionopsis tortuosa</i>	1745
		<i>Nemalionopsis tortuosa</i>	1746
		<i>Nemalionopsis tortuosa</i>	1747
		<i>Nemalionopsis tortuosa</i>	1748
		<i>Nemalionopsis tortuosa</i>	1749
		<i>Nemalionopsis tortuosa</i>	1750
		<i>Nemalionopsis tortuosa</i>	2023
		<i>Nemalionopsis tortuosa</i>	2024
		<i>Nemalionopsis tortuosa</i>	2025
		<i>Nemalionopsis tortuosa</i>	2026
		<i>Nemalionopsis tortuosa</i>	2027
		<i>Nemalionopsis tortuosa</i>	2028
		<i>Nemalionopsis tortuosa</i>	2029
		<i>Nemalionopsis tortuosa</i>	2030
		<i>Nemalionopsis tortuosa</i>	2031
		<i>Nemalionopsis tortuosa</i>	2075
		<i>Nemalionopsis tortuosa</i>	2076
		<i>Nemalionopsis tortuosa</i>	2077
		<i>Nemalionopsis tortuosa</i>	2078
		<i>Nemalionopsis tortuosa</i>	2079
		<i>Nemalionopsis tortuosa</i>	2080
		<i>Nemalionopsis tortuosa</i>	2081
		<i>Nemalionopsis tortuosa</i>	2082
		<i>Nemalionopsis tortuosa</i>	2083
		<i>Thorea gaudichaudii</i>	1473
		<i>Thorea gaudichaudii</i>	1474
		<i>Thorea gaudichaudii</i>	1475
		<i>Thorea gaudichaudii</i>	1476
		<i>Thorea gaudichaudii</i>	1477
		<i>Thorea gaudichaudii</i>	1478
		<i>Thorea gaudichaudii</i>	1479
		<i>Thorea gaudichaudii</i>	1480
		<i>Thorea gaudichaudii</i>	1481
		<i>Thorea gaudichaudii</i>	1482
		<i>Thorea gaudichaudii</i>	1751
		<i>Thorea gaudichaudii</i>	1752
		<i>Thorea gaudichaudii</i>	1753
		<i>Thorea gaudichaudii</i>	1754
		<i>Thorea gaudichaudii</i>	1755
		<i>Thorea gaudichaudii</i>	1756
		<i>Thorea gaudichaudii</i>	1757
		<i>Thorea gaudichaudii</i>	1758
		<i>Thorea gaudichaudii</i>	1759
		<i>Thorea gaudichaudii</i>	1760
		<i>Thorea gaudichaudii</i>	1761
		<i>Thorea gaudichaudii</i>	1762
		<i>Thorea gaudichaudii</i>	1763
		<i>Thorea gaudichaudii</i>	1764
		<i>Thorea gaudichaudii</i>	1765
		<i>Thorea gaudichaudii</i>	1766
		<i>Thorea gaudichaudii</i>	1767
Glaucomphyta			
Glaucomphyceae			
<i>Cyanophora paradoxa</i>	547		
<i>Cyanophora paradoxa</i>	763		
<i>Cyanophora tetracyanea</i>	764		
<i>Glaucomcystis nostochinearum</i>	966		
<i>Glaucomcystis nostochinearum</i>	1369		
<i>Glaucomcystis nostochinearum</i>	1961		
<i>Glaucomcystis nostochinearum</i>	2141		
Rhodophyta			
Compsopogonophyceae			
<i>Compsopogon coeruleus</i>	1461		
<i>Compsopogon coeruleus</i>	1462		
<i>Compsopogonopsis japonica</i>	1463		
Cyanidiophyceae			
<i>Cyanidioschyzon merolae</i>	1332		
<i>Cyanidioschyzon merolae</i>	1804		
<i>Cyanidioschyzon merolae</i>	1805		
<i>Cyanidioschyzon merolae</i>	1806		
<i>Cyanidium caldarium</i>	2137		
Florideophyceae			
<i>Batrachospermum atrum</i>	1456		
<i>Batrachospermum helminthosum</i>	1457		
<i>Batrachospermum turfosum</i>	2136		
<i>Batrachospermum virgato-decaisneanum</i>	1458		
<i>Batrachospermum</i> sp.	1459		
<i>Batrachospermum</i> sp.	1460		
<i>Chantransia macrospora</i>	2636		
<i>Nemalionopsis tortuosa</i>	1464		
<i>Nemalionopsis tortuosa</i>	1465		
<i>Nemalionopsis tortuosa</i>	1466		
<i>Nemalionopsis tortuosa</i>	1467		
<i>Nemalionopsis tortuosa</i>	1468		
<i>Nemalionopsis tortuosa</i>	1469		
<i>Nemalionopsis tortuosa</i>	1470		
<i>Nemalionopsis tortuosa</i>	1471		
<i>Nemalionopsis tortuosa</i>	1472		
<i>Nemalionopsis tortuosa</i>	1735		
<i>Nemalionopsis tortuosa</i>	1736		
<i>Nemalionopsis tortuosa</i>	1737		
<i>Nemalionopsis tortuosa</i>	1738		
<i>Nemalionopsis tortuosa</i>	1739		
<i>Nemalionopsis tortuosa</i>	1740		
<i>Nemalionopsis tortuosa</i>	1741		
<i>Nemalionopsis tortuosa</i>	1742		
<i>Nemalionopsis tortuosa</i>	1743		
<i>Nemalionopsis tortuosa</i>	1744		

<i>Thorea gaudichaudii</i>	1768	<i>Thorea okadae</i>	1504
<i>Thorea gaudichaudii</i>	1769	<i>Thorea okadae</i>	1505
<i>Thorea gaudichaudii</i>	1770	<i>Thorea okadae</i>	1506
<i>Thorea gaudichaudii</i>	1771	<i>Thorea okadae</i>	1507
<i>Thorea gaudichaudii</i>	1772	<i>Thorea okadae</i>	1508
<i>Thorea gaudichaudii</i>	2032	<i>Thorea okadae</i>	1509
<i>Thorea gaudichaudii</i>	2033	<i>Thorea okadae</i>	1510
<i>Thorea gaudichaudii</i>	2034	<i>Thorea okadae</i>	1511
<i>Thorea gaudichaudii</i>	2035	<i>Thorea okadae</i>	1512
<i>Thorea gaudichaudii</i>	2036	<i>Thorea okadae</i>	1513
<i>Thorea gaudichaudii</i>	2037	<i>Thorea okadae</i>	1514
<i>Thorea gaudichaudii</i>	2038	<i>Thorea okadae</i>	1515
<i>Thorea gaudichaudii</i>	2039	<i>Thorea okadae</i>	1516
<i>Thorea gaudichaudii</i>	2040	<i>Thorea okadae</i>	1517
<i>Thorea gaudichaudii</i>	2041	<i>Thorea okadae</i>	1518
<i>Thorea gaudichaudii</i>	2042	<i>Thorea okadae</i>	1519
<i>Thorea hispida</i>	1572	<i>Thorea okadae</i>	1520
<i>Thorea hispida</i>	1573	<i>Thorea okadae</i>	1521
<i>Thorea hispida</i>	1574	<i>Thorea okadae</i>	1522
<i>Thorea hispida</i>	1575	<i>Thorea okadae</i>	1523
<i>Thorea hispida</i>	1576	<i>Thorea okadae</i>	1524
<i>Thorea hispida</i>	1577	<i>Thorea okadae</i>	1525
<i>Thorea hispida</i>	1578	<i>Thorea okadae</i>	1526
<i>Thorea hispida</i>	1579	<i>Thorea okadae</i>	1527
<i>Thorea hispida</i>	1580	<i>Thorea okadae</i>	1528
<i>Thorea hispida</i>	1582	<i>Thorea okadae</i>	1529
<i>Thorea hispida</i>	1583	<i>Thorea okadae</i>	1530
<i>Thorea hispida</i>	1584	<i>Thorea okadae</i>	1531
<i>Thorea hispida</i>	2043	<i>Thorea okadae</i>	1532
<i>Thorea hispida</i>	2044	<i>Thorea okadae</i>	1533
<i>Thorea okadae</i>	1483	<i>Thorea okadae</i>	1534
<i>Thorea okadae</i>	1484	<i>Thorea okadae</i>	1535
<i>Thorea okadae</i>	1485	<i>Thorea okadae</i>	1536
<i>Thorea okadae</i>	1486	<i>Thorea okadae</i>	1537
<i>Thorea okadae</i>	1487	<i>Thorea okadae</i>	1538
<i>Thorea okadae</i>	1488	<i>Thorea okadae</i>	1539
<i>Thorea okadae</i>	1489	<i>Thorea okadae</i>	1540
<i>Thorea okadae</i>	1490	<i>Thorea okadae</i>	1541
<i>Thorea okadae</i>	1491	<i>Thorea okadae</i>	1542
<i>Thorea okadae</i>	1492	<i>Thorea okadae</i>	1543
<i>Thorea okadae</i>	1493	<i>Thorea okadae</i>	1544
<i>Thorea okadae</i>	1494	<i>Thorea okadae</i>	1545
<i>Thorea okadae</i>	1495	<i>Thorea okadae</i>	1546
<i>Thorea okadae</i>	1496	<i>Thorea okadae</i>	1547
<i>Thorea okadae</i>	1497	<i>Thorea okadae</i>	1548
<i>Thorea okadae</i>	1498	<i>Thorea okadae</i>	1549
<i>Thorea okadae</i>	1499	<i>Thorea okadae</i>	1550
<i>Thorea okadae</i>	1500	<i>Thorea okadae</i>	1551
<i>Thorea okadae</i>	1501	<i>Thorea okadae</i>	1552
<i>Thorea okadae</i>	1502	<i>Thorea okadae</i>	1553
<i>Thorea okadae</i>	1503	<i>Thorea okadae</i>	1554

<i>Thorea okadae</i>	1555	<i>Thorea okadae</i>	2050
<i>Thorea okadae</i>	1556	<i>Thorea okadae</i>	2051
<i>Thorea okadae</i>	1558	<i>Thorea okadae</i>	2052
<i>Thorea okadae</i>	1559	<i>Thorea okadae</i>	2053
<i>Thorea okadae</i>	1560	<i>Thorea okadae</i>	2054
<i>Thorea okadae</i>	1561	<i>Thorea okadae</i>	2055
<i>Thorea okadae</i>	1562	<i>Thorea okadae</i>	2056
<i>Thorea okadae</i>	1563	<i>Thorea okadae</i>	2057
<i>Thorea okadae</i>	1564	<i>Thorea okadae</i>	2058
<i>Thorea okadae</i>	1565	<i>Thorea okadae</i>	2059
<i>Thorea okadae</i>	1566	<i>Thorea okadae</i>	2060
<i>Thorea okadae</i>	1568	<i>Thorea okadae</i>	2061
<i>Thorea okadae</i>	1569	<i>Thorea okadae</i>	2062
<i>Thorea okadae</i>	1570	<i>Thorea okadae</i>	2063
<i>Thorea okadae</i>	1571	<i>Thorea okadae</i>	2064
<i>Thorea okadae</i>	1773	<i>Thorea okadae</i>	2065
<i>Thorea okadae</i>	1774	<i>Thorea okadae</i>	2066
<i>Thorea okadae</i>	1775	<i>Thorea okadae</i>	2067
<i>Thorea okadae</i>	1776	<i>Thorea okadae</i>	2068
<i>Thorea okadae</i>	1777	<i>Thorea okadae</i>	2069
<i>Thorea okadae</i>	1778	<i>Thorea okadae</i>	2070
<i>Thorea okadae</i>	1779	<i>Thorea okadae</i>	2071
<i>Thorea okadae</i>	1780	<i>Thorea okadae</i>	2072
<i>Thorea okadae</i>	1781	<i>Thorea okadae</i>	2073
<i>Thorea okadae</i>	1782	<i>Thorea okadae</i>	2074
<i>Thorea okadae</i>	1783		
<i>Thorea okadae</i>	1784	Porphyridiophyceae	
<i>Thorea okadae</i>	1785	<i>Porphyridium aerugineum</i>	1957
<i>Thorea okadae</i>	1786	<i>Porphyridium aerugineum</i>	1958
<i>Thorea okadae</i>	1787	<i>Porphyridium aerugineum</i>	1959
<i>Thorea okadae</i>	1788	<i>Porphyridium aerugineum</i>	1960
<i>Thorea okadae</i>	1789	<i>Porphyridium purpureum</i>	2138
<i>Thorea okadae</i>	1790	<i>Porphyridium purpureum</i>	2139
<i>Thorea okadae</i>	1791	<i>Porphyridium purpureum</i>	2140
<i>Thorea okadae</i>	1792	<i>Porphyridium</i> sp.	1032
<i>Thorea okadae</i>	1793	<i>Porphyridium</i> sp.	1033
<i>Thorea okadae</i>	1794	<i>Porphyridium</i> sp.	1034
<i>Thorea okadae</i>	1795	<i>Porphyridium</i> sp.	1035
<i>Thorea okadae</i>	1796	<i>Porphyridium</i> sp.	1807
<i>Thorea okadae</i>	1797		
<i>Thorea okadae</i>	1798	Rhodellophyceae	
<i>Thorea okadae</i>	1799	<i>Corynoplastis japonica</i>	2662
<i>Thorea okadae</i>	1800	<i>Rhodella</i> sp.	1036
<i>Thorea okadae</i>	1801	<i>Rhodella</i> sp.	1037
<i>Thorea okadae</i>	1802	<i>Rhodella</i> sp.	1972
<i>Thorea okadae</i>	1803		
<i>Thorea okadae</i>	2045	Stylonematophyceae	
<i>Thorea okadae</i>	2046	<i>Chroodactylon ornatum</i>	1969
<i>Thorea okadae</i>	2047	<i>Chroodactylon ornatum</i>	1970
<i>Thorea okadae</i>	2048	<i>Chroodactylon ornatum</i>	1971
<i>Thorea okadae</i>	2049		

Chlorophyta			
Chlorophyceae			
<i>Ankistrodesmus angustus</i>	2190	<i>Characiochloris sasae</i>	567
<i>Ankistrodesmus angustus</i>	2191	<i>Characiochloris sasae</i>	638
<i>Ankistrodesmus angustus</i>	2192	<i>Characium angustum</i>	639
<i>Ankistrodesmus braunii</i>	2193	<i>Characium polymorphum</i>	436
<i>Ankistrodesmus braunii</i>	2194	<i>Chlamydomonas applanata</i>	2202
<i>Ankistrodesmus falcatus</i> var. <i>acicularis</i>	2195	<i>Chlamydomonas applanata</i>	2204
<i>Ankistrodesmus falcatus</i> var. <i>stipitatus</i>	2196	<i>Chlamydomonas applanata</i>	2206
<i>Ankistrodesmus nannoselene</i>	2197	<i>Chlamydomonas asymmetrica</i>	2207
<i>Apiocystis brauniana</i>	1020	<i>Chlamydomonas asymmetrica</i>	2208
<i>Asterococcus superbus</i>	1331	<i>Chlamydomonas debaryana</i>	2212
<i>Asterococcus superbus</i>	2198	<i>Chlamydomonas debaryana</i> var. <i>cristata</i>	884
<i>Astrephomene gubernaculifera</i>	418	<i>Chlamydomonas eustigma</i>	2499
<i>Astrephomene gubernaculifera</i>	419	<i>Chlamydomonas fasciata</i>	437
<i>Astrephomene gubernaculifera</i>	628	<i>Chlamydomonas gerloffii</i>	2215
<i>Astrephomene gubernaculifera</i>	853	<i>Chlamydomonas globosa</i>	2462
<i>Astrephomene gubernaculifera</i>	854	<i>Chlamydomonas inflexa</i>	2216
<i>Astrephomene gubernaculifera</i>	855	<i>Chlamydomonas kuwadae</i>	968
<i>Astrephomene perforata</i>	564	<i>Chlamydomonas kuwadae</i>	1021
<i>Astrephomene perforata</i>	565	<i>Chlamydomonas media</i>	2743
<i>Basichlamys sacculifera</i>	566	<i>Chlamydomonas mexicana</i>	2218
<i>Brachiomonas submarina</i>	375	<i>Chlamydomonas moewusii</i>	2219
<i>Bracteacoccus giganteus</i>	2200	<i>Chlamydomonas moewusii</i>	2220
<i>Bracteacoccus</i> sp.	2574	<i>Chlamydomonas moewusii</i>	2241
<i>Carteria cerasiformis</i>	424	<i>Chlamydomonas moewusii</i>	2576
<i>Carteria cerasiformis</i>	425	<i>Chlamydomonas moewusii</i> var. <i>rotunda</i>	2222
<i>Carteria crucifera</i>	421	<i>Chlamydomonas moewusii</i> var. <i>rotunda</i>	2223
<i>Carteria crucifera</i>	630	<i>Chlamydomonas moewusii</i> var. <i>rotunda</i>	2577
<i>Carteria eugametos</i>	631	<i>Chlamydomonas moewusii</i> var. <i>rotunda</i>	2578
<i>Carteria eugametos</i>	632	<i>Chlamydomonas monadina</i> var. <i>monadina</i>	438
<i>Carteria eugametos</i>	633	<i>Chlamydomonas nasuta</i>	2225
<i>Carteria eugametos</i>	634	<i>Chlamydomonas neoplanoconvexa</i>	2570
<i>Carteria eugametos</i>	635	<i>Chlamydomonas noctigama</i>	1048
<i>Carteria eugametos</i>	636	<i>Chlamydomonas noctigama</i>	2213
<i>Carteria inversa</i>	422	<i>Chlamydomonas noctigama</i>	2228
<i>Carteria inversa</i>	423	<i>Chlamydomonas noctigama</i>	2229
<i>Carteria klebsii</i>	426	<i>Chlamydomonas noctigama</i>	2579
<i>Carteria multiflilis</i>	427	<i>Chlamydomonas orbicularis</i>	2230
<i>Carteria obtusa</i>	428	<i>Chlamydomonas parkeae</i>	440
<i>Carteria obtusa</i>	429	<i>Chlamydomonas perpusilla</i> var. <i>perpusilla</i>	1848
<i>Carteria obtusa</i>	430	<i>Chlamydomonas perpusilla</i> var. <i>perpusilla</i>	1849
<i>Carteria obtusa</i>	431	<i>Chlamydomonas proteus</i>	2231
<i>Carteria palmata</i>	1336	<i>Chlamydomonas pseudomacrostigma</i>	2744
<i>Carteria palmata</i>	1337	<i>Chlamydomonas pulsatilla</i>	122
<i>Carteria palmata</i>	1338	<i>Chlamydomonas pulvinata</i>	2233
<i>Carteria radiosa</i>	432	<i>Chlamydomonas pumilio</i> var. <i>pumilio</i>	1850
<i>Carteria</i> sp.	2311	<i>Chlamydomonas rapa</i>	2234
<i>Carteria</i> sp.	2312	<i>Chlamydomonas reinhardtii</i>	2235
<i>Carteria</i> sp.	2313	<i>Chlamydomonas reinhardtii</i>	2236
<i>Characiochloris acuminata</i>	637	<i>Chlamydomonas reinhardtii</i>	2237
		<i>Chlamydomonas reinhardtii</i>	2238
		<i>Chlamydomonas reinhardtii</i>	2239

<i>Chlamydomonas reinhardtii</i>	2463	<i>Chloromonas augustae</i>	158
<i>Chlamydomonas reinhardtii</i>	2464	<i>Chloromonas carrizoensis</i>	2575
<i>Chlamydomonas sphaeroides</i>	2242	<i>Chloromonas insignis</i>	447
<i>Chlamydomonas subangulosa</i>	2243	<i>Chloromonas pseudoplatyrhyncha</i>	2563
<i>Chlamydomonas tetragama</i>	446	<i>Chloromonas</i> sp.	2203
<i>Chlamydomonas typica</i>	2246	<i>Chloromonas</i> sp.	2379
<i>Chlamydomonas ulvaensis</i>	2247	<i>Chloromonas</i> sp.	2380
<i>Chlamydomonas zebra</i>	2248	<i>Chlorotetraedron incus</i>	392
<i>Chlamydomonas</i> sp.	1022	<i>Coelastrum astroideum</i>	129
<i>Chlamydomonas</i> sp.	1733	<i>Coelastrum astroideum</i>	130
<i>Chlamydomonas</i> sp.	2211	<i>Coelastrum astroideum</i>	244
<i>Chlamydomonas</i> sp.	2314	<i>Coelastrum astroideum</i>	342
<i>Chlamydomonas</i> sp.	2315	<i>Coelastrum morus</i>	231
<i>Chlamydomonas</i> sp.	2316	<i>Coelastrum proboscideum</i>	131
<i>Chlamydomonas</i> sp.	2317	<i>Coelastrum reticulatum</i>	132
<i>Chlamydomonas</i> sp.	2318	<i>Coelastrum reticulatum</i> var. <i>reticulatum</i>	245
<i>Chlamydomonas</i> sp.	2319	<i>Desmodesmus abundans</i>	685
<i>Chlamydomonas</i> sp.	2320	<i>Desmodesmus serratus</i>	97
<i>Chlamydomonas</i> sp.	2321	<i>Desmodesmus subspicatus</i>	797
<i>Chlamydomonas</i> sp.	2322	<i>Desmodesmus subspicatus</i>	798
<i>Chlamydomonas</i> sp.	2323	<i>Desmodesmus subspicatus</i>	799
<i>Chlamydomonas</i> sp.	2324	<i>Desmodesmus subspicatus</i>	800
<i>Chlorococcum echinozygotum</i>	2249	<i>Desmodesmus subspicatus</i>	801
<i>Chlorococcum elkhartiense</i>	2250	<i>Desmodesmus subspicatus</i>	802
<i>Chlorococcum hypnosporum</i>	2580	<i>Desmodesmus</i> sp.	96
<i>Chlorogonium capillatum</i>	692	<i>Desmodesmus</i> sp.	2277
<i>Chlorogonium capillatum</i>	742	<i>Desmodesmus</i> sp.	2278
<i>Chlorogonium capillatum</i>	743	<i>Desmotetra delicata</i>	153
<i>Chlorogonium capillatum</i>	744	<i>Dimorphococcus lunatus</i>	134
<i>Chlorogonium capillatum</i>	745	<i>Dimorphococcus lunatus</i>	135
<i>Chlorogonium capillatum</i>	746	<i>Dunaliella bioculata</i>	2253
<i>Chlorogonium capillatum</i>	747	<i>Dunaliella parva</i>	2254
<i>Chlorogonium capillatum</i>	748	<i>Dunaliella peircei</i>	2255
<i>Chlorogonium capillatum</i>	749	<i>Dunaliella primolecta</i>	2256
<i>Chlorogonium capillatum</i>	750	<i>Dunaliella salina</i>	2257
<i>Chlorogonium complexum</i>	2296	<i>Dunaliella tertiolecta</i>	2258
<i>Chlorogonium complexum</i>	2297	<i>Echinosphaeridium nordstedtii</i>	137
<i>Chlorogonium elongatum</i>	751	<i>Eudorina cylindrica</i>	722
<i>Chlorogonium elongatum</i>	752	<i>Eudorina elegans</i>	351
<i>Chlorogonium elongatum</i>	753	<i>Eudorina elegans</i> var. <i>carteri</i>	721
<i>Chlorogonium elongatum</i>	1357	<i>Eudorina elegans</i> var. <i>elegans</i>	456
<i>Chlorogonium elongatum</i>	1358	<i>Eudorina elegans</i> var. <i>elegans</i>	457
<i>Chlorogonium euchlorum</i>	754	<i>Eudorina elegans</i> var. <i>elegans</i>	717
<i>Chlorogonium euchlorum</i>	755	<i>Eudorina elegans</i> var. <i>elegans</i>	718
<i>Chlorogonium euchlorum</i>	756	<i>Eudorina elegans</i> var. <i>elegans</i>	719
<i>Chlorogonium euchlorum</i>	757	<i>Eudorina elegans</i> var. <i>elegans</i>	720
<i>Chlorogonium euchlorum</i>	758	<i>Eudorina elegans</i> var. <i>synoica</i>	458
<i>Chlorogonium euchlorum</i>	759	<i>Eudorina elegans</i> var. <i>synoica</i>	568
<i>Chlorogonium euchlorum</i>	760	<i>Eudorina illinoisensis</i>	459
<i>Chloromonas actinochloris</i>	2201	<i>Eudorina illinoisensis</i>	460
<i>Chloromonas actinochloris</i>	2224	<i>Eudorina illinoisensis</i>	723

<i>Eudorina illinoisensis</i>	2259	<i>Gonium viridistellatum</i>	857
<i>Eudorina illinoisensis</i>	2260	<i>Graesiella emersonii</i>	226
<i>Eudorina minodii</i>	856	<i>Graesiella emersonii</i>	687
<i>Eudorina peripheralis</i>	726	<i>Graesiella emersonii</i>	688
<i>Eudorina unicocca</i>	724	<i>Graesiella emersonii</i>	689
<i>Eudorina unicocca</i>	725	<i>Graesiella emersonii</i>	690
<i>Eudorina unicocca</i>	1855	<i>Graesiella emersonii</i>	2151
<i>Eudorina unicocca</i>	1856	<i>Gungnir kasakii</i>	761
<i>Eudorina unicocca</i>	1857	<i>Gungnir kasakii</i>	1359
<i>Eudorina unicocca</i>	1858	<i>Gungnir kasakii</i>	1360
<i>Gloeomonas lateperforata</i>	464	<i>Gungnir neglectum</i>	439
<i>Gonium maiaprilis</i>	2455	<i>Gungnir neglectum</i>	1869
<i>Gonium maiaprilis</i>	2456	<i>Haematococcus lacustris</i>	144
<i>Gonium maiaprilis</i>	2457	<i>Haematococcus lacustris</i>	2263
<i>Gonium maiaprilis</i>	2458	<i>Haematococcus lacustris</i>	2264
<i>Gonium maiaprilis</i>	2459	<i>Haematococcus lacustris</i>	2265
<i>Gonium maiaprilis</i>	2460	<i>Hafniomonas conica</i>	1714
<i>Gonium maiaprilis</i>	2461	<i>Hafniomonas laevis</i>	257
<i>Gonium multicoccum</i>	737	<i>Hafniomonas montana</i>	656
<i>Gonium multicoccum</i>	885	<i>Hafniomonas reticulata</i>	1715
<i>Gonium multicoccum</i>	1038	<i>Hafniomonas reticulata</i>	1716
<i>Gonium multicoccum</i>	1039	<i>Hafniomonas reticulata</i>	1717
<i>Gonium multicoccum</i>	1707	<i>Hafniomonas reticulata</i>	1718
<i>Gonium multicoccum</i>	1708	<i>Hafniomonas turbinea</i>	1719
<i>Gonium multicoccum</i>	1709	<i>Hafniomonas turbinea</i>	1720
<i>Gonium octonarum</i>	851	<i>Hafniomonas turbinea</i>	1721
<i>Gonium octonarum</i>	852	<i>Hafniomonas</i> sp.	1841
<i>Gonium pectorale</i>	1710	<i>Hamakko caudatus</i>	2293
<i>Gonium pectorale</i>	1711	<i>Hemiflagellochloris kazakhstanica</i>	1722
<i>Gonium pectorale</i>	1712	<i>Heterochlamydomonas lobata</i>	2581
<i>Gonium pectorale</i>	1713	<i>Heterochlamydomonas</i> sp.	157
<i>Gonium pectorale</i>	2261	<i>Hydrodictyon reticulatum</i>	295
<i>Gonium pectorale</i>	2262	<i>Lobochlamys culleus</i>	2209
<i>Gonium pectorale</i> var. <i>pectorale</i>	468	<i>Lobochlamys culleus</i>	2210
<i>Gonium pectorale</i> var. <i>pectorale</i>	469	<i>Lobochlamys segnis</i>	2214
<i>Gonium pectorale</i> var. <i>pectorale</i>	569	<i>Lobochlamys segnis</i>	2240
<i>Gonium pectorale</i> var. <i>pectorale</i>	570	<i>Lobomonas monstrosa</i>	474
<i>Gonium pectorale</i> var. <i>pectorale</i>	645	<i>Lobomonas piriformis</i>	2266
<i>Gonium pectorale</i> var. <i>pectorale</i>	646	<i>Monoraphidium circinale</i>	480
<i>Gonium quadratum</i>	647	<i>Monoraphidium contortum</i>	384
<i>Gonium quadratum</i>	648	<i>Monoraphidium griffithii</i>	385
<i>Gonium quadratum</i>	649	<i>Monoraphidium minutum</i>	2282
<i>Gonium quadratum</i>	650	<i>Monoraphidium</i> sp.	2267
<i>Gonium quadratum</i>	651	<i>Muriella zofingiensis</i>	2175
<i>Gonium quadratum</i>	652	<i>Mychonastes</i> sp.	2334
<i>Gonium quadratum</i>	653	<i>Mychonastes</i> sp.	2336
<i>Gonium viridistellatum</i>	288	<i>Mychonastes</i> sp.	2339
<i>Gonium viridistellatum</i>	289	<i>Mychonastes</i> sp.	2340
<i>Gonium viridistellatum</i>	290	<i>Mychonastes</i> sp.	2341
<i>Gonium viridistellatum</i>	654	<i>Oedogonium obesum</i>	203
<i>Gonium viridistellatum</i>	655	<i>Pandorina colemaniae</i>	572

<i>Pandorina colemaniae</i>	573	<i>Pteromonas angulosa</i>	739
<i>Pandorina morum</i>	242	<i>Pteromonas angulosa</i>	861
<i>Pandorina morum</i>	243	<i>Pteromonas angulosa</i>	862
<i>Pandorina morum</i>	362	<i>Pteromonas multiplyrenoidea</i>	740
<i>Pandorina morum</i>	886	<i>Pyrobotrys squarrosa</i>	2564
<i>Pandorina morum</i>	887	<i>Rusalka fusiformis</i>	123
<i>Pandorina morum</i>	888	<i>Scenedesmus acuminatus</i> var. <i>tetradesmoides</i>	92
<i>Pandorina morum</i>	889	<i>Scenedesmus acutus</i>	94
<i>Pandorina morum</i>	890	<i>Scenedesmus acutus</i>	95
<i>Pandorina morum</i> var. <i>morum</i>	574	<i>Scenedesmus acutus</i>	120
<i>Pandorina morum</i> var. <i>morum</i>	575	<i>Scenedesmus acutus</i>	2269
<i>Paulschulzia pseudovolvox</i>	727	<i>Scenedesmus acutus</i>	2270
<i>Pediastrum angulosum</i> var. <i>angulosum</i>	300	<i>Scenedesmus acutus</i>	2271
<i>Pediastrum boryanum</i>	209	<i>Scenedesmus basiliensis</i>	2272
<i>Pediastrum boryanum</i>	301	<i>Scenedesmus basiliensis</i>	2273
<i>Pediastrum duplex</i>	212	<i>Scenedesmus bijuga</i>	2274
<i>Pediastrum duplex</i> var. <i>duplex</i>	210	<i>Scenedesmus chlorelloides</i>	2275
<i>Pediastrum duplex</i> var. <i>duplex</i>	213	<i>Scenedesmus chlorelloides</i>	2276
<i>Pediastrum duplex</i> var. <i>gracillimum</i>	211	<i>Scenedesmus costulatus</i>	93
<i>Pediastrum duplex</i> var. <i>gracillimum</i>	211	<i>Scenedesmus dimorphus</i>	119
<i>Pediastrum simplex</i>	215	<i>Scenedesmus dimorphus</i>	2279
<i>Pediastrum simplex</i>	302	<i>Scenedesmus obliquus</i>	2280
<i>Pediastrum tetras</i>	216	<i>Scenedesmus obliquus</i>	246
<i>Phacotus lenticularis</i>	858	<i>Schroederia setigera</i>	531
<i>Phacotus lenticularis</i>	859	<i>Stigeoclonium aestivale</i>	532
<i>Planctonema lauterbornii</i>	514	<i>Stigeoclonium fasciculare</i>	454
<i>Planktosphaeria gelatinosa</i>	2268	<i>Stigeoclonium</i> sp.	2294
<i>Platydorina caudata</i>	728	<i>Tabris heimii</i>	2295
<i>Platydorina caudata</i>	729	<i>Tabris heimii</i>	691
<i>Pleodorina californica</i>	576	<i>Tetrabaena socialis</i>	1437
<i>Pleodorina californica</i>	735	<i>Tetrabaena socialis</i>	571
<i>Pleodorina indica</i>	736	<i>Tetrabaena socialis</i> var. <i>socialis</i>	155
<i>Pleodorina japonica</i>	577	<i>Tetracystis chlorococcoides</i>	394
<i>Pleodorina starrii</i>	1361	<i>Treubaria triappendiculata</i>	156
<i>Pleodorina starrii</i>	1362	<i>Urnella terrestris</i>	538
<i>Pleodorina starrii</i>	1363	<i>Uronema confervicolum</i>	539
<i>Pleodorina starrii</i>	1364	<i>Uronema gigas</i>	540
<i>Pleodorina starrii</i>	1365	<i>Uronema gigas</i>	875
<i>Pleodorina starrii</i>	1366	<i>Vitreochlamys aulata</i>	876
<i>Pleodorina starrii</i>	1852	<i>Vitreochlamys aulata</i>	877
<i>Pleodorina starrii</i>	1853	<i>Vitreochlamys aulata</i>	878
<i>Pleodorina starrii</i>	1854	<i>Vitreochlamys aulata</i>	879
<i>Polyedriopsis spinulosa</i>	232	<i>Vitreochlamys fluviatilis</i>	880
<i>Protodesmus globulifer</i>	1703	<i>Vitreochlamys gloeocystiformis</i>	881
<i>Pseudocarteria mucosa</i>	522	<i>Vitreochlamys nekrassovii</i>	882
<i>Pseudocarteria mucosa</i>	523	<i>Vitreochlamys ordinata</i>	883
<i>Pseudocarteria mucosa</i>	524	<i>Vitreochlamys pinguis</i>	863
<i>Pseudokirchneriella subcapitata</i>	35	<i>Volvox africanus</i>	241
<i>Pseudopleurococcus printzii</i> var. <i>longissimus</i>	159	<i>Volvox aureus</i>	396
<i>Pteromonas aculeata</i>	738	<i>Volvox aureus</i>	693
<i>Pteromonas aculeata</i>	860	<i>Volvox aureus</i>	694

<i>Volvox aureus</i>	864	<i>Yamagishiella unicocca</i>	1860
<i>Volvox aureus</i>	891	<i>Yamagishiella unicocca</i>	1861
<i>Volvox aureus</i>	892		
<i>Volvox aureus</i> var. <i>aureus</i>	541	Pedinophyceae	
<i>Volvox aureus</i> var. <i>aureus</i>	542	<i>Marsupiomonas</i> sp.	1410
<i>Volvox barberi</i>	730	<i>Marsupiomonas</i> sp.	1824
<i>Volvox carteri</i>	397	<i>Pedinomonas minor</i>	363
<i>Volvox carteri</i>	398		
<i>Volvox carteri</i> f. <i>kawasakiensis</i>	580	Prasinophyceae	
<i>Volvox carteri</i> f. <i>kawasakiensis</i>	581	<i>Bathycoccus prasinus</i>	2670
<i>Volvox carteri</i> f. <i>kawasakiensis</i>	732	<i>Mamiella</i> sp.	2310
<i>Volvox carteri</i> f. <i>kawasakiensis</i>	733	<i>Mamiella</i> sp.	2329
<i>Volvox carteri</i> f. <i>nagariensis</i>	865	<i>Mantoniella squamata</i>	1409
<i>Volvox carteri</i> f. <i>weismannia</i>	866	<i>Micromonas pusilla</i>	1411
<i>Volvox dissipatrix</i>	731	<i>Micromonas pusilla</i>	1412
<i>Volvox ferrisii</i>	2736	<i>Micromonas pusilla</i>	1413
<i>Volvox ferrisii</i>	2737	<i>Micromonas pusilla</i>	2672
<i>Volvox ferrisii</i>	2738	<i>Monomastix minuta</i>	255
<i>Volvox ferrisii</i>	2739	<i>Monomastix minuta</i>	256
<i>Volvox gigas</i>	867	<i>Nephroselmis astigmatica</i>	252
<i>Volvox kirkiorum</i>	543	<i>Nephroselmis astigmatica</i>	1415
<i>Volvox kirkiorum</i>	2740	<i>Nephroselmis olivacea</i>	483
<i>Volvox obversus</i>	868	<i>Nephroselmis olivacea</i>	484
<i>Volvox ovalis</i>	2569	<i>Nephroselmis olivacea</i>	485
<i>Volvox rousseletii</i>	734	<i>Nephroselmis pyriformis</i>	1416
<i>Volvox tertius</i>	544	<i>Nephroselmis pyriformis</i>	1817
<i>Volvox tertius</i>	869	<i>Nephroselmis spinosa</i>	934
<i>Volvox</i> sp.	2307	<i>Nephroselmis spinosa</i>	935
<i>Volvulina boldii</i> nom. nud.	893	<i>Nephroselmis</i> sp.	1414
<i>Volvulina boldii</i> nom. nud.	894	<i>Nephroselmis</i> sp.	1417
<i>Volvulina compacta</i>	582	<i>Nephroselmis</i> sp.	1418
<i>Volvulina compacta</i>	583	<i>Nephroselmis</i> sp.	1818
<i>Volvulina compacta</i>	2567	<i>Nephroselmis</i> sp.	2309
<i>Volvulina pringsheimii</i>	895	<i>Nephroselmis viridis</i>	486
<i>Volvulina steinii</i>	545	<i>Ostreococcus tauri</i>	2673
<i>Volvulina steinii</i>	546	<i>Ostreococcus</i> sp.	2674
<i>Volvulina steinii</i>	584	<i>Platymonas subcordiformis</i>	2572
<i>Volvulina steinii</i>	585	<i>Prasinoderma coloniale</i>	2582
<i>Volvulina steinii</i>	896	<i>Pseudoscourfieldia marina</i>	1419
<i>Volvulina steinii</i>	897	<i>Pseudoscourfieldia marina</i>	1420
<i>Volvulina steinii</i>	898	<i>Pterosperma cristatum</i>	221
<i>Yamagishiella unicocca</i>	578	<i>Pterosperma cristatum</i>	626
<i>Yamagishiella unicocca</i>	579	<i>Pterosperma cristatum</i>	936
<i>Yamagishiella unicocca</i>	666	<i>Pyramimonas</i> aff. <i>amylifera</i>	251
<i>Yamagishiella unicocca</i>	667	<i>Pyramimonas</i> aff. <i>amylifera</i>	320
<i>Yamagishiella unicocca</i>	870	<i>Pyramimonas cordata</i>	1421
<i>Yamagishiella unicocca</i>	871	<i>Pyramimonas cordata</i>	1422
<i>Yamagishiella unicocca</i>	872	<i>Pyramimonas cordata</i>	1423
<i>Yamagishiella unicocca</i>	873	<i>Pyramimonas dissomata</i>	1819
<i>Yamagishiella unicocca</i>	874	<i>Pyramimonas grossii</i>	1424
<i>Yamagishiella unicocca</i>	1859	<i>Pyramimonas grossii</i>	1425

<i>Pyramimonas grossii</i>	1820	<i>Choricystis</i> sp.	2333
<i>Pyramimonas parkeae</i>	254	<i>Choricystis</i> sp.	2335
<i>Pyramimonas propulsa</i>	1821	<i>Choricystis</i> sp.	2337
<i>Pyramimonas propulsa</i>	1822	<i>Choricystis</i> sp.	2338
<i>Pyramimonas propulsa</i>	1823	<i>Choricystis</i> sp.	2342
<i>Pyramimonas</i> sp.	1426	<i>Coccomyxa dispar</i>	2252
<i>Pyramimonas</i> sp.	1427	<i>Coccomyxa dispar</i>	2353
<i>Tetraselmis cordiformis</i>	18	<i>Coccomyxa</i> sp.	2166
<i>Tetraselmis cordiformis</i>	533	<i>Dictyochloropsis irregularis</i>	378
<i>Tetraselmis levis</i>	1430	<i>Dictyosphaerium pulchellum</i>	453
<i>Tetraselmis</i> sp.	1429	<i>Eremosphaera gigas</i>	379
<i>Tetraselmis</i> sp.	1431	<i>Eremosphaera viridis</i>	380
<i>Tetraselmis</i> sp.	1432	<i>Eremosphaera viridis</i>	643
<i>Tetraselmis</i> sp.	1433	<i>Eremosphaera viridis</i>	644
<i>Tetraselmis</i> sp.	1434	<i>Lagerheimia ciliata</i>	382
<i>Tetraselmis striata</i>	1019	<i>Micractinium bornhemiensis</i>	455
<i>Tetraselmis verrucosa</i>	1836	<i>Micractinium pusillum</i>	151
Unidentified coccoid prasinophyte	1435	<i>Microthamnion kützingianum</i>	479
Unidentified prasinophyte	1428	<i>Myrmecia biatorellae</i>	2181
		<i>Oocystis borgei</i>	659
Trebouxiophyceae		<i>Oocystis lacustris</i>	660
<i>Actinastrum hantzschii</i>	415	<i>Oocystis lacustris</i>	661
<i>Asterochloris</i> cf. <i>glomerata</i>	1298	<i>Oocystis lacustris</i>	662
<i>Asterochloris</i> cf. <i>glomerata</i>	1299	<i>Parachlorella kessleri</i>	2152
<i>Asterochloris</i> cf. <i>glomerata</i>	1300	<i>Parachlorella kessleri</i>	2153
<i>Asterochloris</i> cf. <i>glomerata</i>	1301	<i>Parachlorella kessleri</i>	2154
<i>Auxenochlorella protothecoides</i>	2163	<i>Parachlorella kessleri</i>	2155
<i>Auxenochlorella protothecoides</i>	2164	<i>Parachlorella kessleri</i>	2156
<i>Auxenochlorella protothecoides</i>	2165	<i>Parachlorella kessleri</i>	2157
<i>Auxenochlorella protothecoides</i>	2176	<i>Parachlorella kessleri</i>	2158
<i>Botryococcus braunii</i>	836	<i>Parachlorella kessleri</i>	2159
<i>Botryococcus braunii</i>	2199	<i>Parachlorella kessleri</i>	2160
' <i>Chlorella ellipsoidea</i> '	2150	<i>Parachlorella kessleri</i>	2161
' <i>Chlorella</i> ' <i>saccharophila</i>	640	<i>Parachlorella kessleri</i>	2162
' <i>Chlorella</i> ' <i>saccharophila</i>	2352	<i>Parachlorella kessleri</i>	2177
<i>Chlorella sorokiniana</i>	2167	<i>Parachlorella kessleri</i>	2178
<i>Chlorella sorokiniana</i>	2168	<i>Parachlorella kessleri</i>	2179
<i>Chlorella sorokiniana</i>	2169	<i>Picochlorum</i> sp.	1270
<i>Chlorella vulgaris</i>	1269	<i>Prototheca portoricensis</i>	2182
<i>Chlorella vulgaris</i>	2170	<i>Pseudotrebouxia corticola</i>	2183
<i>Chlorella vulgaris</i>	2172	<i>Raphidonema nivale</i>	2290
<i>Chlorella vulgaris</i>	2173	<i>Stichococcus ampulliformis</i>	996
<i>Chlorella vulgaris</i>	2573	<i>Stichococcus bacillaris</i>	529
<i>Chlorella vulgaris</i> var. <i>vulgaris</i>	227	<i>Stichococcus bacillaris</i>	530
<i>Chlorella vulgaris</i> var. <i>vulgaris</i>	641	<i>Stichococcus bacillaris</i>	2184
<i>Chlorella vulgaris</i> var. <i>vulgaris</i>	642	<i>Trebouxia anticipata</i>	1271
<i>Chlorella vulgaris</i> var. <i>vulgaris</i>	686	<i>Trebouxia anticipata</i>	1272
<i>Chlorella</i> sp.	2171	<i>Trebouxia anticipata</i>	1273
<i>Chlorella</i> sp.	2330	<i>Trebouxia arboricola</i>	1274
<i>Choricystis minor</i>	1436	<i>Trebouxia arboricola</i>	1275
<i>Choricystis</i> sp.	1840	<i>Trebouxia arboricola</i>	1276

<i>Trebouxia arboricola</i>	1277		
<i>Trebouxia corticola</i>	1278		
<i>Trebouxia corticola</i>	1279		
<i>Trebouxia corticola</i>	1280		
<i>Trebouxia corticola</i>	1281		
<i>Trebouxia corticola</i>	1282		
<i>Trebouxia corticola</i>	1283		
<i>Trebouxia corticola</i>	1284		
<i>Trebouxia corticola</i>	1286		
<i>Trebouxia corticola</i>	1287		
<i>Trebouxia corticola</i>	1288		
<i>Trebouxia corticola</i>	1446		
<i>Trebouxia corticola</i>	1447		
<i>Trebouxia corticola</i>	1448		
<i>Trebouxia corticola</i>	1449		
<i>Trebouxia corticola</i>	1450		
<i>Trebouxia corticola</i>	1451		
<i>Trebouxia corticola</i>	1452		
<i>Trebouxia corticola</i>	1453		
<i>Trebouxia corticola</i>	1454		
<i>Trebouxia corticola</i>	1455		
<i>Trebouxia erici</i>	2185		
<i>Trebouxia erici</i>	2186		
<i>Trebouxia glomerata</i>	2187		
<i>Trebouxia glomerata</i>	2188		
<i>Trebouxia higginsiae</i>	1289		
<i>Trebouxia higginsiae</i>	1290		
<i>Trebouxia higginsiae</i>	1291		
<i>Trebouxia higginsiae</i>	1292		
<i>Trebouxia higginsiae</i>	1293		
<i>Trebouxia higginsiae</i>	1294		
<i>Trebouxia higginsiae</i>	1295		
<i>Trebouxia higginsiae</i>	1296		
<i>Trebouxia showmanii</i>	1297		
<i>Trebouxia</i> sp.	2349		
<i>Watanabea reniformis</i>	2189		
Ulvophyceae			
<i>Blidingia minima</i>	1837		
<i>Halochlorococcum</i> sp.	1838		
<i>Halochlorococcum</i> sp.	1839		
<i>Kentrosphaera</i> sp.	154		
<i>Oltmannsiellopsis geminata</i>	672		
<i>Oltmannsiellopsis unicellularis</i>	359		
<i>Oltmannsiellopsis viridis</i>	360		
<i>Oltmannsiellopsis viridis</i>	1825		
<i>Pseudendoclonium</i> sp.	2501		
<i>Trentepohlia</i> sp.	967		
<i>Ulothrix variabilis</i>	329		
<i>Ulothrix zonata</i>	536		
<i>Ulothrix zonata</i>	537		
		Streptophyta	
		Charophyceae	
		<i>Chara australis</i>	1585
		<i>Chara australis</i>	2084
		<i>Chara australis</i>	2085
		<i>Chara braunii</i>	1586
		<i>Chara braunii</i>	1587
		<i>Chara braunii</i>	1588
		<i>Chara braunii</i>	1589
		<i>Chara braunii</i>	1590
		<i>Chara braunii</i>	1591
		<i>Chara braunii</i>	1592
		<i>Chara braunii</i>	1593
		<i>Chara braunii</i>	1594
		<i>Chara braunii</i>	1604
		<i>Chara braunii</i>	2500
		<i>Chara braunii</i>	2661
		<i>Chara globularis</i>	1595
		<i>Chara globularis</i>	1597
		<i>Chara leptospora</i>	1599
		<i>Chara zeylanica</i>	1601
		<i>Chara</i> sp.	1602
		<i>Chara</i> sp.	1603
		<i>Chara</i> sp.	1605
		<i>Chlorokybus</i> sp.	160
		<i>Closterium acerosum</i>	124
		<i>Closterium acerosum</i>	125
		<i>Closterium acerosum</i>	127
		<i>Closterium acerosum</i>	448
		<i>Closterium aciculare</i> var. <i>subpronum</i>	258
		<i>Closterium aciculare</i> var. <i>subpronum</i>	259
		<i>Closterium calosporum</i> var. <i>calosporum</i>	271
		<i>Closterium calosporum</i> var. <i>galiciense</i>	128
		<i>Closterium calosporum</i> var. <i>galiciense</i>	162
		<i>Closterium calosporum</i> var. <i>galiciense</i>	163
		<i>Closterium calosporum</i> var. <i>galiciense</i>	164
		<i>Closterium calosporum</i> var. <i>galiciense</i>	165
		<i>Closterium calosporum</i> var. <i>galiciense</i>	166
		<i>Closterium calosporum</i> var. <i>galiciense</i>	167
		<i>Closterium calosporum</i> var. <i>galiciense</i>	168
		<i>Closterium calosporum</i> var. <i>himalayense</i>	169
		<i>Closterium calosporum</i> var. <i>himalayense</i>	170
		<i>Closterium calosporum</i> var. <i>himalayense</i>	171
		<i>Closterium calosporum</i> var. <i>himalayense</i>	336
		<i>Closterium ehrenbergii</i>	228
		<i>Closterium ehrenbergii</i>	229
		<i>Closterium gracile</i>	179
		<i>Closterium gracile</i>	180
		<i>Closterium incurvum</i>	181
		<i>Closterium incurvum</i>	337

<i>Closterium moniliferum</i> var. <i>moniliferum</i>	172	<i>Closterium spinosporum</i> var. <i>crassum</i>	186
<i>Closterium moniliferum</i> var. <i>moniliferum</i>	173	<i>Closterium spinosporum</i> var. <i>crassum</i>	187
<i>Closterium moniliferum</i> var. <i>moniliferum</i>	174	<i>Closterium spinosporum</i> var. <i>crassum</i>	341
<i>Closterium moniliferum</i> var. <i>submoniliferum</i>	182	<i>Closterium spinosporum</i> var. <i>malaysiense</i>	188
<i>Closterium moniliferum</i> var. <i>submoniliferum</i>	183	<i>Closterium spinosporum</i> var. <i>malaysiense</i>	189
<i>Closterium navicula</i>	175	<i>Closterium spinosporum</i> var. <i>ryukyuense</i>	191
<i>Closterium navicula</i>	176	<i>Closterium spinosporum</i> var. <i>ryukyuense</i>	192
<i>Closterium navicula</i>	177	<i>Closterium spinosporum</i> var. <i>ryukyuense</i>	193
<i>Closterium navicula</i>	178	<i>Closterium spinosporum</i> var. <i>spinosporum</i>	194
<i>Closterium peracerosum-strigosum-littorale</i> complex	51	<i>Closterium spinosporum</i> var. <i>spinosporum</i>	195
<i>Closterium peracerosum-strigosum-littorale</i> complex	52	<i>Closterium spinosporum</i> var. <i>spinosporum</i>	196
<i>Closterium peracerosum-strigosum-littorale</i> complex	53	<i>Closterium spinosporum</i> var. <i>spinosporum</i>	197
<i>Closterium peracerosum-strigosum-littorale</i> complex	54	<i>Closterium tumidum</i>	198
<i>Closterium peracerosum-strigosum-littorale</i> complex	55	<i>Closterium venus</i>	199
<i>Closterium peracerosum-strigosum-littorale</i> complex	56	<i>Closterium wallichii</i>	200
<i>Closterium peracerosum-strigosum-littorale</i> complex	57	<i>Closterium wallichii</i>	201
<i>Closterium peracerosum-strigosum-littorale</i> complex	58	<i>Closterium wallichii</i>	202
<i>Closterium peracerosum-strigosum-littorale</i> complex	59	<i>Cosmarium askenasyi</i>	768
<i>Closterium peracerosum-strigosum-littorale</i> complex	60	<i>Cosmarium askenasyi</i>	769
<i>Closterium peracerosum-strigosum-littorale</i> complex	61	<i>Cosmarium askenasyi</i>	770
<i>Closterium peracerosum-strigosum-littorale</i> complex	62	<i>Cosmarium askenasyi</i>	771
<i>Closterium peracerosum-strigosum-littorale</i> complex	63	<i>Cosmarium contractum</i>	133
<i>Closterium peracerosum-strigosum-littorale</i> complex	64	<i>Cosmarium dilatatum</i>	839
<i>Closterium peracerosum-strigosum-littorale</i> complex	65	<i>Cosmarium hians</i>	452
<i>Closterium peracerosum-strigosum-littorale</i> complex	66	<i>Cosmocladium constrictum</i>	248
<i>Closterium peracerosum-strigosum-littorale</i> complex	67	<i>Cylindrocystis brebissonii</i> var. <i>brebissonii</i>	349
<i>Closterium peracerosum-strigosum-littorale</i> complex	68	<i>Cylindrocystis crassa</i>	2283
<i>Closterium peracerosum-strigosum-littorale</i> complex	69	<i>Cylindrocystis</i> sp.	2284
<i>Closterium peracerosum-strigosum-littorale</i> complex	70	<i>Cylindrocystis</i> sp.	2301
<i>Closterium peracerosum-strigosum-littorale</i> complex	261	<i>Cylindrocystis</i> sp.	2302
<i>Closterium peracerosum-strigosum-littorale</i> complex	262	<i>Cylindrocystis</i> sp.	2303
<i>Closterium peracerosum-strigosum-littorale</i> complex	2666	<i>Docidium undulatum</i> var. <i>undulatum</i>	285
<i>Closterium pleurodermatum</i>	449	<i>Euastrum diverrucosum</i>	840
<i>Closterium praelongum</i> var. <i>brevius</i>	450	<i>Euastrum turgidum</i>	772
<i>Closterium praelongum</i> var. <i>brevius</i>	451	<i>Euastrum turgidum</i>	773
<i>Closterium pusillum</i> var. <i>maius</i>	185	<i>Gonatozygon brebissonii</i>	138
<i>Closterium rostratum</i> var. <i>subrostratum</i>	338	<i>Gonatozygon brebissonii</i>	139
<i>Closterium selenastrum</i>	339	<i>Gonatozygon monotaenium</i>	247
<i>Closterium selenastrum</i>	340	<i>Gonatozygon monotaenium</i>	287
		<i>Hyalotheca dissiliens</i>	147
		<i>Hyalotheca dissiliens</i>	148
		<i>Hyalotheca dissiliens</i>	150
		<i>Hyalotheca dissiliens</i> f. <i>tridentula</i>	294
		<i>Interfilum paradoxum</i>	2180
		<i>Klebsormidium flaccidum</i>	2285
		<i>Klebsormidium flaccidum</i>	2286
		<i>Klebsormidium flaccidum</i>	2408
		<i>Lamprothamnium succinctum</i>	1606
		<i>Mesotaenium caldariorum</i>	2287
		<i>Mesotaenium kramstae</i>	657
		<i>Mesotaenium kramstae</i>	658

<i>Micrasterias anomala</i>	774	<i>Pleurotaenium nodosum</i> var. <i>borgei</i>	663
<i>Micrasterias anomala</i>	776	<i>Pleurotaenium nodosum</i> var. <i>borgei</i>	664
<i>Micrasterias crux-melitensis</i>	152	<i>Pleurotaenium nodosum</i> var. <i>gutwinskii</i>	787
<i>Micrasterias foliacea</i>	777	<i>Pleurotaenium nodosum</i> var. <i>gutwinskii</i>	788
<i>Micrasterias foliacea</i>	778	<i>Pleurotaenium nodosum</i> var. <i>nodosum</i>	312
<i>Micrasterias foliacea</i> var. <i>foliacea</i>	297	<i>Pleurotaenium nodosum</i> var. <i>nodosum</i>	785
<i>Micrasterias mahabuleshwariensis</i>	779	<i>Pleurotaenium nodosum</i> var. <i>nodosum</i>	786
<i>Micrasterias mahabuleshwariensis</i>	780	<i>Pleurotaenium ovatum</i>	313
<i>Micrasterias thomasiana</i> var. <i>notata</i>	781	<i>Roya anglica</i>	2291
<i>Micrasterias thomasiana</i> var. <i>notata</i>	782	<i>Sphaerosozma</i> sp.	2306
<i>Micrasterias truncata</i> var. <i>pusilla</i>	783	<i>Spinoclosterium cuspidatum</i>	325
<i>Micrasterias truncata</i> var. <i>pusilla</i>	784	<i>Staurastrum dorsidentiferum</i>	665
<i>Netrium digitus</i> var. <i>digitus</i>	2288	<i>Staurastrum inconspicuum</i>	390
<i>Netrium digitus</i> var. <i>lamellosum</i>	2289	<i>Staurastrum levanderi</i>	841
<i>Nitella acuminata</i> var. <i>capitulifera</i>	1607	<i>Staurastrum paradoxum</i>	528
<i>Nitella axilliformis</i>	1608	<i>Staurastrum tsukubicum</i>	842
<i>Nitella axilliformis</i>	1609	<i>Stauroidesmus dejectum</i>	224
<i>Nitella comptonii</i>	1704	<i>Triploceras gracile</i>	789
<i>Nitella comptonii</i>	1705	<i>Triploceras gracile</i>	790
<i>Nitella comptonii</i>	1706	<i>Triploceras gracile</i>	791
<i>Nitella flexilis</i>	1610	<i>Triploceras gracile</i>	792
<i>Nitella flexilis</i>	1611	<i>Triploceras gracile</i>	793
<i>Nitella flexilis</i>	1612	<i>Triploceras gracile</i>	794
<i>Nitella flexilis</i>	1613	<i>Triploceras gracile</i>	795
<i>Nitella furcata</i> var. <i>furcata</i>	1614	<i>Triploceras gracile</i>	796
<i>Nitella furcata</i> var. <i>furcata</i>	1615		
<i>Nitella furcata</i> var. <i>furcata</i>	1617	Mesostigmatophyceae	
<i>Nitella gracilens</i>	1619	<i>Mesostigma viride</i>	296
<i>Nitella gracilens</i>	1620	<i>Mesostigma viride</i>	475
<i>Nitella gracilens</i>	1621	<i>Mesostigma viride</i>	476
<i>Nitella gracilens</i>	1622	<i>Mesostigma viride</i>	477
<i>Nitella hyalina</i>	1623	<i>Mesostigma viride</i>	995
<i>Nitella japonica</i>	1624		
<i>Nitella megaspora</i>	1628	Euglenozoa	
<i>Nitella mirabilis</i>	1629	Euglenophyceae	
<i>Nitella moriokae</i>	1616	<i>Cryptoglana pigra</i>	1407
<i>Nitella moriokae</i>	1632	<i>Cryptoglana skujae</i>	387
<i>Nitella moriokae</i>	1633	<i>Euglena clara</i>	253
<i>Nitella pulchella</i>	1634	<i>Euglena gracilis</i>	47
<i>Nitella</i> sp.	1618	<i>Euglena gracilis</i>	48
<i>Nitella</i> sp.	1635	<i>Euglena gracilis</i> var. <i>bacillaris</i>	49
<i>Nitella</i> sp.	1636	<i>Euglena mutabilis</i>	286
<i>Nitellopsis obtusa</i>	1637	<i>Euglena viridis</i>	2149
<i>Nitellopsis obtusa</i>	1638	<i>Euglena</i> sp.	2345
<i>Penium margaritaceum</i>	217	<i>Eutreptiella gymnastica</i>	381
<i>Penium margaritaceum</i>	303	<i>Eutreptiella</i> sp.	2305
<i>Pleurotaenium cylindricum</i> var. <i>stuhmannii</i>	306	<i>Eutreptiella</i> sp.	2325
<i>Pleurotaenium ehrenbergii</i> var. <i>curtum</i>	308	<i>Trachelomonas</i> sp.	2299
<i>Pleurotaenium ehrenbergii</i> var. <i>curtum</i>	311		
<i>Pleurotaenium ehrenbergii</i> var. <i>ehrenbergii</i>	309	Kinetoplastea	
<i>Pleurotaenium ehrenbergii</i> var. <i>ehrenbergii</i>	310	<i>Bodo saltans</i>	1439

Trepomonadea			
<i>Hexamita</i> sp.	1440	<i>Paracercomonas oxoniensis</i>	2451
<i>Trepomonas</i> sp.	1444	<i>Paracercomonas paralaciniagegens</i>	2452
		<i>Paracercomonas pleomorpha</i>	2453
		<i>Paracercomonas producta</i>	2454
		<i>Sandona aestiva</i>	2419
Metamonada		<i>Sandona dimutans</i>	2421
Metamonada incertae sedis		<i>Sandona disimilis</i>	2422
<i>Dysnectes brevis</i>	1843	<i>Sandona erratica</i>	2508
Unidentified metamonad	1968	<i>Sandona pentamutans</i>	2423
		<i>Sandona similis</i>	2424
Percolozoa		<i>Sandona tetramutans</i>	2425
Heterolobosea		<i>Sandona tetrasimilis</i>	2426
<i>Percolomonas</i> sp.	1441	<i>Sandona ubiquita</i>	2427
		<i>Sandona ubiquita</i>	2428
		<i>Sandona ubiquita</i>	2429
Cercozoa		<i>Sandona ubiquita</i>	2430
Chlorarachniophyceae			
<i>Bigelowiella natans</i>	2677	Foraminifera	
<i>Chlorarachnion reptans</i>	624	Foraminiferea	
<i>Chlorarachnion</i> sp.	1408	<i>Rubratella</i> sp.	1445
<i>Lotharella reticulosa</i>	2584		
<i>Norrisiella sphaerica</i>	2433	Ciliophora	
Unidentified chlorarachniophyte	2502	Oligohymenophorea	
		<i>Tetrahymena pyriformis</i>	403
Imbricatea			
<i>Esquamula lacrimiformis</i>	2745	Dinophyta	
<i>Ovulinata parva</i>	2377	Dinophyceae	
<i>Paulinella chromatophora</i>	2635	<i>Adenoides eludens</i>	1367
<i>Thaumatomastix</i> sp.	1443	<i>Adenoides eludens</i>	1402
<i>Thaumatomastix</i> sp.	2378	<i>Akashiwo sanguinea</i>	1832
		<i>Akashiwo sanguinea</i>	1987
Sarcomonadea		<i>Alexandrium catenella</i>	675
<i>Allapsa ocior</i>	2414	<i>Alexandrium catenella</i>	677
<i>Allapsa scotia</i>	2415	<i>Alexandrium hiranoi</i>	612
<i>Cavernomonas stercoris</i>	2434	<i>Alexandrium insuetum</i>	678
<i>Cercomonas ambigua</i>	2435	<i>Alexandrium</i> sp.	1988
<i>Cercomonas dactyloptera</i>	2436	<i>Alexandrium</i> sp.	1989
<i>Cercomonas effusa</i>	2437	<i>Alexandrium</i> sp.	1991
<i>Cercomonas fastiga</i>	2438	<i>Alexandrium</i> sp.	1993
<i>Cercomonas hederæ</i>	2439	<i>Alexandrium</i> sp.	2328
<i>Cercomonas hiberna</i>	2440	<i>Amphidinium carterae</i>	331
<i>Cercomonas laeva</i>	2441	<i>Amphidinium klebsii</i>	613
<i>Cercomonas lata</i>	2442	<i>Amphidinium operculatum</i>	1368
<i>Cercomonas magna</i>	2443	<i>Amphidinium testudo</i>	1268
<i>Cercomonas mutans</i>	2444	<i>Amphidinium</i> sp.	2663
<i>Cercomonas parambigua</i>	2445	<i>Amphidinium</i> sp.	2664
<i>Eocercomonas echina</i>	2449	<i>Cochlodinium</i> sp.	2327
<i>Flectomonas lenta</i>	2507	<i>Coolia monotis</i>	343
<i>Neoheteromita caudratti</i>	2416	<i>Coolia monotis</i>	615
<i>Neoheteromita hederæ</i>	2417	<i>Coolia monotis</i>	1833
<i>Neoheteromita soli</i>	2418	<i>Glenodiniopsis uliginosa</i>	463
<i>Paracercomonas elongata</i>	2450		

<i>Gymnodinium catenatum</i>	1834	<i>Scrippsiella</i> sp.	2016
<i>Gymnodinium catenatum</i>	2003	<i>Scrippsiella</i> sp.	2017
<i>Gymnodinium catenatum</i>	2004	<i>Scrippsiella</i> sp.	2018
<i>Gymnodinium catenatum</i>	2007	<i>Scrippsiella</i> sp.	2019
<i>Gymnodinium catenatum</i>	2326	<i>Scrippsiella</i> sp.	2020
<i>Gyrodinium instriatum</i>	2000	<i>Scrippsiella</i> sp.	2021
<i>Gymnodinium</i> sp.	2002	<i>Scrippsiella</i> sp.	2022
<i>Hemidinium nasutum</i>	471	<i>Scrippsiella sweeneyae</i>	684
<i>Heterocapsa horiguchii</i>	614	<i>Scrippsiella trochoidea</i>	369
<i>Heterocapsa niei</i>	420	<i>Scrippsiella trochoidea</i>	2015
<i>Heterocapsa ovata</i>	472	<i>Symbiodinium</i> sp. (Clade A)	2638
<i>Heterocapsa pseudotriquetra</i>	473	<i>Symbiodinium</i> sp. (Clade A)	2639
<i>Heterocapsa rotundata</i>	356	<i>Symbiodinium</i> sp. (Clade A)	2640
<i>Heterocapsa</i> sp.	1403	<i>Symbiodinium</i> sp. (Clade A)	2641
<i>Heterocapsa</i> sp.	2343	<i>Symbiodinium</i> sp. (Clade A)	2642
<i>Heterocapsa</i> sp.	2344	<i>Symbiodinium</i> sp. (Clade A)	2643
<i>Heterocapsa triquetra</i>	7	<i>Thoracosphaera heimii</i>	1325
<i>Heterocapsa triquetra</i>	235	<i>Thoracosphaera heimii</i>	1326
<i>Karenia mikimotoi</i>	2411	<i>Togula britannica</i>	405
<i>Karlodinium veneficum</i>	1966		
<i>Katodinium</i> sp.	2008	Oxyrrhea	
<i>Katodinium</i> sp.	2009	<i>Oxyrrhis marina</i>	494
<i>Lepidodinium chlorophorum</i>	1868		
<i>Ostreopsis siamensis</i>	1404	Heterokontophyta	
<i>Peridinium bipes</i> f. <i>globosum</i>	495	Aurearenophyceae	
<i>Peridinium bipes</i> f. <i>occultatum</i>	497	<i>Aurearena cruciata</i>	1863
<i>Peridinium pseudolaeve</i>	1405	<i>Aurearena cruciata</i>	1864
<i>Peridinium volzii</i>	365	<i>Aurearena cruciata</i>	1865
<i>Peridinium volzii</i>	501		
<i>Peridinium willei</i>	304	Bacillariophyceae	
<i>Peridinium willei</i>	366	<i>Achnanthes kuwaitensis</i>	1349
<i>Prorocentrum dentatum</i>	682	<i>Achnanthes subconstricta</i>	330
<i>Prorocentrum dentatum</i>	900	<i>Achnanthidium minutissimum</i>	71
<i>Prorocentrum dentatum</i>	2010	<i>Achnanthidium minutissimum</i>	407
<i>Prorocentrum dentatum</i>	2011	<i>Achnanthidium minutissimum</i>	408
<i>Prorocentrum dentatum</i>	2013	<i>Achnanthidium minutissimum</i>	409
<i>Prorocentrum dentatum</i>	2014	<i>Achnanthidium minutissimum</i>	410
<i>Prorocentrum gracile</i>	315	<i>Achnanthidium minutissimum</i>	411
<i>Prorocentrum lima</i>	617	<i>Achnanthidium minutissimum</i>	412
<i>Prorocentrum mexicanum</i>	618	<i>Achnanthidium minutissimum</i>	413
<i>Prorocentrum mexicanum</i>	1967	<i>Achnanthidium minutissimum</i>	414
<i>Prorocentrum micans</i>	12	<i>Achnanthidium minutissimum</i>	1350
<i>Prorocentrum micans</i>	218	<i>Achnanthidium minutissimum</i> var. <i>saprophilum</i>	372
<i>Prorocentrum micans</i>	316	<i>Asterionellopsis glacialis</i>	265
<i>Prorocentrum micans</i>	601	<i>Asterionellopsis glacialis</i>	417
<i>Prorocentrum micans</i>	608	<i>Aulacoseira granulata</i>	333
<i>Prorocentrum micans</i>	1406	<i>Chaetoceros didymus</i>	586
<i>Prorocentrum minimum</i>	237	<i>Chaetoceros sociale</i>	377
<i>Prorocentrum minimum</i>	238	<i>Chaetoceros sociale</i>	553
<i>Protoceratium reticulatum</i>	319	<i>Cyclotella meneghiniana</i>	803
<i>Pyrocystis lunura</i>	609	<i>Cyclotella meneghiniana</i>	804

<i>Cyclotella meneghiniana</i>	805	<i>Ochromonas danica</i>	2142
<i>Cyclotella meneghiniana</i>	2363	<i>Ochromonas minuta</i>	2143
<i>Cyclotella meneghiniana</i>	2364	<i>Ochromonas</i> sp.	1828
<i>Cyclotella meneghiniana</i>	2365	<i>Ochromonas</i> sp.	2300
<i>Cyclotella meneghiniana</i>	2367	<i>Paraphysomonas vestita</i>	1377
<i>Cyclotella meneghiniana</i>	2368	<i>Picophagus flagellatus</i>	2586
<i>Cylindrotheca closterium</i>	1045	<i>Poteroiochromonas malhamensis</i>	2144
<i>Cylindrotheca fusiformis</i>	1046	<i>Spumella</i> sp.	1846
<i>Cylindrotheca</i> sp.	1047	<i>Synura petersenii</i>	233
<i>Ditylum brightwellii</i>	350	<i>Synura petersenii</i>	1007
<i>Eucampia</i> sp.	2668	<i>Synura sphagnicola</i>	695
<i>Eunotia pectinalis</i> var. <i>minor</i>	461	<i>Synura sphagnicola</i>	696
<i>Fragilaria capucina</i>	391	<i>Synura spinosa</i>	234
<i>Gomphonema angustatum</i>	620	<i>Uroglena americana</i>	395
<i>Gomphonema gracile</i> var. <i>gracile</i>	465		
<i>Gomphonema parvulum</i> var. <i>parvulum</i>	466	Dictyochophyceae	
<i>Gomphonema parvulum</i> var. <i>parvulum</i>	467	<i>Florenciella parvula</i>	2684
<i>Hantzschia amphioxys</i> var. <i>compacta</i>	587	<i>Luteocerasus tetraplastida</i> nom. nud.	1871
<i>Lithodesmium variabile</i>	588	<i>Mesopedinella arctica</i>	2687
<i>Nitzschia closterium</i>	2351	<i>Pedinella</i> sp.	2346
<i>Nitzschia palea</i>	487	<i>Pedinella squamata</i>	1008
<i>Nitzschia</i> sp.	1339	<i>Pseudochattonella verruculosa</i>	670
<i>Nitzschia</i> sp.	1340	<i>Pseudochattonella verruculosa</i>	850
<i>Odontella aurita</i>	589	<i>Pseudopedinella pyriformis</i>	1381
<i>Odontella longicurvis</i>	590	<i>Pseudopedinella pyriformis</i>	1810
<i>Pseudonitzschia</i> sp.	1383	<i>Rhizochromulina</i> sp.	1382
<i>Rhizosolenia</i> sp.	2669		
<i>Sellaphora seminulum</i>	1353	Eustigmatophyceae	
<i>Skeletonema marinoi-dohrnii</i> complex	16	<i>Nannochloropsis gaditana</i>	2587
<i>Skeletonema marinoi-dohrnii</i> complex	17	<i>Nannochloropsis gaditana</i>	2588
<i>Skeletonema marinoi-dohrnii</i> complex	223	<i>Nannochloropsis oculata</i>	2145
<i>Skeletonema marinoi-dohrnii</i> complex	323	<i>Nannochloropsis oculata</i>	2146
<i>Skeletonema marinoi-dohrnii</i> complex	324	<i>Vischeria punctata</i>	2147
<i>Tabellaria flocculosa</i>	225	<i>Vischeria stellata</i>	2148
<i>Thalassionema nitzschioides</i>	534		
<i>Triceratium dubium</i>	556	Pelagophyceae	
		<i>Chrysophaeum taylorii</i>	1699
Bolidophyceae		<i>Chrysophaeum taylorii</i>	1700
<i>Bolidomonas mediterranea</i>	2681	<i>Pelagomonas calceolata</i>	2689
<i>Bolidomonas pacifica</i>	2682	<i>Pelagomonas calceolata</i>	2690
<i>Bolidomonas</i> sp.	2683	<i>Pelagomonas calceolata</i>	2691
		<i>Pelagomonas calceolata</i>	1003
Chrysomerophyceae		Unidentified pelagophyte	1386
<i>Giraudyopsis</i> sp.	1862	Unidentified pelagophyte	1387
Chrysophyceae		Phaeophyceae	
<i>Chromulina</i> sp.	2304	<i>Acinetospora crinita</i>	548
<i>Dinobryon divergens</i>	284		
<i>Epipyxis glabra</i>	1826	Pinguiophyceae	
<i>Lagynion subglobosum</i>	1827	<i>Glossomastix chrysoplata</i>	1002
<i>Mallomonas</i> sp.	1376	<i>Glossomastix chrysoplata</i>	1302

<i>Glossomastix</i> sp.	2503	<i>Heterosigma akashiwo</i>	1830
<i>Glossomastix</i> sp.	2504	<i>Merotricha bacillata</i>	1809
<i>Phaeomonas</i> sp.	2693	<i>Olisthodiscus luteus</i>	15
		<i>Olisthodiscus luteus</i>	1379
		<i>Olisthodiscus luteus</i>	1831
Raphidophyceae		Schizocladiphyceae	
<i>Chattonella marina</i> var. <i>antiqua</i>	1	<i>Schizocladia ischiensis</i>	1044
<i>Chattonella marina</i> var. <i>antiqua</i>	2		
<i>Chattonella marina</i> var. <i>antiqua</i>	83	Xanthophyceae	
<i>Chattonella marina</i> var. <i>antiqua</i>	84	<i>Botrydiopsis arrhiza</i>	621
<i>Chattonella marina</i> var. <i>antiqua</i>	85	<i>Botrydium granulatum</i>	622
<i>Chattonella marina</i> var. <i>antiqua</i>	86	<i>Bumilleriopsis petersiana</i>	2505
<i>Chattonella marina</i> var. <i>antiqua</i>	113	<i>Mischococcus</i> sp.	1963
<i>Chattonella marina</i> var. <i>antiqua</i>	114	<i>Ophiocytium capitatum</i>	1011
<i>Chattonella marina</i> var. <i>antiqua</i>	161	<i>Ophiocytium capitatum</i>	1384
<i>Chattonella marina</i> var. <i>antiqua</i>	558	<i>Ophiocytium parvulum</i>	1385
<i>Chattonella marina</i> var. <i>marina</i>	3	<i>Vaucheria frigida</i>	2614
<i>Chattonella marina</i> var. <i>marina</i>	14	<i>Vaucheria frigida</i>	2615
<i>Chattonella marina</i> var. <i>marina</i>	115	<i>Vaucheria frigida</i>	2616
<i>Chattonella marina</i> var. <i>marina</i>	116		
<i>Chattonella marina</i> var. <i>marina</i>	118	Heterokontophyta incertae sedis	
<i>Chattonella marina</i> var. <i>marina</i>	121	Unidentified yellow heterokontophyte	1389
<i>Chattonella marina</i> var. <i>marina</i>	557		
<i>Chattonella marina</i> var. <i>marina</i>	559	Stramenopila incertae sedis	
<i>Chattonella marina</i> var. <i>ovata</i>	603	Bicoecea	
<i>Chattonella marina</i> var. <i>ovata</i>	671	<i>Bicosoeca</i> sp.	1438
<i>Chattonella marina</i> var. <i>ovata</i>	849	<i>Cafeteria roenbergensis</i>	1012
<i>Chattonella marina</i> var. <i>ovata</i>	1872	<i>Symbiomonas scintillans</i>	2589
<i>Chattonella marina</i> var. <i>ovata</i>	1873		
<i>Chattonella subsalsa</i>	2633	Bigyromonadea	
<i>Chattonella subsalsa</i>	2634	<i>Developayella elegans</i>	1388
<i>Fibrocapsa japonica</i>	136		
<i>Fibrocapsa japonica</i>	462	Nucleohelea	
<i>Fibrocapsa japonica</i>	560	<i>Actinophrys sol</i>	2497
<i>Fibrocapsa japonica</i>	605		
<i>Fibrocapsa japonica</i>	1303	Placididea	
<i>Fibrocapsa japonica</i>	1829	<i>Placidia cafeteriopsis</i>	1013
<i>Fibrocapsa</i> sp.	1378	<i>Placidia cafeteriopsis</i>	1014
<i>Gonyostomum latum</i>	1808	<i>Wobbilia lunata</i>	1015
<i>Gonyostomum semen</i>	1009		
<i>Gonyostomum semen</i>	1380	Haptophyta	
<i>Haramonas dimorpha</i>	716	Pavlovophyceae	
<i>Haramonas pauciplastida</i>	1870	<i>Pavlova gyrans</i>	623
<i>Haramonas</i> sp.	1701	<i>Pavlova pinguis</i>	1398
<i>Heterosigma akashiwo</i>	5	<i>Pavlova</i> sp.	1399
<i>Heterosigma akashiwo</i>	6	<i>Pavlova</i> sp.	1400
<i>Heterosigma akashiwo</i>	9	<i>Pavlova</i> sp.	1401
<i>Heterosigma akashiwo</i>	10	<i>Pavlova</i> sp.	1815
<i>Heterosigma akashiwo</i>	145	<i>Pavlova</i> sp.	1816
<i>Heterosigma akashiwo</i>	146	<i>Pavlova</i> sp.	1965
<i>Heterosigma akashiwo</i>	293		
<i>Heterosigma akashiwo</i>	561		

Prymnesiophyceae			
<i>Calcidiscus leptoporus</i>	1304	<i>Pleurochrysis roscoffensis</i>	8
<i>Calcidiscus leptoporus</i>	1305	<i>Pleurochrysis</i> sp.	1814
<i>Calyptrosphaera sphaeroidea</i>	997	<i>Prymnesium calathiferum</i>	1330
<i>Calyptrosphaera sphaeroidea</i>	1308	<i>Prymnesium parvum</i>	1017
<i>Calyptrosphaera sphaeroidea</i>	1309	<i>Prymnesium parvu</i>	1018
<i>Calyptrosphaera sphaeroidea</i>	1811	<i>Prymnesium parvu</i>	1812
<i>Calyptrosphaera sphaeroidea</i>	2774	<i>Prymnesium parvu</i>	2350
<i>Calyptrosphaera sphaeroidea</i>	2775	<i>Prymnesium</i> sp.	1397
<i>Chrysochromulina hirta</i>	741	<i>Umbilicosphaera sibogae</i> var. <i>sibogae</i>	1324
<i>Chrysochromulina parva</i>	562		
<i>Chrysochromulina quadrikonta</i>	998	Cryptophyta	
<i>Chrysochromulina simplex</i>	1392	Cryptophyceae	
<i>Chrysochromulina</i> sp.	1333	<i>Chroomonas caudata</i>	712
<i>Chrysochromulina</i> sp.	1391	<i>Chroomonas coerulea</i>	713
<i>Chrysochromulina</i> sp.	2506	<i>Chroomonas coerulea</i>	714
<i>Chrysoculter rhomboideus</i>	1874	<i>Chroomonas coerulea</i>	1004
<i>Coccolithus braarudii</i>	2696	<i>Chroomonas collegionis</i>	703
<i>Emiliana huxleyi</i>	837	<i>Chroomonas dispersa</i>	704
<i>Emiliana huxleyi</i>	1310	<i>Chroomonas mesostigmatica</i>	1370
<i>Emiliana huxleyi</i>	1311	<i>Chroomonas nordstedtii</i>	706
<i>Emiliana huxleyi</i>	1312	<i>Chroomonas nordstedtii</i>	707
<i>Emiliana huxleyi</i>	1313	<i>Chroomonas nordstedtii</i>	708
<i>Emiliana huxleyi</i>	1314	<i>Chroomonas nordstedtii</i>	709
<i>Emiliana huxleyi</i>	2697	<i>Chroomonas nordstedtii</i>	710
<i>Gephyrocapsa oceanica</i>	353	<i>Chroomonas nordstedtii</i>	711
<i>Gephyrocapsa oceanica</i>	838	<i>Chroomonas placoidea</i>	705
<i>Gephyrocapsa oceanica</i>	1000	<i>Chroomonas</i> sp.	2331
<i>Gephyrocapsa oceanica</i>	1315	<i>Cryptomonas acuta</i>	697
<i>Gephyrocapsa oceanica</i>	1316	<i>Cryptomonas irregularis</i>	698
<i>Gephyrocapsa oceanica</i>	1317	<i>Cryptomonas ovata</i>	274
<i>Gephyrocapsa oceanica</i>	1318	<i>Cryptomonas ovata</i>	275
<i>Gephyrocapsa oceanica</i>	1319	<i>Cryptomonas paramaecium</i>	715
<i>Gephyrocapsa oceanica</i>	1328	<i>Cryptomonas paramaecium</i>	766
<i>Gephyrocapsa oceanica</i>	1329	<i>Cryptomonas paramaecium</i>	767
<i>Gephyrocapsa oceanica</i>	2699	<i>Cryptomonas platyuris</i>	276
<i>Gephyrocapsa oceanica</i>	2700	<i>Cryptomonas platyuris</i>	344
<i>Hyalolithus neolepis</i>	1393	<i>Cryptomonas rostratiformis</i>	277
<i>Hymenomonas coronata</i>	1016	<i>Cryptomonas rostratiformis</i>	278
<i>Imantonia rotunda</i>	1001	<i>Cryptomonas rostratiformis</i>	345
<i>Imantonia rotunda</i>	1394	<i>Cryptomonas rostratiformis</i>	1327
<i>Isochrysis galbana</i>	2590	<i>Cryptomonas tetrapyrenoidosa</i>	279
<i>Ochrosphaera neapolitana</i>	1395	<i>Cryptomonas tetrapyrenoidosa</i>	280
<i>Ochrosphaera neapolitana</i>	1964	<i>Cryptomonas tetrapyrenoidosa</i>	281
<i>Oolithotus fragilis</i>	1320	<i>Cryptomonas tetrapyrenoidosa</i>	282
<i>Oolithotus fragilis</i>	1321	<i>Cryptomonas tetrapyrenoidosa</i>	346
<i>Oolithotus fragilis</i>	1322	<i>Cryptomonas tetrapyrenoidosa</i>	347
<i>Phaeocystis globosa</i>	388	<i>Cryptomonas tetrapyrenoidosa</i>	348
<i>Phaeocystis globosa</i>	1396	<i>Rhodomonas atrorosea</i>	699
<i>Pleurochrysis haptoneofera</i>	1813	<i>Rhodomonas baltica</i>	700
		<i>Rhodomonas chrysoidea</i>	701
		<i>Rhodomonas duplex</i>	765

<i>Rhodomonas falcata</i>	702
<i>Rhodomonas salina</i>	1006
<i>Rhodomonas salina</i>	1375
<i>Rhodomonas</i> sp.	1005
<i>Rhodomonas</i> sp.	1730
<i>Rhodomonas</i> sp.	2332

Goniomonadea

<i>Goniomonas amphinema</i>	1371
<i>Goniomonas pacifica</i>	1372
<i>Goniomonas truncata</i>	1373
<i>Goniomonas</i> sp.	1374

Kathablepharida

Kathablepharidea

<i>Kathablepharis japonica</i>	1334
<i>Leucocryptos marina</i>	1335

Heliozoa

Centrohelea

<i>Raphidiophrys contractilis</i>	2498
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Choanozoa

Choanoflagellata

<i>Salpingoeca infusionum</i>	1442
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IX. Committee and staff

1. Committee members

1.1. The Committee for Evaluating Microbial Culture Strains at the National Institute for Environmental Studies (NIES)

Noriko TAKAMURA: Center for Environmental Biology and Ecosystem Studies, NIES

Akio IMAI: Center for Regional Environmental Research, NIES

Masanobu KAWACHI: Center for Environmental Biology and Ecosystem Studies, NIES

Tomoharu SANO: Fundamental Chemical Analysis Section, Center for Environmental Measurement and Analysis, NIES

Yoshio SUGAYA: Integrated Environmental Risk Research Section, Center for Environmental Risk Research, NIES

Noriko TOMIOKA: Lake and River Environment Section, Center for Regional Environmental Research, NIES

Advisors

Isao INOUE: University of Tsukuba

Toshinobu SUZAKI: Kobe University

Ken-ichiro SUZUKI: Biological Resource Center, National Institute of Technology and Evaluation

Hisayoshi NOZAKI: University of Tokyo

Takeo Horiguchi: Hokkaido University

Makoto M. WATANABE: Professor, University of Tsukuba

1.2. The Steering Committee for National BioResource Project Algae

Takeo Horiguchi (Chair): Hokkaido University

Masahiko IKEUCHI: University of Tokyo

Isao INOUE: University of Tsukuba

Masayuki OHMORI: Chuo University

Masanobu KAWACHI: NIES

Kunimitsu KAYA: University of Tsukuba

Hiroshi KAWAI: Kobe University

Takenori KUSUMI: Tokyo Institute of Technology

Kazuhiro KOGAME: Hokkaido University

Naoki SATO: University of Tokyo

Yoshihiro SHIRAIWA: University of Tsukuba

Hisayoshi NOZAKI: University of Tokyo

Hideya FUKUZAWA: Kyoto University

Yukiko YAMAZAKI: National Institute of Genetics

Makoto M. WATANABE: University of Tsukuba

2. Collection staff

Masanobu KAWACHI: NIES

Fumi MORI: Global Environmental Forum

Kosei YUMOTO: Global Environmental Forum

Miwa ISHIMOTO: Global Environmental Forum

Mayumi SATO: NIES

Mary-Helène Noël: NIES

Atsushi KAWABATA: NIES

Junko FUJII: NIES

Noriko FUKUDA: NIES

Sumiko MATSUI: NIES

X. Application forms

Strain Deposit Request and Agreement Form

Strain Ordering and Agreement Form

Strain Ordering and Agreement Form (For NIES staff)

Strain Ordering and Agreement Form (For guest researchers and collaborators)

Strain Receipt Form

Isolation method: single-cell isolation by pipette washing cut-out of specimen dilution single colony isolation by agar plating taxis flow cytometry with cell sorter other ()
 Notes on isolation conditions (e.g. medium, light, temperature, if different from maintenance conditions):

Treatment at isolation: none antibiotics (name: , mg/L)
germanium dioxide (GeO₂)(mg/L) other chemicals (name: , mg/L)
ultra-sonic wave
UV radiation after cyst germination other ()

[Strain status]

Algae and cyanobacteria: 1) unialgal or mixed
 2) clonal or non-clonal
 3) axenic, non-axenic or non-axenic required
 Protozoa: axenic , non-axenic or non-axenic required or monoxenic (as food)
 or mixed
 Date of bacteria-free check:

[Preservation conditions]

Medium name:
 Reference for medium:
 Medium phase: liquid semi-solid solid soil water biphasic
 Notes for preparation of medium:

Sub-culturing conditions

Temperature: °C (pre-culture temperature if needed, °C)
 Light intensity: $\mu\text{mol m}^{-2} \text{s}^{-1}$, or lux (preculture light intensity if needed $\mu\text{mol m}^{-2} \text{s}^{-1}$, or lux)
 Light source: white fluorescent lamps daylight fluorescent lamps natural light other ()
 Light-Dark cycle: 12 h/ 12 h others (h/ h)
 Interval of transfer: days or month(s) (pre-culture duration if needed, days)
 Culture vessel: test tube Erlenmeyer flask plastic culture flask other ()
 Additional notes on culture conditions (e.g. information for optimal growth conditions, transfer methods, quantity of cells to transfer:
 Remarks on how to recover a good growth when strain state is bad:

Cryopreservation: yes no unknown

Cryoprotectant: (concentration: %)
 Cryopreserved in: vapor-phase liquid nitrogen liquid-phase liquid nitrogen -80°C freezer
other ()
 Methods: two step cooling (cool until °C at a rate of °C/min, hold at °C for min, and plunge into liquid N₂)
other methods: ()
 Special notice for incubation just after thawing (e.g. darkness, dim light):
 References for methods:
 Notes and comments on cryopreservation:

Freeze-drying: yes no unknown

Method:
 Reference for method:

L-drying: yes no unknown

Method:
 Reference for method:

[Characteristics]

Environmental characteristics

- red tide water bloom toxic predator of water bloom-forming species
- offensive taste offensive odor filter and screen clogging decomposes hazardous substances
- AGP (algal growth potential) test bioindicator
- other ()

Physiological and ecological characteristics

- autotrophic heterotrophic mixotrophic phagotrophic auxotrophic (requires)
- mutant (which kind?;)
- nitrogen-fixing
- planktonic benthic endophytic periphytic (epiphytic epilithic other ())
- symbiotic parasitic
- thermophilic cryophilic halophilic acidophilic xerophilic
- phototactic chromatic adaptation bioluminescence
- hydrogen-evolving oil (hydrocarbon) -producing high CO₂-fixing
- cosmopolitan endemic to (country/area name:)
- other ()

Miscellaneous characteristics

- type strain (or authentic strain if eukaryotic) taxonomically (evolutionarily, phylogenetically) important
- heterothallic homothallic dioecious monoecious
- isogamous anisogamous oogamous
- mating type(+) mating type(-) female male
- life cycle known
(details:)
- life cycle unknown
- resting spore-forming
- other ()

References for these characteristics reported using the deposited strain:

[Genetic information (please write down all registered data)]

Accession no. (with gene name and registration date):

Registrant (full name with family name in capitals):

[References]

Publications in which the strains were used (please make a reference list according to the example below)

(Example) Otsuka, S., Suda, S., Shibata, S., Oyaizu, H., Matsumoto, S. & Watanabe, M. M. 2001. A proposal for the unification of five species of the cyanobacterial genus *Microcystis* Kützing ex Lemmermann 1907 under the rules of the Bacteriological Code. *Int. J. Syst. Evol. Microbiol.*, 51, 873–879.

Other references relevant to the strain(s) (e.g. references used for identification; please make a reference list according to the example above)

[Patents and other intellectual properties] yes no

[Any other remarks and comments]

Agreement for deposition

1. The depositor shall deposit the strain in the MCC-NIES without charge. The transfer of intellectual properties is not included in the agreement. The MCC-NIES may maintain and culture the strain including DNA and derivatives from the strains and distribute it to users.
2. The depositor shall submit accurate strain data to the MCC-NIES; these data shall include patents, properties and states of the strain.
3. The strain shall be free from any limitation, legally and contractually, pursuant to one of the following reasons (please tick):
 - The strain was isolated/developed by the depositor.
 - The strain is deposited with the permission of the isolator/developer/collaborator of the original country (if collected in a foreign country).
 - The strain has been purchased without any limitation regarding the deposit thereof, and with the permission of the original collection.
4. The MCC-NIES may distribute the deposited strains to users in accordance with the following condition (please tick):
 - The strain shall not be disclosed to the public until the paper regarding the strain has been published
 - Other reason ()This condition will last no longer than 1 year, and the strain will be open to the public even if the depositor imposes conditions. If the depositor does not specify any conditions, then the strain will be open to the public immediately after approval by the Committee for Evaluating Microbial Culture Strains.
5. The MCC-NIES shall bear no responsibility for inevitable change and loss during maintenance, or for loss caused by natural disasters.
6. The MCC-NIES may stop the maintenance and distribution of the strain in accordance with a decision made by the Committee for Evaluating Microbial Culture Strains.

The MCC-NIES (the Collection) and the depositor make two copies of the agreement; the Collection and the depositor each hold one.

We, the MCC-NIES (the Collection) and the depositor, accept the above conditions in order to transfer the strain(s).

<<Collection>>

Organization: Microbial Culture Collection,
Biodiversity Resource Conservation Section,
Center for Environmental Biology and Ecosystem Studies,
National Institute for Environmental Studies
Address: 16-2, Onogawa, Tsukuba, Ibaraki 305-8506, Japan

Director:
Signature:
Date:

<<Depositor>>

Organization:

Address:

Name of depositor (with title):
Signature:
Date:

Strain Ordering and Agreement Form

Date:

Requestor's full name (family name in capital letters):

Requestor's affiliation and address:

Tel.:

Fax:

E-mail:

Billing address (if different from the above address):

I request the following culture strain(s).

Scientific name(s) and strain number(s):

Purpose of use (in detail):

1. The strains (including DNA, replicates and derivatives from the strains) that are distributed from the MCC-NIES, shall be available for education, research, tests, and other special purposes permitted by NIES, as well as for purposes in which public safety must be ensured. The strains are not intended to apply directly to humans. If the strains are toxic, the user hereby acknowledges and accepts the risks posed by toxic strains and shall use the strain in compliance with domestic and foreign laws, regulations, and guidelines. The user shall store and discard the strains appropriately. Even if "toxic" is not specified in the strain list, the user hereby acknowledges and accepts the potential risks of the strains and shall use the strains in compliance with domestic and foreign laws, regulations, and guidelines.
2. The user shall be requested to submit the application form personally.
3. The user shall not acquire any intellectual property rights by the purchase of the strain. The user shall not acquire any intellectual property rights by the purchase of the strain.
4. The user shall provide written notice to NIES when the purpose has changed considerably from the purpose that was stated at the time of submission.
5. The user shall not distribute the strains or their replicates and derivatives to any third party.
6. The user shall use the NIES strain number (e.g., NIES-125) when he/she uses a NIES strain in a paper that is subsequently published, and shall send two copies of the reprint(s) or photocopies thereof to the MCC-NIES.
7. When the use of the strain violates another person's rights, the user shall bear responsibility for this and shall deal with the matter on his/her own.
8. The user shall acknowledge the possibility that the strain is deficient and harmful, and inadequate for the user's aim. Thus, if the user suffers any loss by the strain, he/she shall bear responsibility for this and shall deal with the matter on his/her own.
9. The user shall submit the Strain Receipt Form within 1 month of the date of receipt of the strain. The user may request that the strain be sent again without charge if the strain does not show good growth during this warranty period. The MCC-NIES shall not bear any responsibility for mistakes by the user.

As mentioned above, the MCC-NIES (the supplier) and the user make two copies of the agreement, and the MCC-NIES and the user each hold one.

We, the MCC-NIES (the supplier) and the user, accept the above conditions in order to transfer the strain(s)

used for the purpose(s) specified above.

<<Supplier>>

Organization: Microbial Culture Collection,
Biodiversity Resource Conservation Section,
Center for Environmental Biology and Ecosystem Studies,
National Institute for Environmental Studies

Address: 16-2, Onogawa, Tsukuba, Ibaraki 305-8506, Japan

Director:

Signature:

Date:

<<User>>

Organization:

Address:

Name of user (with title):

Signature:

Date:

Name of responsible person (with title):

Signature:

Date

Strain Ordering and Agreement Form (For NIES staff)

Date:

Requestor's full name (family name in capital letters):

Requestor's affiliation at NIES:

Tel.:

Fax:

E-mail:

I request the following culture strain(s).

Scientific name(s) and strain number(s):

Purpose of use (in detail):

Registered research name:

Registered research code:

1. The strains (including DNA, replicates and derivatives from the strains) that are distributed from the MCC-NIES, shall be available for education, research, tests, and other special purposes permitted by NIES, as well as for purposes in which public safety must be ensured. The strains are not intended to apply directly to humans. If the strains are toxic, the user hereby acknowledges and accepts the risks posed by toxic strains and shall use the strain in compliance with domestic and foreign laws, regulations, and guidelines. The user shall store and discard the strains appropriately. Even if "toxic" is not specified in the strain list, the user hereby acknowledges and accepts the potential risks of the strains and shall use the strains in compliance with domestic and foreign laws, regulations, and guidelines.
2. The user shall be requested to submit the application form personally.
3. The user shall not acquire any intellectual property rights by the purchase of the strain. The user shall not acquire any intellectual property rights by the purchase of the strain.
4. The user shall provide written notice to NIES when the purpose has changed considerably from the purpose that was stated at the time of submission.
5. The user shall not distribute the strains or their replicates and derivatives to any third party.
6. The user shall use the NIES strain number (e.g., NIES-125) when he/she uses a NIES strain in a paper that is subsequently published, and shall send two copies of the reprint(s) or photocopies thereof to the MCC-NIES.
7. When the use of the strain violates another person's rights, the user shall bear responsibility for this and shall deal with the matter on his/her own.
8. The user shall acknowledge the possibility that the strain is deficient and harmful, and inadequate for the user's aim. Thus, if the user suffers any loss by the strain, he/she shall bear responsibility for this and shall deal with the matter on his/her own.
9. The user shall submit the Strain Receipt Form within 1 month of the date of receipt of the strain. The user may request that the strain be sent again without charge if the strain does not show good growth during this warranty period. The MCC-NIES shall not bear any responsibility for mistakes by the user.

As mentioned above, the MCC-NIES (the supplier) and the user make two copies of the agreement, and the MCC-NIES and the user each hold one.

We, the MCC-NIES (the supplier) and the user, accept the above conditions in order to transfer the strain(s) used for the purpose(s) specified above.

<<**Supplier**>>

Organization: Microbial Culture Collection,
Biodiversity Resource Conservation Section,
Center for Environmental Biology and Ecosystem Studies,
National Institute for Environmental Studies

Address: 16-2, Onogawa, Tsukuba, Ibaraki 305-8506, Japan

Director:

Signature:

Date:

<<**User**>>

Organization:

Address:

Name of user (with title):

Signature:

Date:

Name of responsible person (with title):

Signature:

Date



Strain Ordering and Agreement Form (For guest researchers and collaborators)

Date:

Requestor's full name (family name in capital letters):

Requestor's affiliation and address:

Tel.:

Fax:

E-mail:

Responsible researcher at NIES

Affiliation

I request the following culture strain(s).

Scientific name(s) and strain number(s):

Purpose of use (in detail):

1. The strains (including DNA, replicates and derivatives from the strains) that are distributed from the MCC-NIES, shall be available for education, research, tests, and other special purposes permitted by NIES, as well as for purposes in which public safety must be ensured. The strains are not intended to apply directly to humans. If the strains are toxic, the user hereby acknowledges and accepts the risks posed by toxic strains and shall use the strain in compliance with domestic and foreign laws, regulations, and guidelines. The user shall store and discard the strains appropriately. Even if "toxic" is not specified in the strain list, the user hereby acknowledges and accepts the potential risks of the strains and shall use the strains in compliance with domestic and foreign laws, regulations, and guidelines.
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Address: 16-2, Onogawa, Tsukuba, Ibaraki 305-8506, Japan

Director:

Signature:

Date:

<<User>>

Organization:

Address:

Name of user (with title):

Signature:

Date:



MCC-NIES
List of Strains, 9th Edition (2013)
Microalgae, Endangered Macroalgae and Protists

Kawachi, M., Ishimoto, M., Mori, F., Yumoto, K., Sato, M., Noël, M.-H. 2013.
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The latest information is available from the following
web site.

<http://mcc.nies.go.jp/>