

Research Article

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KMMCC-Korea Marine Microalgae Culture Center: list of strains, 2nd edition

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INTRODUCTION

Microalgae are primary producers in the ocean where millions of species are distributed. This extensive biological resource produce 20 billion tons of organic matter annually. Thus, related studies have a long historical background. Early microalgae work was limited to basic studies on the natural science related to the ecosystem. However, studies on artificial culture started in Europe beginning in the mid-19th century. Small-scale culture was started by Cohn (1850) in a German laboratory and developed into outdoor mass cultures for the purpose of industrial applications in the mid-20th century. Microalgae are now widely used as study subjects in marine basic science, as educational resources for students, and as diverse industrial materials.

Microalgae culture has a long history as live food for shellfish farming (Allen and Nelson 1910, Loosanoff and Davis 1963). However, full-scale commercial culture was developed mostly as mass culture to utilize algae as a functional food material (e.g., mass culture of *Chlorella vulgaris* as a dietary supplement in Japan and Taiwan in the 1960s, mass culture of *Spirulina platensis*, *Dunaliella salina*, and *Haematococcus pluvialis* for pigment and β -carotene (astaxanthin) production in USA, Israel, Australia, China, and Thailand after the 1980s, and commercial mass culture of heterotrophic algae (*Cryptocodinium cohnii*) to produce eicosapentaenoic acid, which is a highly unsaturated fatty acid, after the 1990s (Borow-

itzka 2014). However, microalgae are now widely used in diverse industries such as nutraceuticals, cosmetics, the environment, and bioenergy. Moreover, microalgae exhibit promising potential to be converted into high value medicines and pharmaceutical products. Thus, studies on microalgae are ongoing with tremendous expectations by scientists (Borowitzka and Borowitzka 1988, Becker 1994, Cohen 1999, Richmond 2004). Although mass cultures of microalgae remain expensive and have not been industrialized, commercialization of a number of higher value-added biological industries is expected in the near future.

Microalgae culture collections became an important study project when many countries competed to collect useful biological resources after conclusion of the UN Convention on Biological Diversity in 1992. The first microalgae culture collection in the world was established by Chodat (1928) in Geneva, Switzerland and by Pringsheim (1928) at German University in Prague, Czech Republic. Since then, Pringsheim founded the large Culture Center of Algae and Protozoa (CCAP) at Cambridge University in England and Sammlung von Algenkulturen (SAG) at Göttingen University, Germany with the same strains in 1953 (Tompkins et al. 1995, Preisig and Anderson 2005). CCAP is now operated by the Scottish Association for Marine Science at Oban. The Culture Collection of Algae at the University of Texas at Austin (UTEX) in USA (Starr and



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Zeikus 1993) and Provasoli-Guillard National Center for Culture of Marine Phytoplankton (CCMP) were established and developed in the USA (Andersen et al. 1997). The Culture Collection established at Indiana University, Bloomington in 1953 moved to UTEX in 1976 (Starr 1964). CCMP started at Woods Hole Oceanographic Institution but was transferred to Biglow Laboratory for Ocean Sciences, Maine in 1981 and was renamed the Provasoli-Guillard National Center for Marine Algae and Microbiota in 2011. Studies on *Chlorella* culture in Japan were conducted actively in the early 1950s, Tamiya (1956, 1966) developed synchronous culture to advance experiments in algal physiology. In addition, the National Institute for Environmental Studies (NIES) has been actively culturing microalgae since the 1980s (Kasai et al. 2009). Large and small microalgae collections in many countries, such as the Freshwater Algae Culture Collection at the Institute of Hydrobiology (FACHB) in Wuhan, China and the CSIRO Microalgae Culture Collection (CSIRO 1996) in Australia are being operated.

History of microalgae culture in Korea

Studies on microalgae culture in Korea began at the end of the 1960s to utilize algae as live food in aquaculture. Some microalgal species such as *Chaetoceros calcitrans*, *Cyclotella nana*, *Phaeodactylum tricorutum*, *Isochrysis galbana*, and *Pavlova lutheri* were obtained from Japanese institutions and tested for bivalve larvae culture in the laboratory (Yoo 1968, 1969, 1970). Isolation of microalgae from Korean coastal waters began in 1983

at the Department of Marine Bio-materials and Aquaculture, Pukyong National University. The initial purpose of this work was to collect microalgae for larval culture in a hatchery. Subsequently, a culture collection of 117 marine microalgal strains was reported (Hur 1992).

The culture industry of marine invertebrates and fish has developed in Korea since the 1980s. Therefore, many studies on the development of live food for artificial seedling production in hatcheries have been conducted. Chlorophyceae (*Chlorella* and *Nannochloris*), Prasinophyceae (*Tetraselmis*), and Eustigmatophyceae (*Nannochloropsis*) have been used mostly for rotifer mass cultures in marine fish larval rearing (Lee and Hur 2009, Bae and Hur 2011, Kim and Hur 2013). Haptophyceae (*Isochrysis* and *Pavlova*), non-adhesive Bacillariophyceae (*Chaetoceros*, *Thalassiosira*, and *Phaeodactylum*), and Chlorophyceae (*Dunaliella*) have been used for shellfish farming (Hur et al. 2005, Youn and Hur 2009), and adhesive Bacillariophyceae (*Navicula*, *Nitzschia*, *Caloneis*, *Rhaponies*, and *Amphora*) have been developed for abalone farming (Ko and Hur 2011, Kim et al. 2013). Daesang Co., Ltd has cultivated freshwater heterotrophic *C. vulgaris* since 1999 and sold dietary supplements. In addition, concentrated marine *Nannochloropsis oceanica* was developed as a rotifer mass culture (Park and Hur 1996), and freshwater concentrated *Chlorella* produced by Daesang Co., Ltd. has been used extensively. After the 1990s, harmful red tide algae, such as *Cochlodinium polykrikoides* and *Heterosigma akashiwo*, bloomed on a large scale on the Korean coast, and studies on toxic Dinophyceae and Raphidophyceae became active (Jeong et al. 2013, Lee et al. 2013).

Table 1. Numbers of genera, species, and strains available from the KMMCC

Phylum	Class	Genera	Species	Strains
Cyanophyta	Cyanophyceae	23	63	130
Rhodophyta	Rhodophyceae	3	7	19
Chlorophyta	Chlorophyceae	60	132	413
	Prasinophyceae	4	17	85
Euglenozoa	Euglenophyceae	5	8	15
Dinophyta	Dinophyceae	24	63	186
Heterokontophyta	Bacillariophyceae	85	341	1,182
	Chrysophyceae	7	10	13
	Eustigmatophyceae	2	4	59
	Raphidophyceae	3	9	30
Cryptophyta	Cryptophyceae	9	18	49
Haptophyta	Haptophyceae	8	18	38
Total		233	690	2,219

KMMCC, Korea Marine Microalgae Culture Center.

In 1995, the Korea Marine Microalgae Culture Center (KMMCC) was established with financial support from the National Research Foundation of Korea in the Department of Marine Bio-materials and Aquaculture, Pukyong National University (at the Institute of Fisheries Sciences located at Dongbacksum in Busan). The microalgae strain collection has been increasing continuously since 1995 and reached about 1,200 strains in 2004. The KMMCC moved from Dongbacksum to the Daeyun Campus of the university in September 2004. The KMMCC microalgal collection was first published in 2008, with about 1,400 strains since establishment of the KMMCC in 1995 (Hur 2008). In 2008, the another culture collection (the Culture Collection of Useful Marine Plankton, CCUMP) was established in the same laboratory with financial support from the Korea Institute of Marine Science & Technology Promotion (KIMST), Ministry of Oceans and Fisheries, and useful zooplankton have also been collected for studies. Useful zooplankton including Ciliata, Rotifera, Branchiopoda, Cladocera, and Copepoda, which are widely used as live animal food for fish larval culture or as test organisms in ecotoxicology, are cultivated.

Information of the KMMCC strains

The KMMCC is currently cultivating 2,219 microalgae strains of 690 species, 233 genera, and eight phyla (Table 1). About 80% of the strains are marine and 4% and 16% are brackish water and freshwater microalgae, respectively. Among all microalgae at the KMMCC, the proportion of species collected in foreign seas and obtained from foreign culture collections are 5% and 4%, respectively. These include Bacillariophyceae (53%), Chlorophyceae (18%), Dinophyceae (8%), Cyanophyceae (6%), Prasinophyceae (4%), Eustigmatophyceae (3%), Haptophyceae (2%), Chryptophyceae (2%), Raphidophyceae (1%), Euglenophyceae (1%), Chrysophyceae (1%), and Rhodophyceae (1%). Approximately 54% of all strains are classified at the species level, and 4% of the strains are classified at the class level. The phylogenetic positions of very small or not clearly classified strains is investigated through DNA base sequence (generally 18S rRNA, *rbcL*, or internal transcribed spacer [ITS]) analysis to confirm taxonomic position. Base sequences of 42% of the microalgae have been analyzed and are used as taxonomic reference data. Although assigning the correct taxonomical position to the strains has always been our primary concern, many difficulties exist in identifying them. The numbers of axenic and cryopreserved strains are about 48% and 49%, respectively, of all strains in the collection.

The microalgae of 223 genera of the KMMCC strains are shown on Figs 1-9 in alphabetical order.

The initial direction of the KMMCC focused on finding microalgae species that had a good dietary value for aquacultured larvae. However, recent work has shifted to collecting a wider range of diverse microalgae that are taxonomically different, screening useful microalgae strains, and effectively managing the strains. The demand for strains in research fields has been expanding from the aquaculture industry to nutraceutical, environmental, chemical, and biological engineering. Annual domestic orders for algae from educational, academic, and industrial organizations have increased to nearly 300 requests for as many as 400 strains. Information on each strain includes sampling information (date, location, habitat, sampling method, sampler, temperature, salinity, and depth), registration information (isolator, isolation method, date, and identifier), culture information (media, axenic or xenic, temperature, salinity illumination intensity, photoperiod, cryopreservation, and subculture interval), biological and chemical information (image, size, DNA sequence, nutritional composition), and other information (deposit, purchase, patent strains, specific characteristics, references, etc). This information is available to researchers.

Deposition

Making a deposit of a newly isolated microalgae strain in the KMMCC is always possible if the depositor agrees to distribute the strain to other researchers. The KMMCC accepts strains that are valuable additions. The strain should be free from any legal limitations and in a clonal or unialgal state (axenic strains are preferable). The deposition should include information regarding sampling, identification, culture, and other information that may be of value. All deposited strains will be given a KMMCC registration number and will be available to the public. The final decision of which strains are deposited belongs to the KMMCC. The KMMCC bears no responsibility for any loss or inevitable change during maintenance. Contact the KMMCC through our website (<http://www.kmmcc.re.kr>) to deposit a strain.

Information for ordering and service

KMMCC cultures are available to any individual or academic or commercial organizations in Korea. Orders for cultures are accepted by e-mail, fax, through the website, or in person. Purchasers are welcome to search the

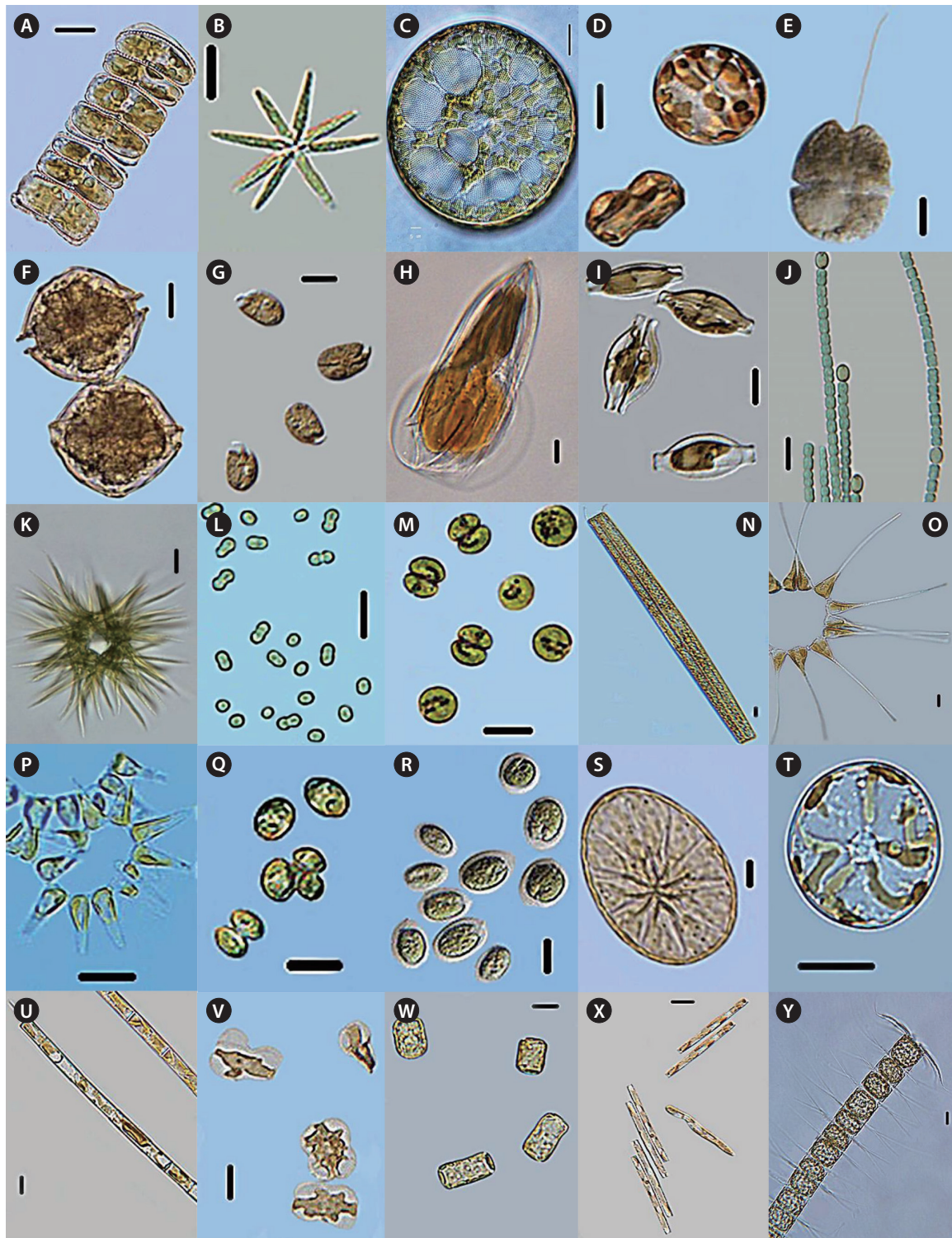


Fig. 1. Micrographs of KMMCC strains (alphabetical order). (A) *Achnanthes* (KMMCC-707). (B) *Actinastrum* (KMMCC-1711). (C) *Actinocyclus* (KMMCC-1246). (D) *Actinoptychus* (KMMCC-1314). (E) *Akashiwo* (KMMCC-2003). (F) *Alexandrium* (KMMCC-1849). (G) *Amphidinium* (KMMCC-2121). (H) *Amphiprora* (KMMCC-1855). (I) *Amphora* (KMMCC-064). (J) *Anabaena* (KMMCC-2162). (K) *Ankistrodesmus* (KMMCC-2157). (L) *Aphanocapsa* (KMMCC-1709). (M) *Aphanothece* (KMMCC-1957). (N) *Ardissonia* (KMMCC-1751). (O) *Asterionella* (KMMCC-1743). (P) *Asterionellopsis* (KMMCC-774). (Q) *Asterococcus* (KMMCC-1989). (R) *Asteromonas* (KMMCC-1836). (S) *Asteromphalus* (KMMCC-1632). (T) *Aulacodiscus* (KMMCC-1752). (U) *Aulacoseira* (KMMCC-1900). (V) *Auricula* (KMMCC-228). (W) *Azpeitia* (KMMCC-1633). (X) *Bacillaria* (KMMCC-1265). (Y) *Bacteriastrium* (KMMCC-1697). Scale bars represent: A-Y, 10 μ m.



Fig. 2. Micrographs of KMMCC strains (alphabetical order). (A) *Bellerochea* (KMMCC-2120). (B) *Berkeleya* (KMMCC-1300). (C) *Biddulphia* (KMMCC-1318). (D) *Botryococcus* (KMMCC-1350). (E) *Caloneis* (KMMCC-900). (F) *Campylodiscus* (KMMCC-1878). (G) *Carteria* (KMMCC-1203). (H) *Cerataulina* (KMMCC-496). (I) *Chaetoceros* (KMMCC-1635). (J) *Chaetophora* (KMMCC-2146). (K) *Chattonella* (KMMCC-1716). (L) *Chlamydomonas* (KMMCC-1839). (M) *Chlorella* (KMMCC-004). (N) *Chlorococcum* (KMMCC-205). (O) *Chromulina* (KMMCC-2191). (P) *Chroococcus* (KMMCC-1427). (Q) *Chroomonas* (KMMCC-2148). (R) *Chrysanthemodiscus* (KMMCC-1545). (S) *Chrysochromulina* (KMMCC-1832). (T) *Climacosphenia* (KMMCC-1723). (U) *Closterium* (KMMCC-1943). (V) *Coccolithus* (KMMCC-316). (W) *Cocconeis* (KMMCC-2177). (X) *Cochlodinium* (KMMCC-2036). (Y) *Coelasphaerium* (KMMCC-1939). Scale bars represent: A-Y, 10 μ m.

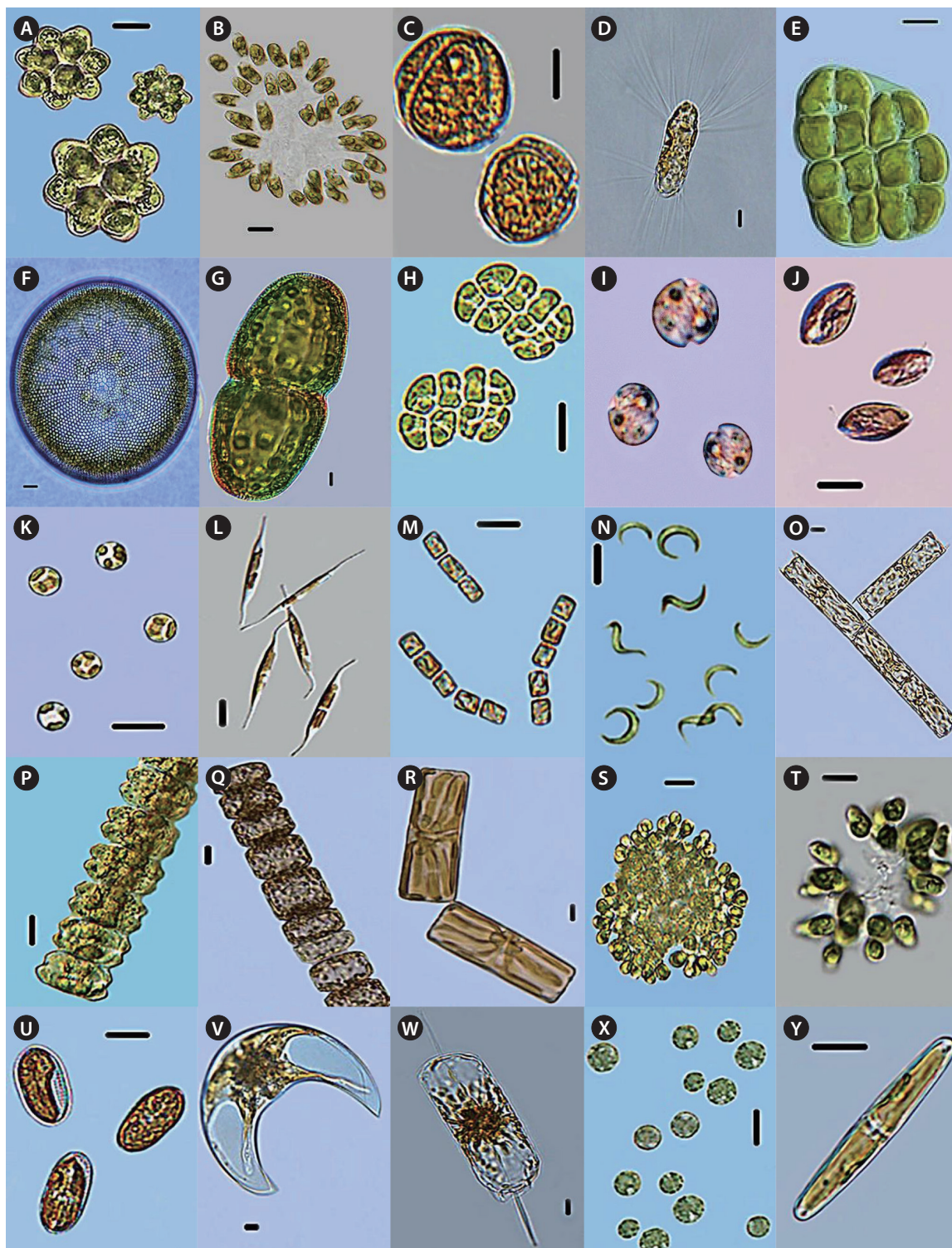


Fig. 3. Micrographs of KMMCC strains (alphabetical order). (A) *Coelastrum* (KMMCC-1448). (B) *Colacium* (KMMCC-442). (C) *Coolia* (KMMCC-1884). (D) *Corethron* (KMMCC-1573). (E) *Coronastrum* (KMMCC-1843). (F) *Coscinodiscus* (KMMCC-726). (G) *Cosmarium* (KMMCC-2089). (H) *Crucigenia* (KMMCC-1990). (I) *Cryptocodinium* (KMMCC-1355). (J) *Cryptomonas* (KMMCC-1485). (K) *Cyclotella* (KMMCC-112). (L) *Cylindrotheca* (KMMCC-022). (M) *Cymatosira* (KMMCC-790). (N) *Dactylococcopsis* (KMMCC-1252). (O) *Dactylosolen* (KMMCC-1728). (P) *Desmidium* (KMMCC-1975). (Q) *Detonula* (KMMCC-1407). (R) *Diatoma* (KMMCC-1486). (S) *Dictyosphaerium* (KMMCC-1770). (T) *Dimorphococcus* (KMMCC-1968). (U) *Diploneis* (KMMCC-1953). (V) *Dissodinium* (KMMCC-1757). (W) *Ditylum* (KMMCC-791). (X) *Dixoniella* (KMMCC-1356). (Y) *Donkinia* (KMMCC-304). Scale bars represent: A-Y, 10 μ m.

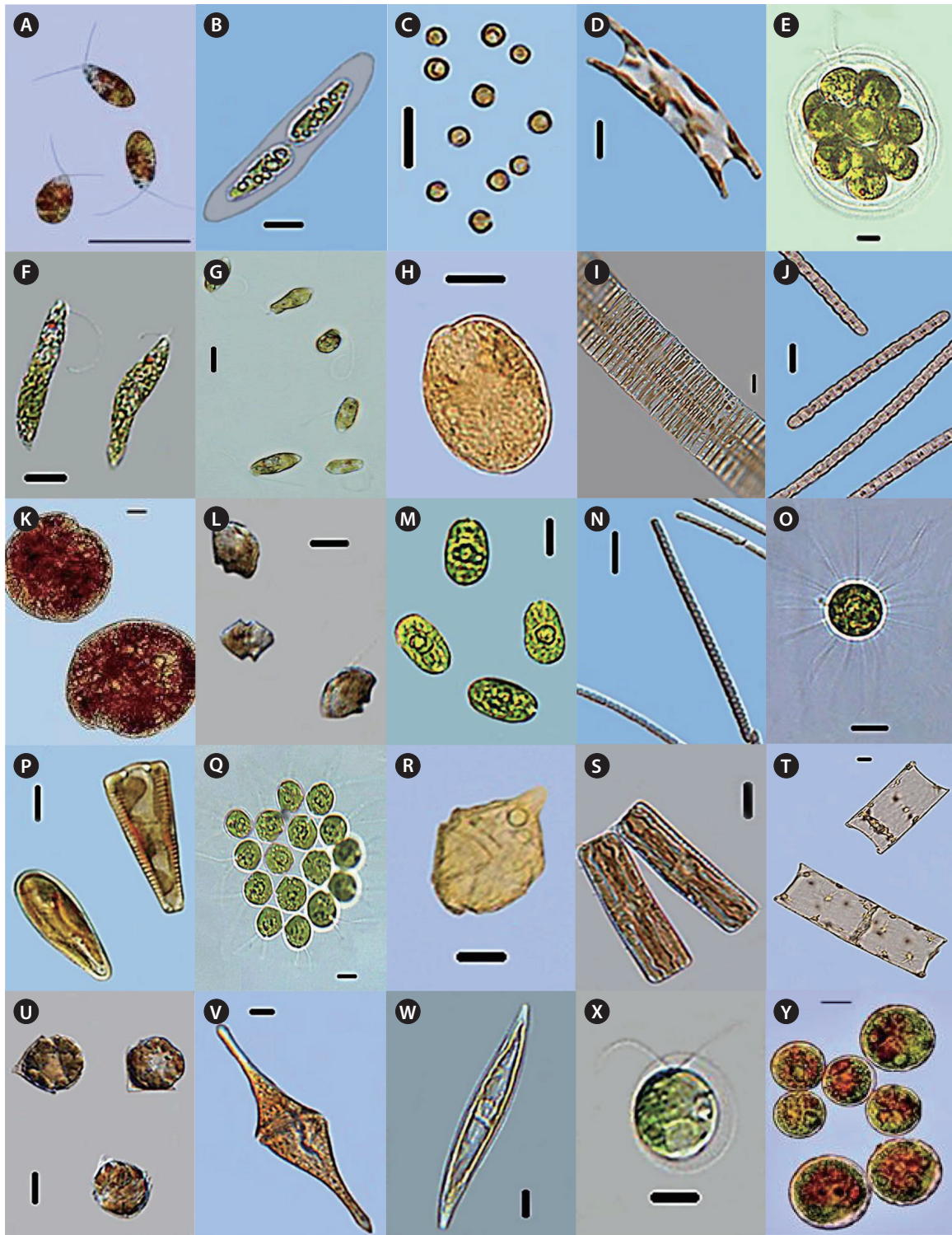


Fig. 4. Micrographs of KMMCC strains (alphabetical order). (A) *Dunaliella* (KMMCC-1428). (B) *Elacatothrix* (KMMCC-2135). (C) *Emiliana* (KMMCC-437). (D) *Eucampia* (KMMCC-1327). (E) *Eudorina* (KMMCC-1840). (F) *Euglena* (KMMCC-1351). (G) *Eutreptiella* (KMMCC-1618). (H) *Exuviaella* (KMMCC-1473). (I) *Fragilaria* (KMMCC-1698). (J) *Fremyella* (KMMCC-1352). (K) *Gambierdiscus* (KMMCC-2010). (L) *Glenodinium* (KMMCC-1649). (M) *Gloeocystis* (KMMCC-1825). (N) *Gloeotrichia* (KMMCC-2215). (O) *Golenkinia* (KMMCC-2086). (P) *Gomphonema* (KMMCC-2188). (Q) *Gonium* (KMMCC-1714). (R) *Gonyaulax* (KMMCC-1688). (S) *Grammatophora* (KMMCC-1254). (T) *Guinardia* (KMMCC-1474). (U) *Gymnodinium* (KMMCC-1804). (V) *Gyrodinium* (KMMCC-1501). (W) *Gyrosigma* (KMMCC-1749). (X) *Haematococcus* motile cell (KMMCC-1354). (Y) *Haematococcus* non-motile cell. Scale bars represent: A-Y, 10 μ m.



Fig. 5. Micrographs of KMMCC strains (alphabetical order). (A) *Halochlorococcum* (KMMCC-151). (B) *Hantzschia* (KMMCC-265). (C) *Haslea* (KMMCC-1580). (D) *Hemiaulus* (KMMCC-1619). (E) *Hemidiscus* (KMMCC-1778). (F) *Hemiselmis* (KMMCC-1910). (G) *Heterocapsa* (KMMCC-561). (H) *Heterosigma* (KMMCC-1606). (I) *Heynigia* (KMMCC-1451). (J) *Hillea* (KMMCC-1620). (K) *Hormidium* (KMMCC-2000). (L) *Hyalodiscus* (KMMCC-1947). (M) *Isochrysis* (KMMCC-012). (N) *Katodinium* (KMMCC-1805). (O) *Kirchneriella* (KMMCC-1847). (P) *Lagerheimia* (KMMCC-1544). (Q) *Lauderia* (KMMCC-1654). (R) *Leptocylindrus* (KMMCC-1329). (S) *Licmophora* (KMMCC-1476). (T) *Lithodesmium* (KMMCC-735). (U) *Lyngbya* (KMMCC-1056). (V) *Mallomonas* (KMMCC-1935). (W) *Mamiella* (KMMCC-1791). (X) *Mastogloia* (KMMCC-2103). (Y) *Melosira* (KMMCC-1976). Scale bars represent: A-Y, 10 μ m.

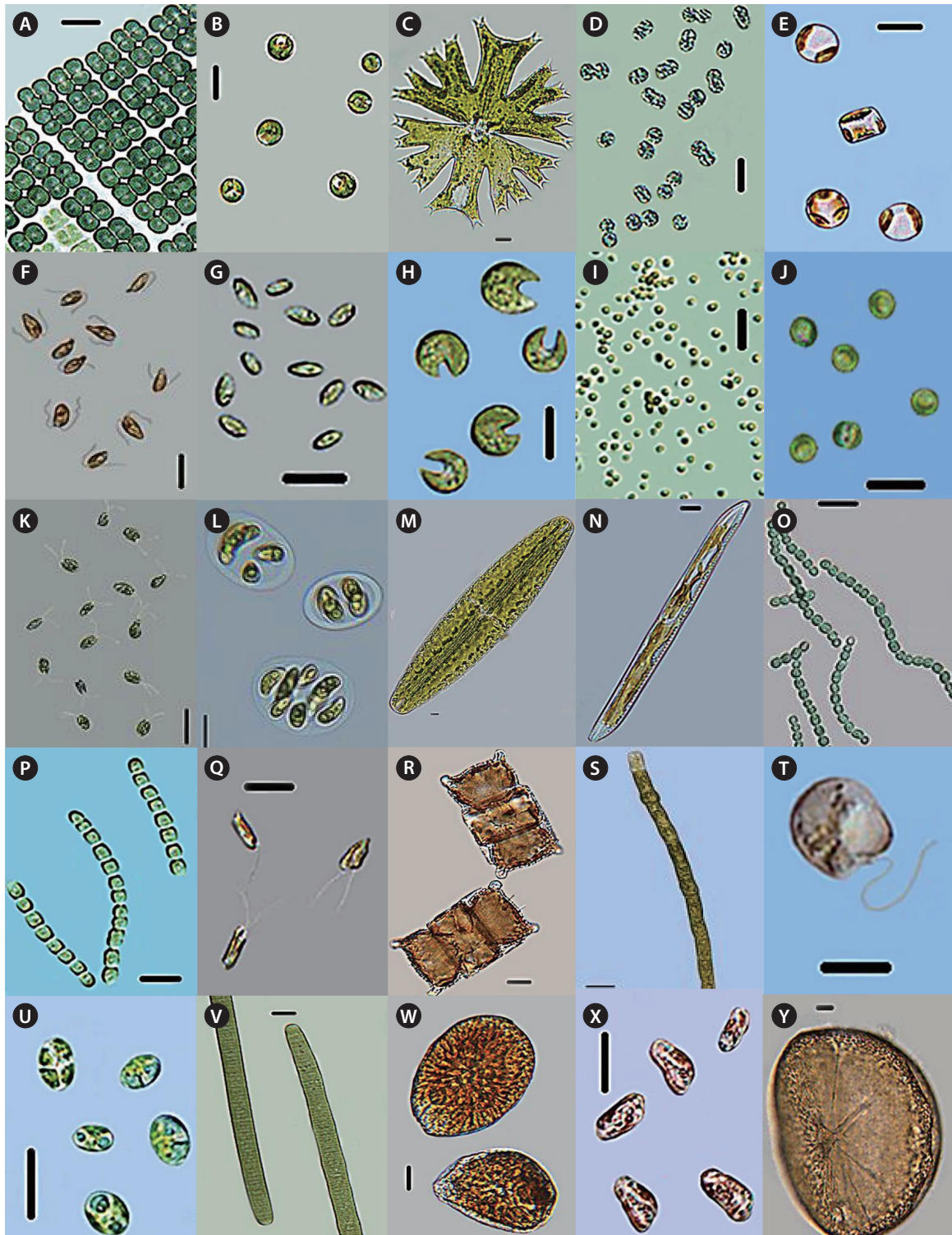


Fig. 6. Micrographs of KMMCC strains (alphabetical order). (A) *Merismopedia* (KMMCC-1949). (B) *Micractinium* (KMMCC-1710). (C) *Micrasterias* (KMMCC-1994). (D) *Microcystis* (KMMCC-973). (E) *Minidiscus* (KMMCC-836). (F) *Monochloropsis* (KMMCC-587). (G) *Monodus* (KMMCC-1348). (H) *Monoraphidium* (KMMCC-1521). (I) *Nannochloris* (KMMCC-016). (J) *Nannochloropsis* (KMMCC-024). (K) *Neochlorosaroina* (KMMCC-1255). (L) *Nephrocytium* (KMMCC-1875). (M) *Netrium* (KMMCC-1946). (N) *Nitzschia* (KMMCC-1656). (O) *Nodularia* (KMMCC-1690). (P) *Nostoc* (KMMCC-1184). (Q) *Ochromonas* (KMMCC-1924). (R) *Odontella* (KMMCC-1623). (S) *Oedogonium* (KMMCC-2207). (T) *Olisthodiscus* (KMMCC-1640). (U) *Oocystis* (KMMCC-443). (V) *Oscillatoria* (KMMCC-1995). (W) *Ostreopsis* (KMMCC-1883). (X) *Oxyrrhis* (KMMCC-1144). (Y) *Palmeria* (KMMCC-1915). Scale bars represent: A-Y, 10 μ m.

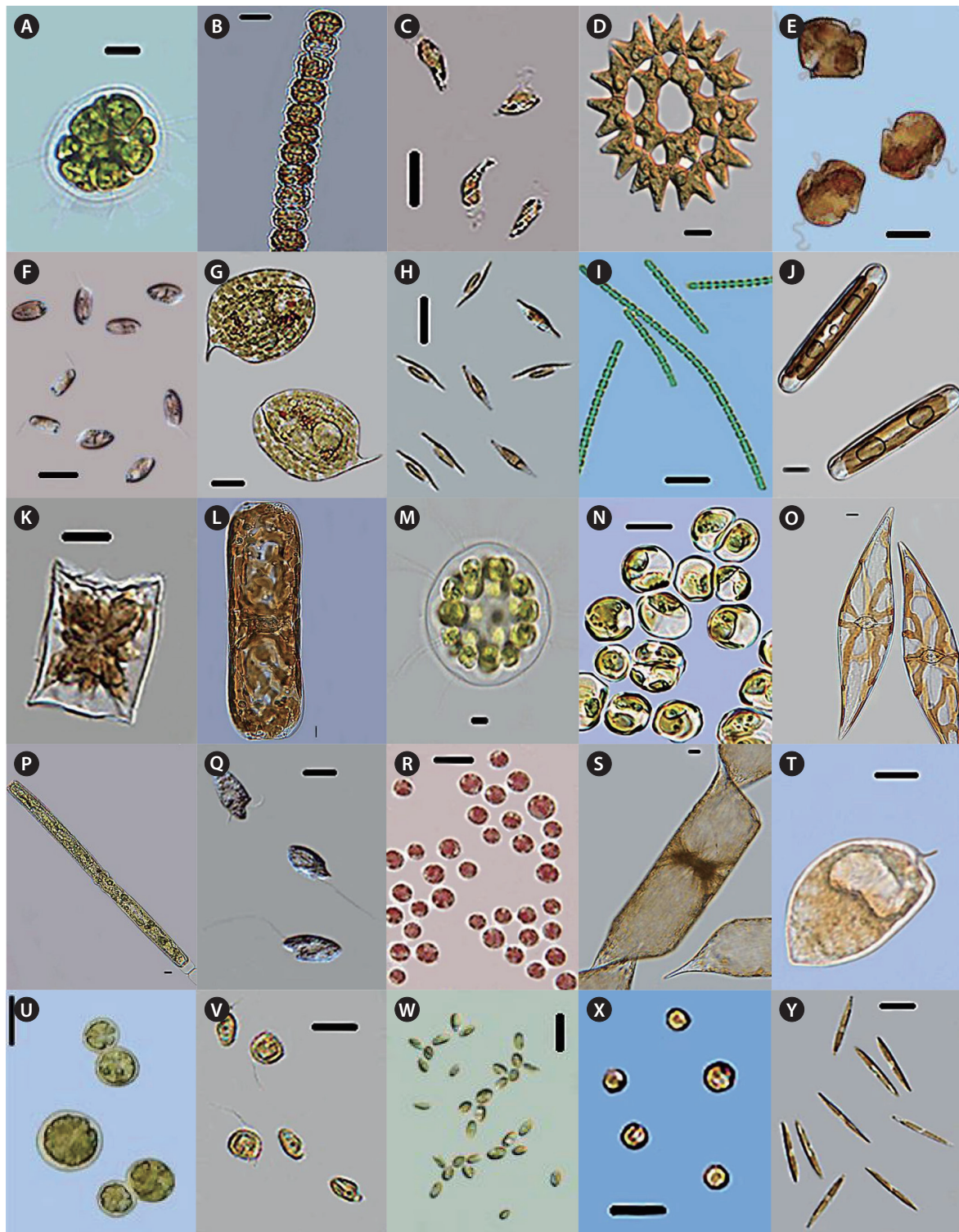


Fig. 7. Micrographs of KMMCC strains (alphabetical order). (A) *Pandorina* (KMMCC-1712). (B) *Paralia* (KMMCC-1658). (C) *Pavlova* (KMMCC-215). (D) *Pediastrum* (KMMCC-1524). (E) *Peridinium* (KMMCC-1502). (F) *Pfiesteria* (KMMCC-2039). (G) *Phacus* (KMMCC-2154). (H) *Phaeodactylum* (KMMCC-014). (I) *Phormidium* (KMMCC-1921). (J) *Pinnularia* (KMMCC-2164). (K) *Plagiogramma* (KMMCC-754). (L) *Plagiotrops* (KMMCC-2088). (M) *Pleodorina* (KMMCC-1869). (N) *Pleurochrysis* (KMMCC-1065). (O) *Pleurosigma* (KMMCC-1583). (P) *Pleurotaenium* (KMMCC-1852). (Q) *Polykrikos* (KMMCC-1830). (R) *Porphyridium* (KMMCC-1066). (S) *Proboscia* (KMMCC-1861). (T) *Prorocentrum* (KMMCC-968). (U) *Protococcus* (KMMCC-1988). (V) *Prymnesium* (KMMCC-1671). (W) *Pseudococcomyxa* (KMMCC-147). (X) *Pseudoisochrysis* (KMMCC-1357). (Y) *Pseudonitzschia* (KMMCC-627). Scale bars represent: A-Y, 10 μ m.

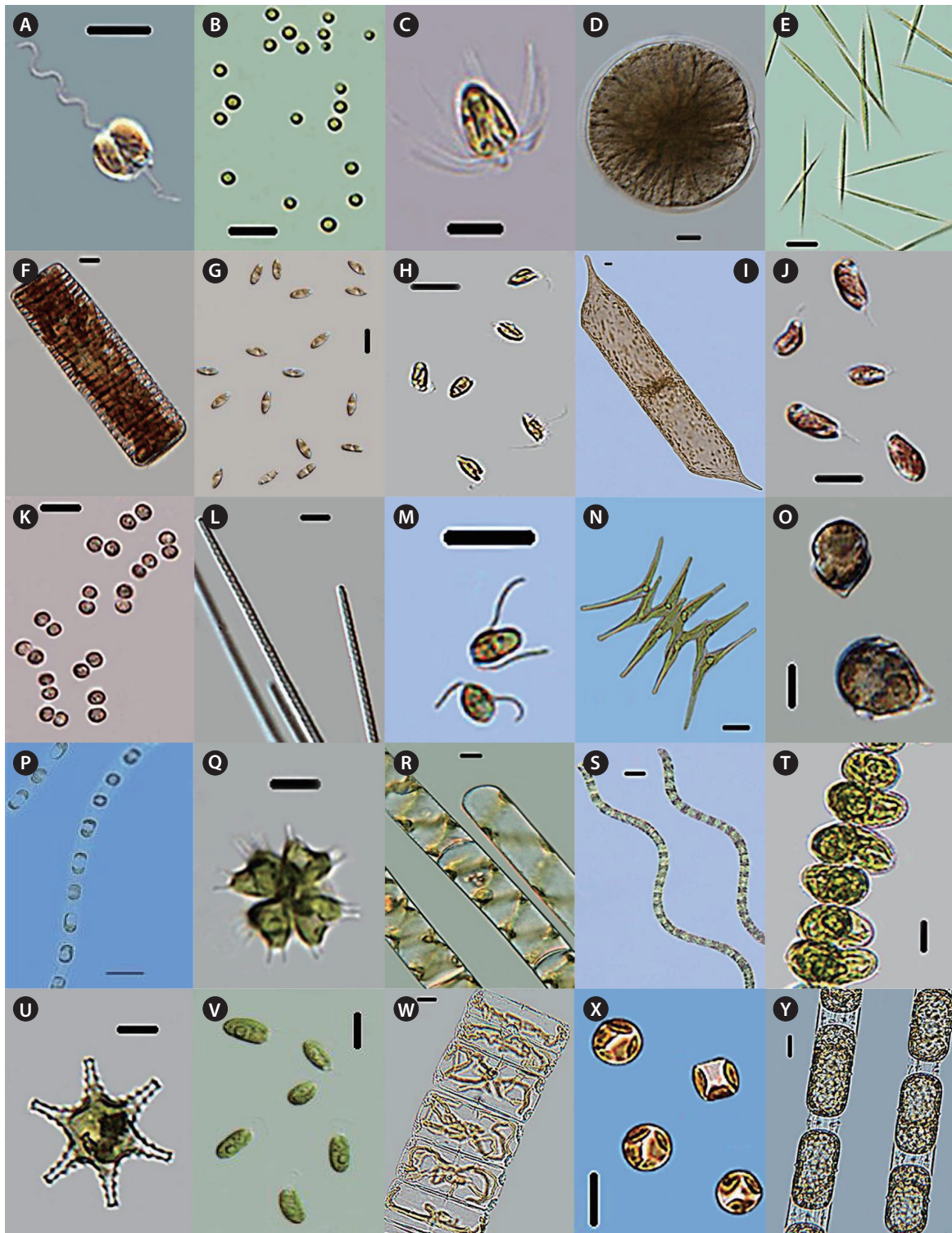


Fig. 8. Micrographs of KMMCC strains (alphabetical order). (A) *Pseudopedinella* (KMMCC-1779). (B) *Pycnococcus* (KMMCC-438). (C) *Pyramimonas* (KMMCC-1827). (D) *Pyrophacus* (KMMCC-1530). (E) *Quadrigula* (KMMCC-1789). (F) *Rhabdonema* (KMMCC-1750). (G) *Rhaphoneis* (KMMCC-1018). (H) *Rhinomonas* (KMMCC-1922). (I) *Rhizosolenia* (KMMCC-1441). (J) *Rhodomonas* (KMMCC-1867). (K) *Rhodosorus* (KMMCC-1358). (L) *Rivularia* (KMMCC-1923). (M) *Sarcinochrysis* (KMMCC-1610). (N) *Scenedesmus* (KMMCC-1973). (O) *Scrippsiella* (KMMCC-593). (P) *Skeletonema* (KMMCC-660). (Q) *Sorastrum* (KMMCC-2160). (R) *Spirogyra* (KMMCC-2123). (S) *Spirulina* (KMMCC-1691). (T) *Spondylosium* (KMMCC-1864). (U) *Spumella* (KMMCC-242). (V) *Staurastrum* (KMMCC-1454). (W) *Stauroneis* (KMMCC-1598). (X) *Stephanodiscus* (KMMCC-1291). (Y) *Stephanopyxis* (KMMCC-1587). Scale bars represent: A-Y, 10 μ m.



Fig. 9. Micrographs of KMMCC strains (alphabetical order). (A) *Stichococcus* (KMMCC-1480). (B) *Stigeoclonium* (KMMCC-2214). (C) *Streptotheca* (KMMCC-1389). (D) *Striatella* (KMMCC-1812). (E) *Surirella* (KMMCC-1436). (F) *Synechococcus* (KMMCC-548). (G) *Synechocystis* (KMMCC-1692). (H) *Synedra* (KMMCC-1613). (I) *Synedropsis* (KMMCC-1562). (J) *Synura* (KMMCC-1613). (K) *Tabellaria* (KMMCC-2193). (L) *Teleaulax* (KMMCC-1780). (M) *Tetraselmis* (KMMCC-053). (N) *Thalassionema* (KMMCC-1589). (O) *Thalassiosira* (KMMCC-667). (P) SEM image of *Thalassiosira*. (Q) *Thalassiothrix* (KMMCC-1680). (R) *Trachelomonas* (KMMCC-1164). (S) *Trachyneis* (KMMCC-857). (T) *Triceratium* (KMMCC-1879). (U) *Trichodesmium* (KMMCC-1781). (V) *Tropidoneis* (KMMCC-1978). (W) *Ulothrix* (KMMCC-1083). (X) *Uroglena* (KMMCC-2124). (Y) *Volvox* (KMMCC-1912). Scale bars represent: A-Y, 10 μ m.

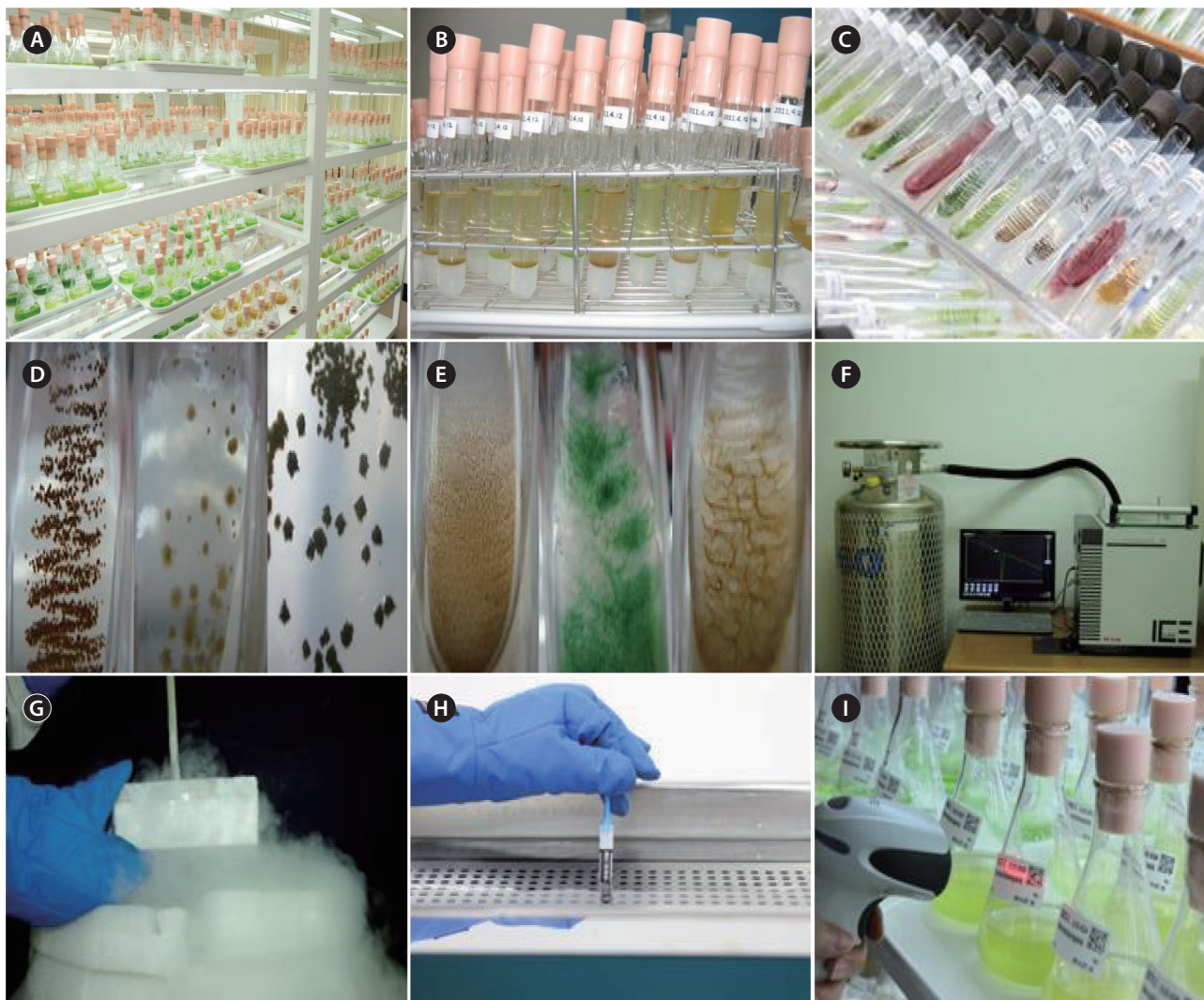


Fig. 10. Culture and management of strains at the KMMCC. (A) Culture of liquid medium. (B) Culture in agar + liquid medium. (C) Culture in agar medium. (D) Clear colony type on agar (from left: simple round shape colony, *Phaeodactylum*, *Nitzschia*, *Chlorella*; mucous round shape colony, *Botryococcus*, *Chlamydomonas*, *Synechococcus*; irregular shape colony, *Achnanthes*, *Trichodesmium*, *Fragilaria*). (E) Widespread spreading colony type on agar (from left: thin shape colony, *Amphora*, *Amphiprora*, *Navicula*; filamentous shape colony, *Lyngbya*, *Oscillatoria*, *Spirulina*; wave shape colony, *Cylindrotheca*). (F) Controlled-rate freezer for cryopreservation. (G) Storage boxes of cryovials set in liquid nitrogen tank. (H) Thawing a frozen culture in cryovial at 35°C water bath. (I) Management of subculture and data base of strains with 2D barcode scanning.

KMMCC website database (<http://www.kmmcc.re.kr>). A newly inoculated strain that includes 5 mL of culture in 10 mL liquid medium in a 15 mL conical tube is delivered to the purchaser on Tuesday within a week after receiving the order. The cost per culture is 30,000 Korean won for non-profit organizations (universities and governmental institutions), whereas commercial organizations such as aquaculture farms and private companies are charged 60,000 Korean won. If the strain is contaminated with another species or has died, the purchaser can request a

new order. The KMMCC can supply autoclaved medium for culture, gDNA, and detailed database information. If the purchaser requires a mass culture >15 mL, an axenic strain on agar, or a cryopreserved strain, the KMMCC requires 2-4 weeks before parceling out the strain. The KMMCC provides several special services when time allows, including teaching culture techniques, consulting, mass culture, and cell harvesting. Detailed information on ordering and special services is self-explanatory at the web site (<http://www.kmmcc.re.kr>).

CULTURE TECHNIQUES

Isolation, purification, and registration

Microalgae species sampled from nature are isolated to a single cell using single or multiple techniques of capillary pipette, agar streak, serial dilutions, or photo-taxis. Monospecific algae are usually purified by successive sonication, washing, and streaking on agar combined with antibiotic treatment. The kind and concentration of antibiotic treatment are different for different algal strains. There are three strain types, including, a type unable to adhere, a type able to weakly adhere, and a type able to adhere well to agar medium and grow (see Fig. 10A-C). The types unable to adhere, such as *Chaetoceros*, *Thalassiosira*, and *Skeletonema* of Central Bacillariophyceae, require aseptic culture in liquid medium, and 500-2,000 ppm penicillin or penicillin + streptomycin + chloramphenicol is effective. Less adhesive Haptophyceae, such as *Isochrysis* and *Pavlova*, and most Dinophyceae, such as *Amphidinium*, *Gymnodinium*, and *Scripscilla*, are aseptically treated in liquid medium and then mixed with agar medium in a 1 : 1 ratio for culture. Thus, an axenic culture can be kept for a long time. Antibiotic treatment in liquid medium is 500-2,000 ppm neomycin, gentamicin, or dihydrostreptomycin used alone.

Microalgae that grow well in agar are classified into a clear colony type and a widespread spreading colony type (see Fig. 10D & E). The colony type is classified into a round shape, a mucous round shape, and an irregular shape. Pennales Bacillariophyceae, such as *Phaeodactylum* and *Nitzschia*, and Chlorophyceae, such as *Chlorella* and *Nannochloris*, have a typical round shape. In this case, 500-2,000 ppm penicillin is added to liquid medium followed by centrifugation (about 8,000 rpm, 5-10 min) before streaking on agar medium. This results in a clean colony suitable for axenic culture. Chlorophyceae, such as *Botryococcus*, *Synechococcus*, and *Chlamydomonas*, form a round shape colony with mucilage. In this case, penicillin, streptomycin, and chloramphenicol are mixed at 500-2,000 ppm and centrifugation (5,000 rpm, 5 min) is performed. Then, it is streaked on antibiotic-supplemented agar medium prepared by the same method resulting in a relatively uncontaminated colony. In addition, Bacillariophyceae, such as *Achnanthes*, and Cyanophyceae, such as *Trichodesmium*, form an irregular shaped colony. In this case, 500-2,000 ppm penicillin is added to liquid medium and streaked on agar medium resulting in an uncontaminated irregular shape colony.

The widespread spreading colony type, which is not

clearly divided, is classified into a thin shape, a filamentous shape, and a corrugated wave shape. The thin shape includes highly adhesive Pennales Bacillariophyceae, such as *Amphora* and *Navicula*, and 500-2,000 ppm penicillin is added to agar medium. The filamentous shape typically includes spiral Cyanophyceae, such as *Oscillatoria* and *Spirulina*. In this case, 500-2,000 ppm chloramphenicol is used before streaking on agar medium. The wave shape includes Pennales Bacillariophyceae, such as *Cylindrotheca*, and penicillin, streptomycin, and chloramphenicol are mixed at 500-2,000 ppm and added to agar medium just before streaking to obtain an aseptic colony.

An axenic culture can be easily set-up for Chlorophyceae, Cyanophyceae, and adhesive Bacillariophyceae but these cultures are difficult with Dinophyceae and Central Bacillariophyceae. Penicillin, streptomycin, and chloramphenicol are appropriate for Chlorophyceae and Cyanophyceae. Mixed antibiotics are not used for Dinophyceae, and streptomycin or chloramphenicol alone is also not suitable. Penicillin, streptomycin, and chloramphenicol are appropriate for Bacillariophyceae. In general, axenic treatment with antibiotics is more effective in Pennales compared to that in Central Bacillariophyceae. A freshwater microalgae axenic culture is easier to prepare than that of seawater, whereas an axenic culture of non-mucous microalgae with thick cell walls and a smooth surface is much easier. An axenic culture is generally confirmed by microbiological methods. Organic matter, which help bacteria grow, such as broth, yeast extract, peptone and tryptone, are added alone or together to culture media at a concentration of 1-2% (w/v). Then, the culture is incubated in an optimal environment to confirm whether the axenic culture is successful or not.

Unialgal strains are maintained in liquid medium. A newly isolated strain would be subcultured in a 100 mL of Erlenmeyer flask for several months so a monospecific state can be confirmed. The strain is identified through morphology and DNA sequencing (18s rRNA and then *rbcL* and ITS). A taxonomist is used occasionally for a more detailed identification. If the identification is uncertain, it is classified into the unidentified group. Then, the unialgal or axenic strain is registered on a culture list with sampling, culture, and other information. Optimal growth conditions for culturing each strain are maintained by incubators.

Subculture

When new microalgae strains are isolated and regis-

tered on the culture list, they are maintained by continuous subculture. All strains in stable culture after registration are placed in a constant temperature and humidity controlled room. Species are preserved in liquid culture, solid agar culture, and by cryopreservation. To prepare a subculture, 100 mL of fresh medium is decanted into a 250 mL Erlenmeyer flask. The inocula for a subculture is approximately 5-10% depending on culture cell density, and cultivation is performed at constant temperature (15°C, 18°C, 20°C or 23°C) and humidity (45%). Photosynthetic photon flux density (PPFD) is 20-100 $\mu\text{mol photons m}^{-2} \text{s}^{-1}$, depending on the microalgae and the light : dark (LD) cycle is 10 L : 14 D. Adhesive Bacillariophyceae are cultivated under low intensity illumination and Chlorophyceae is cultured under high intensity illumination. Microalgae in a standing culture are shaken once per week, and their growth state is monitored visually. The subculture cycle is generally 6 months for Chlorophyceae, 3 months for adhesive Bacillariophyceae, 2 months for non-adhesive Bacillariophyceae, 1 month for Dinophyceae, and 2-3 months for other species. A subculture is performed once every 1-6 months depending on the species; 60 mL of fresh medium is added to 90 mL of the remaining original culture after a subculture and stored in another constant temperature (15°C) and humidity (45%) room with illumination intensity of 5-10 PPFD and a 10 L : 14 D LD cycle. The objective is to be able to prepare a newly inoculated culture strain that dies during subculture and to supply vendors. After three subcultures, the oldest subculture strain stored in the 15°C room is discarded.

Agar medium alone or agar medium with liquid medium is used for agar cultures. Agar medium alone is used for the strongly adhesive Bacillariophyceae, Chlorophyceae, and Cyanophyceae. The same volume of liquid medium is added to agar medium for the slightly adhesive Dinophyceae and Haptophyceae. Ten milliliters of agar medium or 5 mL agar medium plus 5 mL liquid medium is placed in a 20 mL test tube for agar culture. It is incubated in the constant temperature (20°C) and humidity (45%) room with an illumination intensity of 20-60 PPFD, and an LD cycle of 10 L : 14 D. Agar cultures are subcultured every 4-6 months depending on the strain. Two agar cultures are subcultured for each strain. After inoculation in an agar subculture, the original agar culture is transferred to and stored in a room with 10-20 PPFD illumination intensity. When three subcultures have been performed, the oldest culture strain is destroyed by sterilization.

Low temperature incubators are used when cultures must be kept at <15 or >23°C. Light intensity and photoperiod are controlled in temperature-fixed rooms to

maintain the subculture long as possible. Illumination intensity may differ depending on the location in the same culture room. In general, Chlorophyceae and Cyanophyceae do well under high intensity illumination and are placed on the upper shelf, whereas adhesive Bacillariophyceae are safe in lower intensity and are placed on the lower shelf, which is somewhat dark. Dinophyceae, which require higher intensity illumination, are cultured separately in a brighter location. The subculture cycle of each strain is entered into a computer and the inoculation strain list for that month is printed out on the first week of every month to prevent subculture errors. Different media are tested at the initial isolation, and a suitable medium is chosen for the strain. However, we prefer a simple medium for preparation such as Erdschreiber, f/2, Jaworski's medium (JM), soil agar, or LDM medium to maintain a culture stock. New liquid medium is added to an old agar culture for subcultures.

Cryopreservation

Cryopreservation of microalgae in liquid nitrogen (N_2 gas, -192°C) facilitates long-term storage of living cells without genetic transformation and can economically and safely store many species for a long time. In particular, the greatest advantage of cryopreservation is that cells can be safely preserved in liquid nitrogen even in time of emergency, such as a blackout when temperature cannot be controlled. However, it cannot be applied to all microalgal species because of low viability during cryopreservation due to vitrification inside the cell during freezing, toxicity of the cryoprotective agent added to prevent vitrification, and destruction of essential cell nutrients. Optimal cryopreservation conditions differ highly depending on the species. However, small microalgae with a thick cell wall and a simple external shape (e.g., Chlorophyceae, such as *Chlorella* and *Nannochloris*; Eustigmatophyceae, such as *Nannochloropsis*; and Cyanophyceae, such as *Synechococcus* and *Oscillatoria*) have higher viability after thawing, whereas physiologically sensitive Dinophyceae, large microalgae with high water content, and microalgae with a complicated shape and thin cell walls have much lower viability after thawing. In addition, freshwater and brackish microalgae have higher viability, whereas marine microalgae, particularly open-sea microalgae, tend to have lower viability (Youn and Hur 2009).

Different cryoprotective agents are used depending on the type of microalgae. A 5-15% proportion of cryoprotective agent such as dimethylsulfoxide (DMSO),

methanol, or glycerol are generally added. Slow freezing using a machine that controls freezing rate (controlled-rate freezer) results in higher viability after thawing, compared to rapid freezing. The cryoprotective agent is added for slow freezing, and then cells are slowly frozen at -1°C per min up to -40°C before being stored in liquid nitrogen (-196°C). A lower rate ($-0.5^{\circ}\text{C min}^{-1}$) may improve viability but is time-consuming; therefore, -1°C per min is applied first. Frozen microalgae are thawed and inoculated in liquid medium. The microalgae is fully cultured in an optimal culture environment to confirm viability. The amount stored in liquid nitrogen is small; therefore, the inocula are also small after thawing. The cultures have a long lag phase and take time to enter the log phase of growth. In addition, there is high possibility of contamination or death during that period; therefore, the optimal culture environment is well maintained.

Cryopreservation methods at the KMMCC (see Fig. 10F-H) involve 1.8 mL cultured cells in the log phase contained in a 2 mL cryotube and 5-10% DMSO, methanol, or glycerol as a cryoprotective agent added to the culture medium, depending on the species. The cells are stored at room temperature for 10 min and then slowly frozen in a controlled-rate freezer (SY-LAB, Vienna, Austria) from 20°C to -40°C at $-1^{\circ}\text{C min}^{-1}$ before being immediately stored in a liquid nitrogen container (-196°C). Ten samples per strain are cryopreserved; five are used for permanent preservation and the other five are used or tested for supply to vendors. Cryopreserved microalgae (1.8 mL) are thawed in a water bath at 35°C and inoculated into 10 mL culture medium in a 20 mL test tube. They are cultured under optimal conditions, and cell density is measured to confirm growth. The growth rate differs according to the species; therefore, slowly growing species are cultured for about 4 weeks before confirming viability. The freezing rate of species that fail to survive under cryopreservation is adjusted to $-0.5^{\circ}\text{C min}^{-1}$, and the type and concentration of cryoprotective agent are altered for retesting.

About 49% of the microalgae at the KMMCC are cryopreserved, including freshwater microalgae (9%), brackish microalgae (2%), and marine microalgae (38%). With regard to taxonomic division, Bacillariophyceae (19%), Chlorophyceae (15.7%), Cyanophyceae (4.5%), Prasinophyceae (4.5%), Haptophyceae (0.3%), Dinophyceae (0.2%), and others (4.7%) are cryopreserved. The type and concentration of optimal cryoprotective agent, freezing rate, and thawing method according to species with low viability is investigated by reducing water content and by drying cells before freezing to develop an appropriate freezing method for each species.

Management of strains in 2D barcode system

When the number of strains stored in the bank is small, it is easy to manage. However, if the number increases, an accurate management system is required because strains require different culture conditions and a diverse database of sampling, registration, deposition, subculture, distribution, and other references related to each strain must be well managed. Therefore, a database of all strains stored in the bank requires a barcode system to protect information and to manage it systematically. Information related to each strain at the KMMCC is systematically managed by a 2D bar code system and updated regularly (see Fig. 10I).

CULTURE MEDIA

Preparation of media

Media are classified into marine, freshwater, and estuarine according to salinity. Seawater sampling is performed by the Institute of Fisheries Sciences, Pukyong National University in front of the coast at Dongbaek-ri, Ilgwang-myeon, Gijang-gun, Busan, Korea for the marine media. This seawater is usually 32-33 psu despite differences depending on season. Seawater is collected through an intake pump and is filtered by a sand filter. The seawater for microalgae cultures is first filtered and transferred to a 300 L plastic container with a plastic bag installed. This container is closed with a lid and stored in cool, dark underground storage. This seawater is used all year round. The water is re-filtered through a μm cartridge, filter screen, or filter paper before preparing the media. Seawater is not sampled in summer due to high water temperature and red tides. Seawater filtered through the sand filter is occasionally stored after passing it through an ultraviolet sterilizer.

Natural uncontaminated water is sampled from rivers or reservoir and filtered before use to prepare media for freshwater microalgae. Tap water sits for at least 1 day to remove chlorine before use in subculture media after registration. Tap water is convenient to use and is rarely contaminated but it is not appropriate for difficult to cultivate or sensitive species. In this case, the underground freshwater is used. Marine media and freshwater media are mixed in a 1 : 1 ratio to make estuarine media of about 16 psu, and various salinities can be prepared depending on the ratio. Bay salt is dissolved in distilled water to make brine water and then added to prepare high-salinity me-

dia for species isolated from a salt farm. Media are mostly prepared using a stock solution. The stock solution can be stored and used for about 6 months; therefore, 500-1,000-fold higher concentrations of reagents for each element are added to the media. It is dissolved in distilled water, sterilized, and stored in a refrigerator before use. A brown container is filled with a stock solution and closed with a stopper to prevent evaporation. It is fully shaken before use.

Soil water

Inorganic nutrients alone do not provide for complete growth; therefore, soil water is often added to media (Pringsheim 1912). Soil water is effective to cultivate microalgae for a long time rather than for short-term growth. Therefore, it is suitable for long-term microalgae storage, such as a microalgae bank. Fertile leaf mold, which is uncontaminated with chemical fertilizer, agricultural pesticides, or insecticides, is collected and sieved. Then, 1 L soil is mixed with 1-2 L distilled water and boiled. After sedimentation, the supernatant is filtered. Three g NaOH is added to dissolve the soil organic matter (Droop 1969). After autoclaving the soil water, it is stored in a brown reagent bottle to protect from sunlight and stored in a refrigerator. The soil water is added at up to 5% of media. The prepared soil water can become contaminated with bacteria during preservation; therefore, it is not stored for more than 6 months. Soil water at the KMMCC is used to prepare media such as Erdschreiber (Føyn 1934), MB3N (Brown and Bold 1964), 2X-SW (Rosowski and Parker 1971), soil extract agar (Starr 1978), and SES (Biagini et al. 1998).

Sterilization

Media are autoclaved. Media mixed with nutrient salt reagents are transferred to a culture container, and the container is closed with a stopper before sterilization. A silitop is used for flask cultures and a screw cap is used for test tubes. If a cotton stopper is used, it is wrapped with aluminum foil or parchment paper to protect it from water before sterilization. The aluminum foil or screw cap covers the top loosely to allow steam to escape. Sterilization is performed in an autoclave at 15 lb in⁻² pressure and 121°C for 15-30 min. The autoclaving duration is about 15 min for ≤100 mL culture media in containers and 30 min for ≥2 L culture media. However, reagents (especially, heavy metals) often settle due to the high temperature and pressure of an autoclave. In this case, each reagent

is separately sterilized and aseptically mixed at a clean bench before use. If the microalgae do not grow well in the autoclaved media, the media are boiled in a pressure cooker at 100°C and cooled before being boiled the following day. This process is repeated three times to prepare sterilized media. This method is mostly used when species are first isolated.

List of media

The media to maintain the culture strains are not always the best for optimum growth. To reduce work preparing media, nutritional components and the variety of media used for the collection need to be simplified. An alphabetical list of the culture media and stock solutions used at the KMMCC are presented below.

Agar media

In general, 1.5% agar medium is widely used; 15 g of bacter-agar is dissolved in 1 L of liquid medium, dispensed, and autoclaved in glass tubes as agar slants or autoclaved and dispensed aseptically for Petri dishes.

BG11 (Blue-Green medium) (Stanier et al. 1971)

Stock solution 1	100 mL L ⁻¹ dH ₂ O
Stock solution 2-8	10 mL L ⁻¹ dH ₂ O
Stock solution 9	1 mL L ⁻¹ dH ₂ O

Stock solution

1) NaNO ₃	15.0 g L ⁻¹ dH ₂ O
2) K ₂ HPO ₄	2.0 g 500 mL ⁻¹ dH ₂ O
3) MgSO ₄ · 7H ₂ O	3.75 g 500 mL ⁻¹ dH ₂ O
4) CaCl ₂ · 2H ₂ O	1.80 g 500 mL ⁻¹ dH ₂ O
5) Citric acid	0.30 g 500 mL ⁻¹ dH ₂ O
6) Ammonium ferric citrate green	0.30 g 500 mL ⁻¹ dH ₂ O
7) EDTA Na ₂	0.05 g 500 mL ⁻¹ dH ₂ O
8) Na ₂ CO ₃	1.0 g 500 mL ⁻¹ dH ₂ O
9) Trace metal solution	
H ₃ BO ₃	2.86 g
MnCl ₂ · 4H ₂ O	1.81 g
ZnSO ₄ · 7H ₂ O	0.22 g
Na ₂ MoO ₄ · 2H ₂ O	0.39 g
CuSO ₄ · 5H ₂ O	0.08 g
CO(NO ₃) ₂ · 6H ₂ O	0.05 g
Distilled water	1,000 mL

CB (Watanabe and Satake 1991)

Ca(NO ₃) ₂ · 4H ₂ O	150 mg
KNO ₃	100 mg
MgSO ₄ · 7H ₂ O	40 mg

β -Na ₂ glycerophosphate	50 mg	Na ₂ EDTA	100.0 mg
Vitamin B ₁	10 μ g	H ₃ BO ₃	114.0 mg
Vitamin B ₁₂	0.1 μ g	FeCl ₃ · 6H ₂ O	4.9 mg
Biotin	0.1 μ g	MnSO ₄ · H ₂ O	16.4 mg
HCl-thiamine	10 μ g	ZnSO ₄ · 7H ₂ O	2.2 mg
PIV metals	3 mL	CoSO ₄ · 7H ₂ O	0.48 mg
Bicine	500 mg	Distilled water	100 mL
Distilled water	997 mL		
<u>PIV metals</u>		f/2 (Guillard and Ryther 1962, Guillard 1975)	
FeCl ₃ · 6H ₂ O	196 mg	NaNO ₃	1 mL
MnCl ₂ · 4H ₂ O	36 mg	NaH ₂ PO ₄ · 9H ₂ O	1 mL
ZnSO ₄ · 7H ₂ O	22 mg	Na ₂ SiO ₃ · 9H ₂ O	1 mL
CoCl ₂ · 6H ₂ O	4 mg	Trace metal solution	1 mL
Na ₂ MoO ₄ · 2H ₂ O	2.5 mg	Vitamin solution	0.5 mL
Na ₂ EDTA · 2H ₂ O	1,000 mg	Filtered sea water	950 mL
Distilled water	1,000 mL	<u>Stock solution</u>	
		NaNO ₃	75 g L ⁻¹ dH ₂ O
EG (<i>Euglena gracilis</i> medium) (Pringsheim 1946)		NaH ₂ PO ₄ · 9H ₂ O	5 g L ⁻¹ dH ₂ O
Sodium acetate trihydrate	1.0 g	Na ₂ SiO ₃ · 9H ₂ O	30g L ⁻¹ dH ₂ O
“Lab-Lamco” powder	1.0 g	<u>Trace metal solution</u>	
Tryptone	2.0 g	FeCl ₃ · 6H ₂ O	3.15 g
Yeast extract	2.0 g	Na ₂ EDTA · 2H ₂ O	4.36 g
CaCl ₂ stock solution	10.0 mL	Primary trace metals	1 mL each
Distilled water	1,000 mL	Distilled water	1,000 mL
<u>CaCl₂ stock solution</u>		<u>Primary trace metals</u>	
CaCl ₂	1.0 g L ⁻¹ dH ₂ O	CuSO ₄ · 5H ₂ O	9.8 g L ⁻¹ dH ₂ O
		Na ₂ MoO ₄ · 2H ₂ O	6.3 g L ⁻¹ dH ₂ O
Erdschreiber (Føyn 1934)		ZnSO ₄ · 7H ₂ O	22.0 g L ⁻¹ dH ₂ O
NaNO ₃	10 mg	CoCl ₂ · 6H ₂ O	10.0 g L ⁻¹ dH ₂ O
Na ₂ HPO ₄ · 12H ₂ O	2 mg	MnCl ₂ · 4H ₂ O	180.0 g L ⁻¹ dH ₂ O
Soil water	5 mL	<u>Vitamin solution</u>	
Filtered sea water	100 mL	<u>Work stock</u>	
		Vitamine B ₁₂	1 mL
ES (enriched sea water medium) (Provasoli 1963)		Biotin	10 mL
Preparation: add 1 tube (20 mL) of ES-enrichment to		Thiamine · HCl	200 mg
1,000 mL of pasteurized, filtered seawater.		Distilled water	1,000 mL
NaNO ₃	235 mg	<u>Primary stock</u>	
Na ₂ glycerophosphate · 5H ₂ O	35 mg	Vitamine B ₁₂	1.0 g L ⁻¹ dH ₂ O
Fe-solution	25 mL	Biotin	0.1 g L ⁻¹ dH ₂ O
PII metal solution	25 mL		
Vitamin B ₁₂	10 mg	f/2-Si (modified) (Guillard and Ryther 1962, Guillard 1975)	
Thiamine	0.5 mg	Prepare as for f/2 medium but omit Na ₂ SiO ₃ · 9H ₂ O.	
Biotin	5 mg	Stock solution (see f/2 medium)	
HEPES	325 mg		
Distilled water	100 mL	f/2-NPM (modified) (Guillard and Ryther 1962, Guillard 1975)	
<u>Fe-solution</u>		Add f/2 medium nutrients to 900 mL of seawater and autoclaved. After cooling, aseptically add 100 mL of the organic solution.	
Fe(NH ₄) ₂ (SO ₄) ₂ · 6H ₂ O	351 mg		
Na ₂ EDTA	300 mg		
Distilled water	300 mL		
<u>PII metal solution</u>			

<u>Organic stock solution</u>		Trace metal stock 1	0.25 mL
Sodium acetate	1 g	Trace metal stock 2	3 mL
Glucose	6 g	Trace metal stock 3-9	1 mL
(di-)sodium succinate · 6H ₂ O	3 g	Distilled water	1,000 mL
Neopeptone	4 g	<u>Trace metal stock</u>	
Bacto-tryptone	1 g	1) CuSO ₄ · 5H ₂ O	2.45 g L ⁻¹ dH ₂ O
Yeast extract	100 mg	2) Na ₂ MoO ₄ · 2H ₂ O	19.9 g L ⁻¹ dH ₂ O
Distilled water	1,000 mL	3) ZnSO ₄ · 7H ₂ O	22 g L ⁻¹ dH ₂ O
Stock solution (see f/2 medium)		4) CoCl ₂ · 6H ₂ O	10 g L ⁻¹ dH ₂ O
		5) MnCl ₂ · 4H ₂ O	180 g L ⁻¹ dH ₂ O
		6) H ₂ SeO ₄	1.3 mg L ⁻¹ dH ₂ O
		7) NiSO ₄ · 6H ₂ O	2.7 g L ⁻¹ dH ₂ O
		8) Na ₃ VO ₄	1.84 g L ⁻¹ dH ₂ O
		9) K ₂ CrO ₄	1.94 g L ⁻¹ dH ₂ O
		f/2 vitamin solution (see f/2 medium)	
JM (Jaworski's medium) (Thompson et al. 1988)			
Stock solution 1-9	1 mL L ⁻¹ dH ₂ O		
<u>Stock solution</u>			
1) Ca(NO ₃) ₂ · 4H ₂ O	4.0 g 200 mL ⁻¹ dH ₂ O		
2) KH ₂ PO ₄	2.48 g 200 mL ⁻¹ dH ₂ O		
3) MgSO ₄ · 7H ₂ O	10.0 g 200 mL ⁻¹ dH ₂ O		
4) NaHCO ₃	3.18 g 200 mL ⁻¹ dH ₂ O		
5) EDTA FeNa	0.45 g		
EDTA Na ₂	0.45 g		
Distilled water	200 mL		
6) H ₃ BO ₃	0.496 g		
MnCl ₂ · 4H ₂ O	0.278 g		
(NH ₄) ₆ Mo ₇ O ₂₄ · 4H ₂ O	0.20 g		
Distilled water	200 mL		
7) Vitamin B ₁₂	0.008 g		
Thiamine HCl	0.008 g		
Biotin	0.008 g		
Distilled water	200 mL		
8) NaNO ₃	16.0 g 200 mL ⁻¹ dH ₂ O		
9) NaHPO ₄ · 12H ₂ O	7.2 g 200 mL ⁻¹ dH ₂ O		
		LDM (Starr 1978)	
		Bristol solution	100 mL
		Biotin	0.25 µg
		Vitamin B ₁₂	0.15 µg
		PIV metal solution	6 mL
		Tryptone	1 g
		Agar	12 g
		Filtered sea water	900 mL
		<u>Bristol solution stock</u>	
		NaNO ₃	10.0 g 400 mL ⁻¹ dH ₂ O
		CaCl ₂	1.0 g 400 mL ⁻¹ dH ₂ O
		MgSO ₄ · 7H ₂ O	3.0 g 400 mL ⁻¹ dH ₂ O
		K ₂ HPO ₄	3.0 g 400 mL ⁻¹ dH ₂ O
		KH ₂ PO ₄	7.0 g 400 mL ⁻¹ dH ₂ O
		NaCl ₂	1.0 g 400 mL ⁻¹ dH ₂ O
		10 mL of each stock solution is added to 940 mL of distilled water. To this add a drop 1.0% FeCl ₃ solution.	
		<u>PIV metal solution</u>	
		Na ₂ -EDTA	750 mg
		FeCl ₂ · 6H ₂ O	97 mg
		MnCl ₂ · 4H ₂ O	41 mg
		ZnCl ₂	5 mg
		CoCl ₂ · 6H ₂ O	2 mg
		Na ₂ MoO ₄	4 mg
		Distilled water	1,000 mL
		LDM-E (modified) (Starr 1978)	
		Distilled water	550 mL
		Filtered sea water	450 mL
		Stock solution (see LDM medium)	
		MB3N (Bold 3N medium) (Brown and Bold 1964)	
		NaNO ₃	30 mL
		CaCl ₂ · 2H ₂ O	10 mL
JM-agar (modified) (Thompson et al. 1988)			
Stock solution 1-9 (see JM medium)			
Agar	15 g		
Distilled water	1,000 mL		
L1 (Guillard and Hargraves 1993)			
NaNO ₃	1 mL		
NaH ₂ PO ₄ · H ₂ O	1 mL		
Na ₂ SiO ₃ · 9H ₂ O	1 mL		
L1 trace metal solution	1 mL		
f/2 vitamin solution	0.5 mL		
Filtered sea water	1,000 mL		
<u>Stock solution</u>			
NaNO ₃	75 g L ⁻¹ dH ₂ O		
NaH ₂ PO ₄ · H ₂ O	5 g L ⁻¹ dH ₂ O		
Na ₂ SiO ₃ · 9H ₂ O	30 g L ⁻¹ dH ₂ O		
<u>Trace metal solution</u>			
FeCl ₃ · 6H ₂ O	3.15 g		
Na ₂ EDTA · 2H ₂ O	4.36 g		

MgSO ₄ · 7H ₂ O	10 mL	Distilled water	1,000 mL
K ₂ HPO ₄	10 mL	<u>Vitamin B₁ stock</u>	
KH ₂ PO ₄	10 mL	Vitamin B ₁	0.12 g L ⁻¹ dH ₂ O
NaCl	10 mL	<u>Vitamin B₁₂ stock</u>	
PIV metal solution	6 mL	Vitamin B ₁₂	0.1 g L ⁻¹ dH ₂ O
Soil water	40 mL	Proteose (Starr 1978)	
Vitamin B ₁₂	1 mL	Bristol solution	1,000 mL
Distilled water	940 mL	Proteose peptone	1.0 g
<u>Stock solution</u>		<u>Bristol solution</u> (see LDM agar)	
NaNO ₃	10 g 400 mL ⁻¹ dH ₂ O		
CaCl ₂ · 2H ₂ O	1 g 400 mL ⁻¹ dH ₂ O	Proteose agar (Starr 1978)	
MgSO ₄ · 7H ₂ O	3 g 400 mL ⁻¹ dH ₂ O	Bristol solution	1,000 mL
K ₂ HPO ₄	3 g 400 mL ⁻¹ dH ₂ O	Proteose peptone	1.0 g
KH ₂ PO ₄	7 g 400 mL ⁻¹ dH ₂ O	Agar	15.0 g
NaCl	1 g 400 mL ⁻¹ dH ₂ O	<u>Bristol solution</u> (see LDM agar)	
<u>Soil water</u>			
Green house soil water	5 mL	SES (soil extract with added salts) (Biagini et al. 1998)	
CaCO ₃ (optional)	1 mg	Stock solutions 1-3	20.0 mL
Distilled water	200 mL	Soil water	100.0 mL
<u>Vitamin B₁₂</u>		Distilled water	1,000 mL
HEPES buffer pH 7.8 vitamin B ₁₂	2.4 g	<u>Stock solution</u>	
Cyanocobalamin	0.027 g	1) K ₂ HPO ₄	1.0 g L ⁻¹ dH ₂ O
Distilled water	200 mL	2) MgSO ₄ · 7H ₂ O	1.0 g L ⁻¹ dH ₂ O
		3) KNO ₃	10.0 g L ⁻¹ dH ₂ O
3N-BBM+V (Bold basal medium with 3-fold nitrogen and vitamins, modified) (Star and Zeikus 1987)		SOT (Ogawa and Terui 1972)	
NaNO ₃	30 mL	NaHCO ₃	1,680 mg
CaCl ₂ · 2H ₂ O	10 mL	K ₂ HPO ₄	50 mg
MgSO ₄ · 7H ₂ O	10 mL	NaNO ₃	250 mg
K ₂ HPO ₄ · 3H ₂ O	10 mL	K ₂ SO ₄	100 mg
KH ₂ PO ₄	10 mL	NaCl	100 mg
NaCl	10 mL	MgSO ₄ · 7H ₂ O	20 mg
Trace element solution	6 mL	CaCl ₂ · 2H ₂ O	4 mg
Vitamin B ₁	1 mL	FeSO ₄ · 7H ₂ O	1 mg
Vitamin B ₁₂	1 mL	Na ₂ EDTA · 2H ₂ O	8 mg
Distilled water	1,000 mL	A ₅ metal solution	1 mL
<u>Stock solution</u>		Distilled water	100 mL
NaNO ₃	25.0 g L ⁻¹ dH ₂ O	<u>A₅ metal solution</u>	
CaCl ₂ · 2H ₂ O	2.5 g L ⁻¹ dH ₂ O	H ₃ BO ₃	2.86 g
MgSO ₄ · 7H ₂ O	7.5 g L ⁻¹ dH ₂ O	MnCl ₂ · 4H ₂ O	1.81 g
K ₂ HPO ₄ · 3H ₂ O	7.5 g L ⁻¹ dH ₂ O	ZnSO ₄ · 7H ₂ O	0.222 g
KH ₂ PO ₄	17.5 g L ⁻¹ dH ₂ O	Na ₂ MoO ₄ · 2H ₂ O	0.039 g
NaCl	2.5 g L ⁻¹ dH ₂ O	CuSO ₄ · 5H ₂ O	0.079 g
<u>Trace element solution</u>		Co(NO ₃) ₂ · 6H ₂ O	0.0494 g
FeCl ₂ · 6H ₂ O	97.0 mg	Distilled water	1,000 mL
MnCl ₂ · 4H ₂ O	41.0 mg		
ZnCl ₂ · 6H ₂ O	5.0 mg	SP (Schlösser 1982)	
CoCl ₂ · 6H ₂ O	2.0 mg	<u>Solution A</u>	
NaMoO ₄ · 2H ₂ O	4.0 mg	NaHCO ₃	13.61 g
Na ₂ EDTA	0.75 g	Na ₂ CO ₃	4.03 g

K ₂ HPO ₄	0.50 g
Distilled water	500 mL

Solution B

NaNO ₃	2.50 g
K ₂ SO ₄	1.00 g
NaCl	1.00 g
MgSO ₄ · 7H ₂ O	0.20 g
CaCl ₂ · 2H ₂ O	0.04 g
PIV metal solution	6 mL
Chu micronutrient solution	1 mL
Vitamin B ₁₂	1 mL
Distilled water	500 mL

Solution A and B are autoclaved separately and combined aseptically after cooling.

PIV metal solution

Na ₂ EDTA	0.750 g
FeCl ₃ · 6H ₂ O	97 mg
MnCl ₂ · 4H ₂ O	41 mg
ZnCl ₂	5 mg
CoCl ₂ · 6H ₂ O	2 mg
Na ₂ MoO ₄ · 2H ₂ O	4 mg
Distilled water	1,000 mL

Chu micronutrient solution

Na ₂ EDTA	50 mg
H ₃ BO ₃	618.0 mg
CuSO ₄ · 5H ₂ O	19.6 mg
ZnSO ₄ · 7H ₂ O	44.0 mg
CoCl ₂ · 6H ₂ O	20.0 mg
MnCl ₂ · 4H ₂ O	12.6 mg
Na ₂ MoO ₄ · 2H ₂ O	12.6 mg
Distilled water	1,000 mL

Vitamin B₁₂ stock

Vitamin B ₁₂	100 mL
	15 µg 100 mL ⁻¹ dH ₂ O

2X-SW (2X-Seawater medium, modified) (Rosowski and Parker 1971)

NaCl	23 g
Na ₂ SO ₄	4 g
MgCl ₂	5 g
Soil water	20 mL
Filtered sea water	1,000 mL

STRAINS**List of genera by class****Bacillariophyceae**

<i>Achnanthes</i>	<i>Hemidiscus</i>
<i>Actinocyclus</i>	<i>Hyalodiscus</i>
<i>Actinoptychus</i>	<i>Lauderia</i>
<i>Amphiprora</i>	<i>Leptocylindrus</i>
<i>Amphora</i>	<i>Licmophora</i>
<i>Ardissonia</i>	<i>Lithodesmium</i>
<i>Asterionella</i>	<i>Mastogloia</i>
<i>Asterionellopsis</i>	<i>Melosira</i>
<i>Asteromphalus</i>	<i>Minidiscus</i>
<i>Aulacodiscus</i>	<i>Navicula</i>
<i>Aulacoseira</i>	<i>Nitzschia</i>
<i>Auricula</i>	<i>Odontella</i>
<i>Azpeitia</i>	<i>Palmeria</i>
<i>Bacillaria</i>	<i>Paralria</i>
<i>Bacteriastrum</i>	<i>Phaeodactylum</i>
<i>Bellerochea</i>	<i>Pinnularia</i>
<i>Berkeleya</i>	<i>Plagiogramma</i>
<i>Biddulphia</i>	<i>Plagiotrops</i>
<i>Caloneis</i>	<i>Pleurosigma</i>
<i>Campylodiscus</i>	<i>Proboscia</i>
<i>Cerataulina</i>	<i>Pseudonitzschia</i>
<i>Chaetoceros</i>	<i>Rhabdonema</i>
<i>Chrysanthemodiscus</i>	<i>Rhaphoneis</i>
<i>Climacosphenia</i>	<i>Rhizosolenia</i>
<i>Cocconeis</i>	<i>Skeletonema</i>
<i>Corethron</i>	<i>Stauroneis</i>
<i>Coscinodiscus</i>	<i>Stephanodiscus</i>
<i>Cyclotella</i>	<i>Stephanopyxis</i>
<i>Cylindrotheca</i>	<i>Streptotheca</i>
<i>Cymatosira</i>	<i>Striatella</i>
<i>Dactyliosolen</i>	<i>Surirella</i>
<i>Detonula</i>	<i>Synedra</i>
<i>Diatoma</i>	<i>Synedropsis</i>
<i>Diploneis</i>	<i>Tabellaria</i>
<i>Ditylum</i>	<i>Thalassionema</i>
<i>Donkinia</i>	<i>Thalassiosira</i>
<i>Eucampia</i>	<i>Thalassiothrix</i>
<i>Fragilaria</i>	<i>Trachyneis</i>
<i>Gomphonema</i>	<i>Triceratium</i>
<i>Grammatophora</i>	<i>Tropidoneis</i>
<i>Guinardia</i>	
<i>Gyrodinium</i>	
<i>Hantzschia</i>	
<i>Haslea</i>	
<i>Hemiaulus</i>	

Chlorophyceae

<i>Actinastrum</i>
<i>Ankistrodesmus</i>
<i>Asterococcus</i>

<i>Asteromonas</i>	<i>Spondylosium</i>	Dinophyceae	Eustigmatophyceae
<i>Botryococcus</i>	<i>Staurastrum</i>	<i>Akashiwo</i>	<i>Monodus</i>
<i>Carteria</i>	<i>Stichococcus</i>	<i>Alexandrium</i>	<i>Nannochloropsis</i>
<i>Chaetophora</i>	<i>Stigeoclonium</i>	<i>Amphidinium</i>	
<i>Chlamydomonas</i>	<i>Ulothrix</i>	<i>Cochlodinium</i>	Haptophyceae
<i>Chlorella</i>	<i>Volvox</i>	<i>Coolia</i>	<i>Chrysochromulina</i>
<i>Chlorococcum</i>	<i>Xanthidium</i>	<i>Dissodinium</i>	<i>Coccolithus</i>
<i>Closterium</i>		<i>Exuviaella</i>	<i>Emiliana</i>
<i>Coelastrum</i>	Chrysophyceae	<i>Gambierdiscus</i>	<i>Isochrysis</i>
<i>Coronastrum</i>	<i>Chromulina</i>	<i>Glenodinium</i>	<i>Pavlova</i>
<i>Cosmarium</i>	<i>Mallomonas</i>	<i>Gonyaulax</i>	<i>Pleurochrysis</i>
<i>Crucigenia</i>	<i>Ochromonas</i>	<i>Gymnodinium</i>	<i>Prymnesium</i>
<i>Desmidium</i>	<i>Pseudopedinella</i>	<i>Gyrodinium</i>	<i>Pseudoisochrysis</i>
<i>Dictyosphaerium</i>	<i>Sarcinochrysis</i>	<i>Heterocapsa</i>	
<i>Dimorphococcus</i>	<i>Synura</i>	<i>Katodinium</i>	Prasinophyceae
<i>Dunaliella</i>	<i>Uroglena</i>	<i>Ostreopsis</i>	<i>Mamiella</i>
<i>Elakatothrix</i>		<i>Oxyrrhis</i>	<i>Pycnococcus</i>
<i>Eudorina</i>	Cryptophyceae	<i>Peridinium</i>	<i>Pyramimonas</i>
<i>Gloeocystis</i>	<i>Chroomonas</i>	<i>Pfiesteria</i>	<i>Tetraselmis</i>
<i>Golenkinia</i>	<i>Cryptomonas</i>	<i>Polykrikos</i>	
<i>Gongrosira</i>	<i>Hemiselmis</i>	<i>Prorocentrum</i>	Raphidophyceae
<i>Gonium</i>	<i>Hillea</i>	<i>Pyrophacus</i>	<i>Chattonella</i>
<i>Haematococcus</i>	<i>Rhinomonas</i>	<i>Scrippsiella</i>	<i>Heterosigma</i>
<i>Halochlorococcum</i>	<i>Rhodomonas</i>	<i>Symbiodium</i>	<i>Olisthodiscus</i>
<i>Heynigia</i>	<i>Spumella</i>		
<i>Hormidium</i>	<i>Teleaulax</i>	Euglenophyceae	Rhodophyceae
<i>Kirchneriella</i>		<i>Colacium</i>	<i>Batrachospenecea</i>
<i>Lagerheimia</i>	Cyanophyceae	<i>Euglena</i>	<i>Dixoniella</i>
<i>Micractinium</i>	<i>Anabaena</i>	<i>Eutreptiella</i>	<i>Porphyridium</i>
<i>Micrasterias</i>	<i>Aphanocapsa</i>	<i>Phacus</i>	<i>Rhodorus</i>
<i>Monoraphidium</i>	<i>Aphanothece</i>	<i>Trachelomonas</i>	
<i>Myconastes</i>	<i>Chroococcus</i>		
<i>Nannochloris</i>	<i>Coelasphaerium</i>		
<i>Neochlorosarcina</i>	<i>Cyanobium</i>		
<i>Nephrocytium</i>	<i>Dactylococcopsis</i>		
<i>Netrium</i>	<i>Fremyella</i>		
<i>Oedogonium</i>	<i>Gloeotrichia</i>		
<i>Oocystis</i>	<i>Leptolyngbya</i>		
<i>Pandorina</i>	<i>Limnothrix</i>		
<i>Pediastrum</i>	<i>Lyngbya</i>		
<i>Pleodorina</i>	<i>Merismopedia</i>		
<i>Pleurotaenium</i>	<i>Microcystis</i>		
<i>Protococcus</i>	<i>Nodularia</i>		
<i>Pseudococcomyxa</i>	<i>Nostoc</i>		
<i>Pseudodictyosphaerium</i>	<i>Oscillatoria</i>		
<i>Quadrigula</i>	<i>Phormidium</i>		
<i>Scenedesmus</i>	<i>Spirulina</i>		
<i>Selenastrum</i>	<i>Synechococcus</i>		
<i>Sorastrum</i>	<i>Synechocystis</i>		
<i>Spirogyra</i>	<i>Trichodesmium</i>		

Explanatory notes on the information of the strain

The strains are listed in alphabetical order by their scientific names with their synonyms. Strains with the same scientific name are arranged in order of the strain number. Strains that have not been identified are listed by class at the end of the list. In the previous KMMCC culture list, the strain numbers were classified by the taxonomic class and sampling habitat as freshwater or estuary (Hur 2008); however, all strains are now identified using a KMMCC number. The previous number of the strain is also recorded as the original number in the strain data. A detailed example of a strain description is as follows:

*PLATYMONAS*¹⁾: Prasinophyceae²⁾

Platymonas subcordiformis (Wille) Hazen³⁾

Syn.⁴⁾ *Tetraselmis hazeni* Butcher

0062⁵⁾ **Source**⁶⁾ KIOST 100 (1992) **Sampling**⁷⁾ 1990-01-15, Taejongdae/Busan (35°09'06" N, 129°09'07" E), coast, mud, 12°C, 33 psu **Isolator**⁸⁾ Hur, SB (1992-07-27) **Identifier**⁹⁾ Hur, SB **States**¹⁰⁾ axenic, agar, liquid, cryopreserved **Culture**¹¹⁾ LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size**¹²⁾ (µm) 10-15 (L), 6-10 (W) **Gene data**¹³⁾ 18S rRNA (FJ 517748) **Original No.** KMMCC P-1¹⁴⁾ **References**¹⁵⁾ 2, 4, 10, 12, 13, 33, 51, 97, 110 P-1 **Remarks**¹⁶⁾ patent

- 1) Genus name.
- 2) Class name.
- 3) Scientific name with nomenclator.
- 4) Synonym(s).
- 5) KMMCC registration number.
- 6) Source: Strains from other collections or institutions are presented with the original strain number and deposit or receipt year in parentheses. Acronyms placed before strain numbers refer to the following culture collections and institutions:
CCAP: Culture Collection of Algae and Protozoa, UK
CCMP: The Provasoli-Guillard National Center for Culture of Marine Phytoplankton of the National Center for Marine Algae and Microbiota, USA
KIOST: Korea Institute of Ocean Science and Technology (formerly Korea Ocean Research and Development Institute), Korea
NFRDI: National Fisheries Research and Development Institute, Korea
NIES: National Institute for Environmental Studies, Japan
SERI: Solar Energy Research Institute, USA
UTEX: The Culture Collection of Algae, University of

Texas at Austin, USA

- 7) Sampling: Sampling information is categorized by date, locality, habitat, material, water temperature and salinity. Inland sampling locality in the order of place / Korean province. Korean coastal waters are divided into West Sea, South Sea, and East Sea. The official name of the sea is recorded for others. Korean island is written with "do". Longitude and latitude of the sampling location are recorded in parentheses. The sampling area habitat is subcategorized as freshwater, marine and brackish. Fresh water is divided into river, stream, reservoir, lake, pond, or swamp. Marine habitat is divided into salt farm, hatchery, intertidal zone, coast, open sea, high sea, or deep sea. Brackish habitats are mainly estuaries including tidal pools and lagoons. Habitats, except the temperate zone, are also divided into subtropical and tropical. Sampling material is categorized as water, mud, and substratum. The sampling water was mainly surface water (0-20 m in depth). Otherwise, it is further classified as middle water (20-100 m), bottom water (100-300 m), or deep water (>300 m). Water temperature and salinity (psu) at sampling time are also shown.
- 8) Isolator: Isolator's name in the order of family name and first name with the registered date in parenthesis.
- 9) Identifier: The person who determined the scientific name in the order of family name and first name.
- 10) State: The state of the culture strain indicating whether or not they are axenic, and the maintenance method such as liquid, agar, liquid + agar, or cryopreserved. All strains in the list are in a unialgal state.
- 11) Culture: Culture information includes media, temperature, salinity, photosynthetic photon flux density (PPFD, µmol photons m⁻² s⁻¹), light : dark cycle, and subculture interval in months (M).
- 12) Size (µm): Range of diameters (Ø) or length for round, regular square, or triangle forms, and range of length (L) and width (W) for rectangular or elliptical forms. The length of flagella or chaeta was not measured.
- 13) Gene data: Gene names such as 18s rRNA, *rbcL* and ITS with accession numbers in parenthesis, if available.
- 14) Original number: The original strain number is recorded with the initials of sampling habitat and class of species. Strains isolated from estuaries including other brackish water and freshwater are abbreviated with E and F, respectively. A strain without an abbreviation of sampling habitat indicates marine habitat as its place of origin. The strains are also classified into classes such as B (Bacillariophyceae), C (Chlo-

rophyceae), Cr (Cryptophyceae), Ch (Crysophyceae), Cy (Cyanophyceae), D (Dinophyceae), Eu (Euglenophyceae), Eus (Eustigmatophyceae), H (Haptophyceae), P (Prasinophyceae), Ra (Raphidophyceae), Rh (Rhodophyceae), etc.

- 15) References number(s): Publications in which the strain was used as a material. The number corresponds to the publication in the strain reference list.
- 16) Remarks: Notes for ordering, such as patents, low or high temperature species, salt water, aquaculture, high protein or lipid, EPA, astaxanthin, β -carotene, toxic, etc.

List of strains

ACHNANTHES: Bacillariophyceae

Achnanthes brevipes Agardh

- 0707 Sampling** 1996-07-03, South China Sea, high sea, surface water, 31°C **Isolator** Hur, SB (1997-02-03) **Identifier** Lee, JH **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size** (μm) 20-30 (L), 8-11 (W) **Original No.** B-202 **Remarks** high °C sp.
- 0926 Sampling** 1995-09-22, Deukryang Bay/Chonnam (34°45'27" N, 127°13'52" E), coast, surface water, 25°C, 31 psu **Isolator** Hur, SB (1996-04-17) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size** (μm) 18-38 (L), 8-10 (W) **Original No.** B-114 **References** 93
- 1819 Sampling** 2011-06-07, Gimnyeong/Jeju (33°33'50" N, 126°46'49" E), coast, surface water, 19°C, 33 psu **Isolator** Jo, MJ (2011-07-28) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 1 M **Size** (μm) 51-63 (L), 16-26 (W) **Original No.** B-1075
- 2211 Source KIOST Sampling** 2013-10-22, Kosrae, Micronesia (05°20'57" N, 162°57'20" E), coast, surface water, 30°C, 30 psu **Isolator** Jo, MJ (2014-04-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 23°C, 33 psu, 20 PPF, 1 M **Size** (μm) 27-34 (L), 8-9 (W) **Original No.** B-1187

Achnanthes delicatissima (Kützting) Grunow

- 0820 Sampling** 1999-09-20, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 26°C **Isolator** Lee, GA (2000-01-30) **Identifier** Lee, K **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size** (μm) 23-25 (L), 5-6 (W) **Original No.** B-354

Achnanthes hauckiana Grunow

Syn. *Planothidium hauckianum* (Grunow) Round & Bukhtiyarova

- 1981 Sampling** 2012-10-18, Pyoseon/Jeju (33°19'56" N, 126°50'38" E), coast, surface water, 19°C, 33 psu **Isolator** Lee, GA (2012-12-27) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size** (μm) 22-24 (L), 13-14 (W) **Original No.** B-1120

Achnanthes laterostata Hustedt

Syn. *Karayevia laterostrata* (Hustedt) Round & Bukhtiyarova

- 2189 Source KIOST Sampling** 2013-10-23, Kosrae, Micronesia (05°19'06" N, 162°00'20" E), reservoir, surface water, 28°C **Isolator** Jo, MJ (2014-02-17) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 0 psu, 20 PPF, 1 M **Size** (μm) 15-17 (L), 6-7 (W) **Original No.** FB-77

Achnanthes longipes Agardh

- 0300 Sampling** 1999-10-15, Ulrungdo/Gyeongbuk (37°29'35" N, 130°46'09" E), open sea, surface water, 23°C **Isolator** Lee, GA (2000-01-18) **Identifier** Lee, K **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size** (μm) 34-39 (L), 8-11 (W) **Original No.** B-419
- 0315 Sampling** 1999-10-23, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 18°C, 30 psu **Isolator** Lee, GA (2000-01-27) **Identifier** Lee, K **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size** (μm) 30-40 (L), 8-13 (W) **Original No.** B-430
- 0464 Sampling** 2001-02-01, Gamak Bay/Jeonnam (34°43'44" N, 127°43'41" E), coast, surface water, 7°C **Isolator** Hur, SB (2001-04-21) **Identifier** Lee, K **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size** (μm) 35-45 (L), 5-9 (W) **Original No.** B-557
- 0476 Sampling** 2001-04-01, Uljin/Gyeongbuk (36°57'28" N, 129°25'00" E), hatchery, substratum **Isolator** Hur, SB (2001-06-08) **Identifier** Lee, K **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size** (μm) 35-48 (L), 7-10 (W) **Original No.** B-592
- 0488 Sampling** 2001-03-01, Incheon Pier/Incheon (37°23'11" N, 126°36'53" E), coast, surface water, 13°C **Isolator** Hur, SB (2001-06-29) **Identifier** Lee, K **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size** (μm) 35-65 (L), 5-10 (W)

- Original No. B-598**
- 0511 Sampling** 2001-03-01, Buan/Jeonbuk (35°44'44" N, 126°35'27" E), hatchery, substratum **Isolator** Hur, SB (2001-08-01) **Identifier** Lee, K **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 35-43 (L), 6-9 (W) **Original No. B-596**
- 0708 Sampling** 1996-02-08, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 6°C, 33 psu **Isolator** Hur, SB (1996-10-30) **Identifier** Lee, SG **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 18-35 (L), 8-10 (W) **Original No. B-155**
- 0709 Sampling** 1998-07-20, Namhae/Gyeongnam (34°42'47" N, 127°59'13" E), coast, surface water, 22°C **Isolator** Hur, SB (1998-11-30) **Identifier** Lee, K **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 34-35 (L), 5-9 (W) **Original No. B-240**
- 0762 Sampling** 1996-05-13, Yokjido/Gyeongnam (34°38'30" N, 128°16'22" E), coast, surface water, **Isolator** Hur, SB (1997-01-30) **Identifier** Lee, K **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 3-8 (Ø) **Original No. B-219**
- 0763 Sampling** 1998-07-21, Gampo/Gyeongbuk (35°48'17" N, 129°30'32" E), coast, surface water, 23°C **Isolator** Hur, SB (1998-11-30) **Identifier** Lee, K **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 35-50 (L), 5-9 (W) **Original No. B-275**
- 0821 Sampling** 1999-05-18, Namhae/Gyeongnam (34°42'47" N, 127°59'13" E), coast, surface water, 17°C **Isolator** Lee, GA (1999-08-09) **Identifier** Lee, K **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 28-55 (L), 9-11 (W) **Original No. B-358**
- 0927 Sampling** 1995-01-25, Geomundo/Jeonnam (34°02'49" N, 127°17'48" E), coast, surface water **Isolator** Hur, SB (1995-05-09) **Identifier** Lee, K **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 33-43 (L), 6-10 (W) **Original No. B-70**
- 0928 Sampling** 1995-11-08, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 16°C, 31 psu **Isolator** Hur, SB (1996-03-18) **Identifier** Lee, K **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 8-10 (L), 5-8 (W) **Original No. B-109**
- 0929 Sampling** 1995-01-25, Taejongdae/Busan (35°03'20" N, 129°04'50" E), coast, surface water **Isolator** Hur, SB (1995-05-09) **Identifier** Lee, K **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 40-60 (L), 6-10 (W) **Original No. B-118**
- Achnanthes minutissima* Kützing
Syn. *Achnantheidium minutissimum* (Kützing) Czarnecki
- 0888 Sampling** 1986-05-01, Oido/Incheon (37°20'48" N, 126°40'57" E), salt farm, surface water **Isolator** Hur, SB (1986-11-19) **Identifier** Lee, K **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 15-20 (L), 4-8 (W) **Original No. B-2** **References** 2, 4, 13, 25, 28, 69, 76
- Achnanthes* sp.
- 0467 Sampling** 2001-01-17, Kangwhado/Gyeonggi (37°45'14" N, 126°21'10" E), coast, surface water, 7°C **Isolator** Hur, SB (2001-05-29) **Identifier** Lee, K **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 18-25 (L), 4-5 (W) **Original No. B-547**
- 0493 Sampling** 2001-03-01, Uljin/Gyeongbuk (36°57'28" N, 129°25'00" E), hatchery, substratum **Isolator** Hur, SB (2001-07-24) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 20-35 (L), 9-13 (W) **Original No. B-564** **References** 97, 139
- 0494 Sampling** 2001-03-03, Wando/Jeonnam (34°18'33" N, 126°51'18" E), hatchery, substratum **Isolator** Hur, SB (2001-07-24) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 20-35 (L), 8-13 (W) **Original No. B-567** **References** 97
- 0495 Sampling** 2001-03-01, Buan/Jeonbuk (35°35'31" N, 126°37'30" E), coast, mud, 9°C, 31 psu **Isolator** Hur, SB (2001-07-24) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 15-38 (L), 8-13 (W) **Original No. B-572**
- 0523 Sampling** 2001-03-29, Buan/Jeonbuk (35°35'31" N, 126°37'30" E), coast, mud, 8°C, 31 psu **Isolator** Hur, SB (2001-08-27) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 18-30 (L), 8-11 (W) **Original No. B-558**
- 0764 Sampling** 1999-01-25, Namhae/Gyeongnam (34°42'47" N, 127°59'13" E), coast, surface water **Isolator** Lee, GA (1999-05-22) **Identifier** Lee, K **States** axenic, agar, liquid, cryopreserved **Culture**

- LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M Size (μm) 6-7 (L), 2-3 (W) **Original No.** B-235
- 0765 Sampling** 1998-11-03, Namhae/Gyeongnam (34°42'47" N, 127°59'13" E), coast, middle water, 19°C **Isolator** Lee, GA (1999-07-16) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (μm)** 18-35 (L), 9-13 (W) **Original No.** B-268
- 0766 Sampling** 1999-02-08, Jeju/Jeju (33°31'35" N, 126°31'53" E), coast, surface water, 12°C **Isolator** Lee, GA (1999-06-30) **Identifier** Lee, K **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (μm)** 5-6 (L), 2-4 (W) **Original No.** B-305
- 0889 Sampling** 1995-05-11, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 17°C, 33 psu **Isolator** Hur, SB (1996-03-18) **Identifier** Lee, K **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (μm)** 13-25 (L), 5-6 (W) **Original No.** B-47
- 0930 Sampling** 1994-06-02, Namhae/Gyeongnam (34°42'47" N, 127°59'13" E), coast, surface water **Isolator** Hur, SB (1996-03-29) **Identifier** Lee, K **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (μm)** 10-18 (L), 3-5 (W) **Original No.** B-79
- 0982 Sampling** 2001-04-05, South Sea (35°00' N, 128°56' E), open sea, middle water, 13°C **Isolator** Lee, GA (2002-06-24) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (μm)** 13-18 (L), 9-13 (W) **Original No.** B-611
- 1020 Sampling** 2001-10-01, Uljin/Gyeongbuk (36°57'28" N, 129°25'00" E), hatchery, substratum **Isolator** Lee, GA (2002-12-20) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (μm)** 18-25 (L), 10-15 (W) **Original No.** B-660
- 1186 Sampling** 2004-02-07, Haeundae/Busan (35°09'06" N, 129°09'07" E), intertidal zone, surface water, 12°C, 32 psu **Isolator** Hur, SB (2004-12-11) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (μm)** 13-23 (L), 8-14 (W) **Original No.** B-679
- 1567 Sampling** 2009-12-02, Namcheon Bay/Busan (35°08'14" N, 129°06'49" E), coast, surface water, 16°C, 33 psu **Isolator** Jo, MJ (2010-01-12) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (μm)** 61-70 (L), 20-27 (W) **Original No.** B-937
- ACHNANTHIDIUM:** Bacillariophyceae
Achnantheidium sp.
1202 Sampling 2004-12-15, Upo/Gyeongnam (35°32'53" N, 128°24'25" E), swamp, surface water, 7°C **Isolator** Bae, JH (2005-03-10) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** JM, 20°C, 0 psu, 40 PPF, 2 M **Size (μm)** 4-6 (L), 2-5 (W) **Original No.** FB-47
- ACTINASTRUM:** Chlorophyceae
Actinastrum hantzschii Lagerheim
1223 Sampling 2005-06-27, Upo/Gyeongnam (35°33'40" N, 128°25'57" E), swamp, surface water, 30°C **Isolator** Bae, JH (2005-09-01) **Identifier** Lee, OM **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (μm)** 12-15 (L), 2-3 (W) **Gene data** 18S rRNA (JQ315761), *rbcL* (JQ315471) **Original No.** FC-102
- 1505 Source** Kunsan Univ. (PD-MAL49) **Sampling** Paldangho/Gyeonggi (37°31'41" N, 127°17'13" E), reservoir, surface water (2009-07-30) **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (μm)** 25-39 (L), 4-6 (W) **Gene data** 18S rRNA (JQ315762), *rbcL* (JQ315472) **Original No.** FC-142
- 1711 Sampling** 2010-09-09, Nakdong River/Busan (35°06'17" N, 128°53'42" E), estuary, surface water, 24°C, 1 psu **Isolator** Jo, MJ (2010-10-15) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 1 M **Size (μm)** 19-24 (L), 2-3 (W) **Original No.** FC-170
- Actinastrum* sp.
1504 Source Kunsan Univ. (PD-MAL05) **Sampling** Paldangho/Gyeonggi (37°31'41" N, 127°17'13" E), reservoir, surface water (2009-07-30) **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (μm)** 21-36 (L), 2-5 (W) **Original No.** FC-141
- ACTINOCYCLUS:** Bacillariophyceae
Actinocyclus curvatulu Janisch
1281 Sampling 2006-03-01, Jinhae Bay/Gyeongnam (35°08'35" N, 128°40'58" E), coast, surface water, 8°C, 35 psu **Isolator** Jeong, EH (2006-05-09) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (μm)** 36-39 (\emptyset) **Original No.** B-768
- 1282 Sampling** 2006-03-02, Jinhae Bay/Gyeongnam (35°08'35" N, 128°40'58" E), coast, surface water, 8°C, 35 psu **Isolator** Jeong, EH (2006-05-09) **Identi-**

fier Lee, JH States non-axenic, liquid Culture f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 30 (\emptyset) Original No. B-769

Actinocyclus normanii (Gregory) Hustedt

Syn. *Coscinodiscus normanii* Gregory ex Greville

0637 Sampling 1999-03-22, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 11°C, Isolator Lee, GA (1999-06-30) Identifier Lee, JH States non-axenic, liquid Culture f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 8-18 (\emptyset) Original No. B-327

Actinocyclus octonarius Ehrenberg

1246 Sampling 2005-09-30, Yeosu/Jeonnam (34°44'49" N, 127°46'10" E), coast, surface water, 22°C, 33 psu Isolator Jeong, EH (2006-01-17) Identifier Lee, JH States non-axenic, liquid Culture f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 115-121 (\emptyset) Original No. B-750

Actinocyclus sp.

0983 Sampling 2001-10-31, West Sea (36°56' N, 124°05' E), open sea, middle water, 18°C, Isolator Lee, GA (2002-06-24) Identifier Hur, SB States non-axenic, liquid Culture f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 25-28 (\emptyset) Original No. B-623

ACTINOPTYCHUS: Bacillariophyceae

Actinoptychus senarius (Ehrenberg) Ehrenberg

1314 Sampling 2006-07-02, Gomso Bay/Jeonbuk (35°35'12" N, 126°36'34" E), surface water, 24°C, 26 psu Isolator Jeong, EH (2006-11-22) Identifier Hur, SB States non-axenic, liquid Culture f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 34-40 (\emptyset) Original No. B-798

1481 Sampling 2008-12-08, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 13°C, 34 psu Isolator Jeong, EH (2009-02-19) Identifier Hur, SB States non-axenic, liquid Culture f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 86-90 (\emptyset) Original No. B-903

1539 Sampling 2009-09-10, Oeorado/Gyeongnam (34°47'22" N, 128°42'47" E), coast, surface water Isolator Jo, MJ (2009-10-26) Identifier Hur, SB States axenic, non-axenic, liquid Culture f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 80-88 (\emptyset) Original No. B-918

1540 Sampling 2009-09-11, Mokdo/Jeonnam (34°26'25" N, 127°17'34" E), coast, surface water Isolator Jo, MJ (2009-10-26) Identifier Hur, SB States non-axenic,

liquid Culture f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 49-54 (\emptyset) Original No. B-922

1748 Sampling 2010-11-18, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 14°C, 33 psu, Isolator Jo, MJ (2011-02-08) Identifier Hur, SB States non-axenic, liquid Culture f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 87-91 (\emptyset) Original No. B-1044

Actinoptychus sp.

1360 Sampling 2006-11-**, Jinhae Bay/Gyeongnam (35°08'35" N, 128°40'58" E), coast, middle water, 16°C Isolator Jeong, EH (2007-03-22) Identifier Hur, SB States non-axenic, liquid Culture f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 79-85 (\emptyset) Original No. B-824

1361 Sampling 2006-11-**, Jinhae Bay/Gyeongnam (35°08'35" N, 128°40'58" E), coast, middle water, 16°C, Isolator Jeong, EH (2007-03-22) Identifier Hur, SB States non-axenic, liquid Culture f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 40-50 (\emptyset) Original No. B-825

1404 Sampling 2008-07-27, Namhae/Gyeongnam (34°42'47" N, 127°59'13" E), coast, surface water, 25°C, 34 psu Isolator Jeong, EH (2008-09-01) Identifier Hur, SB States non-axenic, liquid Culture f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 49-52 (\emptyset) Original No. B-864

AKASHIWO: Dinophyceae

Akashiwo sanguinea (K. Hirasaka) Hansen & Moestrup

Syn. *Gymnodinium sanguineum* K. Hirasaka

2003 Source Kunsan Univ. (KNUTP AS-090207) **Sampling** 2009-02-12, Masan Bay/Gyeongnam (35°11'20" N, 128°34'00" E), coast, surface water, 12°C, 31 psu (2013-01-02) States non-axenic, liquid Culture f/2, 18°C, 33 psu, 20 PPF, 1 M Size (μm) 74-115 (L), 46-69 (W) Original No. D-214 Remarks toxic

2004 Source Kunsan Univ. (KNUTP AS-111106) **Sampling** 2011-11-06, Tongyeong/Gyeongnam (34°49'33" N, 128°25'57" E), coast, surface water, 15°C, 30 psu (2013-01-02) States non-axenic, liquid Culture f/2, 18°C, 33 psu, 20 PPF, 1 M Size (μm) 79-117 (L), 50-70 (W) Original No. D-215 Remarks toxic

ALEXANDRIUM: Dinophyceae

Alexandrium catenella (Whedon et Kofoid) Balech

Syn. *Gonyaulax catenella* Whedon & Kofoid

1173 Source NFRDI (ACY-12) **Sampling** East Sea, open sea, surface water (2004-12-08) States non-axenic,

liquid **Culture** f/2-si, 18°C, 33 psu, 40 PPF, 1 M **Size** (µm) 23-38 (L), 20-30 (W) **Original No.** D-143 **References** 158 **Remarks** toxic

- 2057 Source** Kunsan Univ. (KNUTP AL-090401) **Sampling** 2000-04-10, Yongho Bay/Busan (35°07'54" N, 126°07'09" E), coast, surface water, 13°C, 33 psu (2013-01-02) **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size** (µm) 20-35 (L), 18-27 (W) **Original No.** D-268 **Remarks** toxic
- 2058 Source** Kunsan Univ. (KNUTP AT-090209) **Sampling** 2009-02-14, Geoje-do/Gyeongnam (34°46'24" N, 128°38'29" E), coast, surface water, 9°C, 33 psu (2013-01-02) **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size** (µm) 22-38 (L), 20-27 (W) **Original No.** D-269 **Remarks** toxic

Alexandrium tamarense (Lebour) Balech

Syn. *Gonyaulax tamarensis* Lebour

- 1174 Source** NFRDI (SCO-9) (2004-12-08) **States** axenic, liquid **Culture** f/2-si, 20°C, 33 psu, 40 PPF, 1 M **Size** (µm) 26-40 (L), 24-36 (W) **Original No.** D-145 **Remarks** toxic
- 1849 Source** Gangneung-Wonju Univ. (CCUMP 1493) (2011-10-18) **States** non-axenic, liquid **Culture** f/2-si, 20°C, 33 psu, 40 PPF, 1 M **Size** (µm) 30-36 (L), 28-35 (W) **Original No.** D-203 **Remarks** toxic
- 2059 Source** Kunsan Univ. (KNUTP AL-090201) **Sampling** 2009-02-04, Taean/Chungnam (36°40'39" N, 126°08'09" E), coast, surface water, 8°C, 30 psu (2013-01-02) **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size** (µm) 23-38 (L), 22-34 (W) **Original No.** D-270 **Remarks** toxic

Alexandrium sp.

- 2060 Source** Kunsan Univ. (KNUTP AL-080901) **Sampling** 2008-09-16, Kunsan/Jeonbuk (35°56'17" N, 126°32'01" E), coast, surface water, 26°C, 30 psu (2013-01-02) **States** axenic, agar + liquid, cryopreserved **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size** (µm) 20-36 (L), 18-25 (W) **Original No.** D-271 **Remarks** toxic
- 2061 Source** Kunsan Univ. (KNUTP AL-090402) **Sampling** 2009-04-15, Goheung/Jeonnam (34°31'36" N, 127°07'57" E), coast, surface water, 14°C, 30 psu (2013-01-02) **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size** (µm) 22-35 (L), 18-23 (W) **Original No.** D-272 **Remarks** toxic
- 2062 Source** Kunsan Univ. (KNUTP AL-090503) **Sampling** 2009-05-19, Pohang/Gyeongbuk (35°59'20" N, 129°33'18" E), coast, surface water, 17°C, 32 psu

(2013-01-02) **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size** (µm) 22-33 (L), 17-22 (W) **Original No.** D-273 **Remarks** toxic

AMPHIDINIUM: Dinophyceae

Amphidinium carterae Hulburt

- 0550 Sampling** 1999-03-01, Oedo/Gyeongnam (34°46'14" N, 128°42'27" E), coast, surface water, 13°C **Isolator** Lee, GA (1999-10-26) **Identifier** Han, MS **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (µm) 13-18 (L), 8-11 (W) **Original No.** D-19 **References** 110, 111 **Remarks** toxic
- 0551 Sampling** 1999-06-01, Jindong/Gyeongnam (35°06'09" N, 128°29'40" E), coast, surface water **Isolator** Lee, GA (1999-11-11) **Identifier** Han, MS **States** axenic, agar + liquid, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (µm) 13-16 (L), 9-10 (W) **Original No.** D-21 **Remarks** toxic
- 1882 Source** NFRDI **Sampling** 2011-07-02, Tongyeong/Gyeongnam (34°50'18" N, 128°25'04" E), coast, surface water (2011-12-30) **Identifier** Lee, CG **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (µm) 15-17 (L), 9-12 (W) **Original No.** D-207 **Remarks** toxic

Amphidinium fusiforme Martin

- 1631 Sampling** 2010-05-13, Nakdong River/Busan (35°06'17" N, 128°53'42" E), estuary, surface water, 18°C, 20 psu **Isolator** Jo, MJ (2010-06-17) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2-E, 20°C, 15 psu, 40 PPF, 1 M **Size** (µm) 25-30 (L), 15-18 (W) **Original No.** ED-5

Amphidinium lacustre Stein

Syn. *Amphidinium schröderi* Schiller

- 2121 Sampling** 2012-07-20, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 26°C, 29 psu **Isolator** Jo, MJ (2013-06-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size** (µm) 14-18 (L), 9-12 (W) **Original No.** D-282

Amphidinium sp.

- 0552 Sampling** 1999-03-01, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 8°C, 31 psu **Isolator** Lee, GA (1999-10-26) **Identifier** Hur, SB **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (µm) 9-11 (L), 3-8 (W) **Original No.** D-20 **References** 43
- 0553 Sampling** 1999-05-01, West Sea (31°38' N, 128°48'

- E), open sea, surface water, 15°C **Isolator** Lee, GA (1999-08-09) **Identifier** Yu, JS **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 11-18 (L), 8-13 (W) **Original No.** D-29
- 0578 Sampling** 1999-05-01, Ulsan/Gyeongbuk (35°31'01" N, 129°22'44" E), coast, surface water, 16°C **Isolator** Lee, GA (1999-08-09) **Identifier** Hur, SB **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 3-10 (L), 8-11 (W) **Original No.** D-44
- 1117 Sampling** 2004-04-30, Yongho Bay/Busan (35°09'06" N, 129°09'07" E), intertidal zone, surface water, 16°C, 33 psu **Isolator** Bae, JH (2004-12-01) **Identifier** Kim, KY **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 13-16 (L), 8-11 (W) **Original No.** D-122
- 1283 Sampling** 2006-01-17, Ulsan/Gyeongbuk (35°31'01" N, 129°22'44" E), coast, surface water, 7°C, 5 psu **Isolator** Jeong, EH (2006-05-19) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2-E, 20°C, 15 psu, 40 PPF, 1 M **Size (µm)** 8-15 (L), 5-10 (W) **Original No.** ED-3
- 1385 Sampling** 2006-12, Yeosu/Jeonnam (34°45'07" N, 127°39'33" E), coast, surface water, 11°C, 31 psu **Isolator** Jeong, EH (2007-03-22) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 10-15 (Ø) **Original No.** D-159
- 1506 Sampling** 2009-06-23, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 19°C, 33 psu **Isolator** Jo, MJ (2009-07-30) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** f/2, Erdschreiber, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 14-16 (L), 8-10 (W) **Original No.** D-181
- 2052 Source** Kunsan Univ. (KNUTP AP-091009) **Sampling** 2009-10-31, Seongsan/Jeju (33°27'38" N, 126°56'03" E), coast, surface water, 21°C, 32 psu **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 8-15 (L), 5-10 (W) **Original No.** D-263
- 2053 Source** Kunsan Univ. (KNUTP AP-110201) **Sampling** 2011-02-26, Namwon/Jeju (33°16'34" N, 126°43'10" E), coast, surface water, 14°C, 32 psu **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 12-16 (L), 8-10 (W) **Original No.** D-264
- 2054 Source** Kunsan Univ. (KNUTP AP-110401) **Sampling** 2011-04-25, Seongsan/Jeju (33°27'38" N, 126°56'03" E), coast, surface water, 15°C, 32 psu **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 11-17 (L), 7-12 (W) **Original No.** D-265
- 2055 Source** Kunsan Univ. (KNUTP AP-111001) **Sampling** 2011-10-30, Namwon/Jeju (33°13'01" N, 126°30'87" E), coast, surface water, 23°C, 34 psu **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 10-18 (L), 7-11 (W) **Original No.** D-266
- 2056 Source** Kunsan Univ. (KNUTP AP-111202) **Sampling** 2011-12-25, Namwon/Jeju (33°16'34" N, 126°43'10" E), coast, surface water, 17°C, 33 psu **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 10-18 (L), 7-11 (W) **Original No.** D-267
- 2095 Source** KIOST **Sampling** 2012-11-19, Chuuk, Micronesia (07°27'05" N, 151°53'31" E), coast, surface water, 30°C, 25 psu **Isolator** Jo, MJ **Identifier** Hur, SB (2013-03-12) **States** axenic, agar + liquid, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 20-25 (L), 18-23 (W) **Original No.** D-281 **Remarks** high °C sp.
- AMPHIPRORA:** Bacillariophyceae
Amphiprora alata (Ehrenberg) Kützing
Syn. *Entomoneis alata* (Ehrenberg) Reiner
- 0670 Sampling** 1999-03-22, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 11°C, 30 psu **Isolator** Lee, GA (1999-10-26) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 8-10 (Ø) **Original No.** B-325
- 1855 Sampling** 2011-08-01, Geojedo/Gyeongnam (34°50'45" N, 128°34'57" E), coast, surface water, 22°C **Isolator** Jo, MJ (2011-11-09) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 33-45 (L), 26-35 (W) **Original No.** B-1078
- 1984 Sampling** 2012-10-19, Seogwipo/Jeju (33°22'57" N, 126°52'51" E), coast, surface water, 19°C, 17 psu **Isolator** Jo, MJ (2012-12-27) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2-E, 18°C, 15 psu, 20 PPF, 1 M **Size (µm)** 80-81 (L), 47-48 (W) **Original No.** EB-56
- 2107 Source** KIOST **Sampling** 2012-11-19, Chuuk, Micronesia (07°27'05" N, 151°53'38" E), coast, surface water, 30°C, 26 psu, **Isolator** Jo, MJ (2013-04-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 49-53 (L), 32-49 (W) **Original No.** B-1148 **Remarks** high °C sp.
- Amphiprora gigantea** var. *sulcata* (O' Meara) Cleve
Syn. *Amphiprora sulcata* O' Meara
- 0767 Sampling** 1998-12-01, Jindong/Gyeongnam (35°06'09" N, 128°29'40" E), coast, surface water **Isolator** Lee, GA (1999-07-16) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 33-

- 55 (L), 8-13 (W) **Original No.** B-263
- 0768 Sampling** 1998-12-24, Jindong/Gyeongnam (35°06'09" N, 128°29'40" E), coast, surface water **Isolator** Lee, GA (1999-07-16) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 33-35 (L), 8-11 (W) **Original No.** B-311
- 0931 Sampling** 1995-04-03, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Hur, SB (1995-10-03) **Identifier** Lee, JH **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 30-50 (L), 6-9 (W) **Original No.** B-106 **References** 97, 139

Amphiprora paludosa W. SmithSyn. *Entomoneis paludosa* (W. Smith) Reiner

- 0554 Sampling** 1997-11-01, Haekumkang/Gyeongnam (34°44'39" N, 128°39'41" E), coast, surface water **Isolator** Hur, SB (1998-03-02) **Identifier** Lee, JH **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 9-14 (L), 3-5 (W) **Original No.** B-666
- 1021 Sampling** 2002-03-01, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 14°C **Isolator** Lee, GA (2002-12-20) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 10-16 (L), 5-8 (W) **Original No.** B-657 **References** 38, 115
- 1187 Sampling** 2003-05-01, Haeundae/Busan (35°09'06" N, 129°09'07" E), intertidal zone, substratum, 20°C, 33 psu **Isolator** Bae, JH (2004-12-11) **Identifier** Lee, JH **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 5-6 (Ø) **Original No.** B-667
- 1263 Sampling** 2005-11-01, Bogildo/Jeonnam (34°08'17" N, 126°33'54" E), substratum, 15°C, 33 psu **Isolator** Jeong, EH (2006-03-13) **Identifier** Lee, JH **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 17-23 (L), 6-12 (W) **Original No.** B-764
- 1800 Sampling** 2011-05-24, Namcheon Bay/Busan (35°08'14" N, 129°06'49" E), coast, surface water, 14°C, 33 psu **Isolator** Jo, MJ (2011-06-28) **Identifier** Hur, SB **States** axenic, agar + liquid, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 1 M **Size (µm)** 19-27 (L), 10-16 (W) **Original No.** B-1062

Amphiprora sp.

- 0984 Sampling** 2001-04-05, South Sea (34°55' N, 128°52' E), open sea, middle water, 15°C **Isolator** Lee, GA

(2002-06-24) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 35-40 (L), 5-8 (W) **Original No.** B-613

- 0985 Sampling** 2001-10-31, West Sea (36°12' N, 125°03' E), open sea, middle water, 19°C **Isolator** Lee, GA (2002-06-24) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 15-19 (L), 4-5 (W) **Original No.** B-624
- 2219 Source KIOST Sampling** 2013-10-23, Kosrae, Micronesia (05°15'53" N, 162°59'01" E), coast, surface water, 30°C, 30 psu **Isolator** Jo, MJ (2014-04-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 23°C, 33 psu, 20 PPF, 1 M **Size (µm)** 29-34 (L), 34-46 (W) **Original No.** B-1190 **Remarks** high °C sp.

AMPHORA: Bacillariophyceae*Amphora alata* H. Peragallo

- 0710 Sampling** 1996-05-13, Yokjido/Gyeongnam (34°38'30" N, 128°16'22" E), coast, surface water, 14°C **Isolator** Hur, SB (1997-01-30) **Identifier** Lee, SG **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 25-38 (L), 10-15 (W) **Original No.** B-184

Amphora angusta Gregory

- 1980 Sampling** 2012-10-15, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 20°C, 25 psu **Isolator** Jo, MJ **Identifier** Hur, SB (2012-12-27) **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 28-32 (L), 13-16 (W) **Original No.** B-1119

Amphora bigibba Grunow

- 2137 Sampling** 2013-07-17, Namcheon Bay/Busan (35°08'14" N, 128°06'49" E), coast, surface water, 23°C, 33 psu **Isolator** Jo, MJ (2013-08-28) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 21-24 (L), 7-13 (W) **Original No.** B-1166
- 2172 Source KIOST Sampling** 2013-10-22, Kosrae, Micronesia (05°20'57" N, 162°57'24" E), coast, surface water, 30°C, 30 psu **Isolator** Jo, MJ (2013-12-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 16-18 (L), 8-11 (W) **Original No.** B-1172 **Remarks** high °C sp.

Amphora coffeaeformis (C. Agardh) KützingSyn. *Halumphora coffeaeformis* (C. Agardh) Levkov

- 0599 Sampling** 1995-12-04, Nakdong River/Busan

(35°06'17" N, 128°53'42" E), coast, surface water, 15°C **Isolator** Hur, SB (1996-10-30) **Identifier** Lee, K **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 3-4 (Ø) **Original No.** B-95 **References** 117

0890 Sampling 1990-01-**, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Hur, SB (1991-03-02) **Identifier** Lee, K **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 20-30 (L), 8-10 (W) **Original No.** B-28 **References** 13

0891 Sampling 1990-01-**, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Hur, SB (1991-03-02) **Identifier** Lee, K **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 18-35 (L), 6-13 (W) **Original No.** B-29 **References** 13

0892 Sampling 1990-01-**, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Hur, SB (1991-03-02) **Identifier** Lee, K **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 20-35 (L), 6-11 (W) **Original No.** B-32

0932 Sampling 1995-07-01, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 26°C, 33 psu **Isolator** Hur, SB (1996-03-29) **Identifier** Lee, JH **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 20-30 (L), 5-6 (W) **Original No.** B-104

1086 Sampling 2004-08-06, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Bae, JH (2004-11-25) **Identifier** Lee, JH **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 14-20 (L), 5-10 (W) **Original No.** B-694

2179 Source KIOST Sampling 2013-10-24, Kosrae, Micronesia (05°21'22" N, 162°57'47" E), coast, surface water, 26°C, 25 psu **Isolator** Jo, MJ (2013-12-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 30-32 (L), 10-11 (W) **Original No.** B-1178 **Remarks** high °C sp.

Amphora coffeaeformis var. *acutiuscula* (Kützing) Hustedt

0063 Sampling 1986-05-01, Oido/Incheon (37°20'48" N, 126°40'57" E), salt farm, surface water **Isolator** Hur, SB (1986-08-25) **Identifier** Lee, K **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 8-15 (L), 4-6 (W) **Original No.** B-27 **References** 13

0064 Sampling 1986-06-01, Mokpo/Jeonnam (34°49'13" N, 126°21'12" E), salt farm, surface water **Isolator** Hur, SB (1986-11-19) **Identifier** Lee, K **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 23-43 (L), 9-15 (W) **Original No.** B-35 **References** 13

0600 Sampling 1995-07-01, Hwajinpo/Gangwon (38°28'59" N, 128°25'54" E), lagoon, surface water **Isolator** Hur, SB (1996-03-29) **Identifier** Lee, K **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 8-13 (L), 4-5 (W) **Original No.** B-93

0601 Sampling 1995-07-01, Gaduckdo/Gyeongnam (35°01'41" N, 128°48'50" E), coast, surface water **Isolator** Hur, SB (1996-03-29) **Identifier** Lee, K **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 3-8 (Ø) **Original No.** B-94

0711 Sampling 1996-05-14, Gaduckdo/Gyeongnam (35°01'41" N, 128°48'50" E), coast, surface water, 14°C, 34 psu **Isolator** Hur, SB (1997-01-30) **Identifier** Lee, K **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 13-15 (L), 9-13 (W) **Original No.** B-204

0933 Sampling 1995-01-25, Wando/Jeonnam (34°19'34" N, 126°45'09" E), coast, surface water **Isolator** Hur, SB (1996-03-29) **Identifier** Lee, K **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 5-8 (L), 2-3 (W) **Original No.** B-69

0934 Sampling 1995-05-31, Wando/Jeonnam (34°19'34" N, 126°45'09" E), coast, surface water **Isolator** Hur, SB (1996-10-30) **Identifier** Lee, K **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 4-6 (L), 2-3 (W) **Original No.** B-76

Amphora decussata Grunow

2109 Source KIOST Sampling 2012-11-19, Chuuk, Micronesia (07°27'02" N, 151°53'20" E), coast, surface water, 30°C, 24 psu **Isolator** Jo, MJ (2013-04-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 90-94 (L), 16-21 (W) **Original No.** B-1150 **Remarks** high °C sp.

Amphora delicatissima Krasske

0712 Sampling 1995-07-07, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 26°C, 33 psu **Isolator** Hur, SB (1996-03-29) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM,

f/2, 15°C, 33 psu, 20 PPF, 3 M Size (μm) 18-25 (L), 2.5-3 (W) **Original No.** B-125

- 0713 Sampling** 1996-05-14, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 13°C **Isolator** Hur, SB (1997-01-30) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M Size (μm) 23-38 (L), 6-10 (W) **Original No.** B-194
- 0714 Sampling** 1996-07-18, South China Sea, high sea, 30°C **Isolator** Hur, SB (1997-02-03) **Identifier** Lee, K **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M Size (μm) 15-23 (L), 3-6 (W) **Original No.** B-195 **References** 63, 97, 139 **Remarks** high °C sp.
- 0715 Sampling** 1996-07-12, South China Sea, high sea, 29°C **Isolator** Hur, SB (1997-02-03) **Identifier** Lee, K **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M Size (μm) 8-15 (L), 8-10 (W) **Original No.** B-226 **Remarks** high °C sp.
- 0864 Sampling** 1996-05-30, Wando/Jeonnam (34°19'34" N, 126°45'09" E), coast, surface water **Isolator** Hur, SB (1997-01-30) **Identifier** Lee, K **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M Size (μm) 15-35 (L), 6-9 (W) **Original No.** B-183
- 0935 Sampling** 1995-09-22, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 25°C, 31 psu **Isolator** Hur, SB (1996-04-17) **Identifier** Lee, K **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M Size (μm) 18-30 (L), 5-9 (W) **Original No.** B-113 **References** 97, 139
- 0936 Sampling** 1995-10-13, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 21°C, 31 psu **Isolator** Hur, SB (1996-04-17) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M Size (μm) 5-14 (L), 3-5 (W) **Original No.** B-116 **References** 110
- 0963 Sampling** 1996-07-02, South China Sea, high sea, 29°C **Isolator** Hur, SB (1996-02-03) **Identifier** Lee, K **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M Size (μm) 13-25 (L), 3-5 (W) **Original No.** B-203 **Remarks** high °C sp.

Amphora granulata Gregory

Syn. *Halamphora granulata* (Gregory) Levkov

- 0822 Sampling** 1998-07-19, Namhae/Gyeongnam

(34°42'47" N, 127°59'13" E), coast, surface water **Isolator** Hur, SB (1998-11-30) **Identifier** Lee, JH **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M Size (μm) 9-11 (L), 6-8 (W) **Original No.** B-269

Amphora hyalina Kützing

- 1814 Sampling** 2011-05-25, Nackdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 22°C, 22 psu **Isolator** Jo, MJ (2011-07-28) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 20 PPF, 1 M Size (μm) 28-30 (L), 9-12 (W) **Original No.** B-1070

Amphora laevis Gregory

- 1816 Sampling** 2011-06-20, Namcheon Bay/Busan (35°08'14" N, 129°06'49" E), coast, surface water, 16°C, 33 psu **Isolator** Jo, MJ (2011-07-28) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M Size (μm) 81-84 (L), 24-48 (W) **Original No.** B-1072

Amphora lineata Gregory

- 0716 Sampling** 1996-02-23, Jejusi/Jeju (33°31'35" N, 126°31'53" E), coast, surface water, 13°C **Isolator** Hur, SB (1996-10-30) **Identifier** Lee, SG **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M Size (μm) 20-25 (L), 4-5 (W) **Original No.** B-186 **References** 97, 139
- 0717 Sampling** 1996-07-19, Busan (35°09'06" N, 129°09'07" E), tidal pool, surface water **Isolator** Hur, SB (1997-02-03) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M Size (μm) 23-35 (L), 5-9 (W) **Original No.** B-188
- 1810 Sampling** 2011-06-08, Moseulpo/Jeju (33°11'10" N, 126°15'42" E), open sea, surface water, 17°C, 33 psu **Isolator** Jo, MJ (2011-07-28) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 1 M Size (μm) 23-24 (L), 10-13 (W) **Original No.** B-1066

Amphora lineolata var. *chinensis* (A. Schmidt) Cleve

- 1986 Sampling** 2012-10-19, Udo/Jeju (33°30'13" N, 126°58'07" E), coast, surface water, 20°C, 33 psu **Isolator** Jo, MJ (2012-12-27) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M Size (μm) 49-50 (L), 26-35 (W) **Original No.** B-1123

Amphora ovalis (Kützing) KützingSyn. *Frustulia ovalis* Kützing

- 0937 Sampling** 1995-07-01, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 26°C, 33 psu **Isolator** Hur, SB (1996-03-29) **Identifier** Lee, JH **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 18-20 (L), 8-13 (W) **Original No.** B-85
- 0986 Sampling** 2001-03-01, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 11°C, 31 psu **Isolator** Lee, GA (2002-06-24) **Identifier** Lee, JH **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 7-12 (L), 5-6 (W) **Original No.** B-607
- 1284 Sampling** 2005-10-01, South Sea (34°08' N, 128°10' E), coast, surface water, 24°C, 35 psu **Isolator** Park, SJ (2006-05-09) **Identifier** Lee, JH **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 3-6 (L), 3-5 (W) **Original No.** B-770

Amphora pediculus (Kützing) Grunow ex A. SchmidtSyn. *Cymbella pediculus* Kützing

- 0227 Sampling** 1999-11-27, Chungmu/Gyeongnam (34°50'22" N, 128°26'19" E), coast, surface water **Isolator** Lee, GA (2000-03-30) **Identifier** Lee, K **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 8-15 (L), 3-5 (W) **Original No.** B-463

Amphora proteus GregorySyn. *Amphora affinis* var. *proteus* (Gregory) Tempère & Peragallo

- 2125 Source** KIOST **Sampling** 2012-11-19, Chuuk, Micronesia (07°27'05" N, 151°53'38" E), coast, surface water, 30°C, 26 psu **Isolator** Jo, MJ (2013-06-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 35-37 (L), 15-22 (W) **Original No.** B-1160 **Remarks** high °C sp.

Amphora veneta Kützing

- 0021 Source** SERI-S/Ampho-1 (1986-06-17) **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 14-17 (L), 6-8 (W) **Original No.** B-25 **References** 7, 13, 16, 28
- 0051 Sampling** 1985-12-05, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Hur, SB (1987-04-29) **Identifier** Lee, K **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 10-25 (L), 5-8 (W)

Original No. B-26 **References** 12, 69

- 0208 Sampling** 1996-04-11, Pohang/Gyeongbuk (35°59'58" N, 129°26'16" E), coast, surface water **Isolator** Hur, SB (1998-05-17) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 13-18 (L), 5-8 (W) **Original No.** B-201 **References** 110
- 0209 Sampling** 1996-10-22, Jinhae Bay/Gyeongnam (35°08'35" N, 128°40'58" E), coast, surface water **Isolator** Hur, SB (1998-05-17) **Identifier** Lee, K **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 3-5 (L), 4-6 (W) **Original No.** B-208
- 0718 Sampling** 1996-04-11, Youngil Bay/Gyeongbuk (36°01'09" N, 129°27'02" E), coast, surface water **Isolator** Hur, SB (1996-10-15) **Identifier** Lee, K **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 13-20 (L), 5-8 (W) **Original No.** B-187
- 0895 Sampling** 1990-01-**, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Hur, SB (1991-03-02) **Identifier** Lee, K **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 13-25 (L), 5-8 (W) **Original No.** B-30 **References** 13
- 0896 Sampling** 1990-01-**, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Hur, SB (1991-03-02) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 12-15 (L), 3-6 (W) **Original No.** B-31
- 0897 Sampling** 1990-01-**, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Hur, SB (1991-03-02) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 14-27 (L), 5-8 (W) **Original No.** B-33 **References** 13
- 0898 Sampling** 1985-01-**, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Hur, SB (1995-11-01) **Identifier** Lee, K **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 8-15 (L), 5-7 (W) **Original No.** B-34 **References** 13, 91
- 0899 Sampling** 1995-05-01, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 17°C, 33 psu **Isolator** Hur, SB (1996-03-18) **Identifier** Lee, K **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 8-18 (L), 5-6 (W) **Original No.** B-55
- 0938 Sampling** 1995-07-01, Deukryang Bay/Jeonnam

(34°45'27" N, 127°13'52" E), coast, surface water, 26°C, 33 psu **Isolator** Hur, SB (1996-03-29) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 8-10 (L), 5-8 (W) **Original No.** B-89

0939 Sampling 1995-01-25, Geojedo/Gyeongnam (33°14'26" N, 126°34'03" E), coast, surface water **Isolator** Hur, SB (1995-05-09) **Identifier** Lee, K **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 13-20 (L), 4-5 (W) **Original No.** B-102 **References** 97, 139

Amphora sp.

0232 Sampling 1999-01-14, Gwangalli/Busan (35°08'47" N, 129°06'56" E), estuary, surface water, 21°C **Isolator** Lee, GA (1999-05-29) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM-E, f/2-E, 20°C, 15 psu, 20 PPF, 2 M **Size (µm)** 13-16 (L), 5-8 (W) **Original No.** EB-5

0445 Sampling 2000-08-07, Goseong/Gangwon (38°25'25" N, 128°28'03" E), coast, surface water, 26°C **Isolator** Lee, GA (2000-12-01) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 5-13 (L), 5-8 (W) **Original No.** B-519

0512 Sampling 2001-03-01, Wando/Jeonnam (34°18'33" N, 126°51'18" E), hatchery, substratum **Isolator** Lee, GA (2001-08-01) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 4-8 (L), 2-3 (W) **Original No.** B-585 **References** 20

0513 Sampling 2001-03-01, Buan/Jeonbuk (35°44'44" N, 126°35'27" E), hatchery, substratum **Isolator** Lee, GA (2001-08-01) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 6-11 (L), 4-6 (W) **Original No.** B-597 **References** 110

0520 Sampling 2001-03-01, Uljin/Gyeongbuk (36°57'28" N, 129°25'00" E), hatchery, substratum **Isolator** Lee, GA (2001-08-16) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 23-33 (L), 6-10 (W) **Original No.** B-579

0524 Sampling 2001-03-29, Buan/Jeonbuk (35°35'31" N, 126°37'30" E), coast, mud, 9°C, 31 psu **Isolator** Lee, GA (2001-08-27) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 18-40 (L), 6-8 (W) **Original No.** B-513

0525 Sampling 2001-03-29, Buan/Jeonbuk (35°35'31" N, 126°37'30" E), coast, mud, 9°C, 31 psu **Isolator** Lee, GA (2001-08-27) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 10-11 (L), 4-5 (W) **Original No.** B-527

0526 Sampling 2001-03-29, Buan/Jeonbuk (35°35'31" N, 126°37'30" E), coast, mud, 11°C, 31 psu **Isolator** Lee, GA (2001-08-27) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 18-25 (L), 6-8 (W) **Original No.** B-549

0527 Sampling 2001-03-01, Uljin/Gyeongbuk (36°57'28" N, 129°25'00" E), hatchery, substratum **Isolator** Lee, GA (2001-08-27) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 20-38 (L), 6-8 (W) **Original No.** B-551

0528 Sampling 2001-03-01, Buan/Jeonbuk (35°44'44" N, 126°35'27" E), hatchery, substratum, 18°C **Isolator** Lee, GA (2001-08-27) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 10-45 (L), 4-6 (W) **Original No.** B-556

0769 Source NFRDI Sampling 1999-01-25, Namhae/Gyeongnam (34°42'47" N, 127°59'13" E), coast, surface water (1999-05-22) **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 10-20 (L), 4-5 (W) **Original No.** B-233

0770 Sampling 1998-05-21, Yeosu/Jeonnam (34°45'07" N, 127°39'33" E), coast, surface water **Isolator** Hur, SB (1998-11-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 5-6 (L), 4-5 (W) **Original No.** B-243

0771 Sampling 1998-07-08, Geojedo/Gyeongnam (34°53'36" N, 128°43'43" E), coast, surface water **Isolator** Hur, SB **Identifier** Hur, SB (1998-11-30) **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 5-8 (L), 3-4 (W) **Original No.** B-251

0772 Sampling 1999-03-15, Jindong/Gyeongnam (35°06'09" N, 128°29'40" E), coast, surface water **Isolator** Lee, GA (1999-10-26) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 5-8 (L), 2-3 (W) **Original No.** B-299

0773 Sampling 1999-03-22, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 8°C, 31 psu **Isolator** Lee, GA (1999-10-26) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu,

- 20 PPF, 3 M Size (μm) 18-30 (L), 5-8 (W) **Original No.** B-304 **References** 97, 110, 139
- 0823 Sampling** 1999-03-22, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 31°C **Isolator** Lee, GA (1999-10-26) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size** (μm) 10-15 (L), 5-6 (W) **Original No.** B-313 **References** 97, 139
- 0824 Sampling** 1999-02-24, Yeosu/Jeonnam (34°45'07" N, 127°39'33" E), coast, surface water, 12°C **Isolator** Lee, GA (1999-06-30) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size** (μm) 10-13 (L), 2-4 (W) **Original No.** B-323
- 0893 Sampling** 1995-05-01, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 17°C, 33 psu **Isolator** Hur, SB (1996-03-18) **Identifier** Lee, SG **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size** (μm) 13-15 (L), 5-8 (W) **Original No.** B-48 **References** 97, 139
- 0894 Sampling** 1999-09-01, Namgu/Busan (35°07'56" N, 129°06'06" E), pond, surface water, 28°C **Isolator** Lee, GA (2000-01-30) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** JM-agar, JM, 20°C, 0 psu, 20 PPF, 2 M **Size** (μm) 9-12 (L), 6-8 (W) **Original No.** FB-41
- 0987 Sampling** 2001-10-31, West Sea (37°11' N, 123°47' E), open sea, middle water, 18°C **Isolator** Lee, GA (2002-06-24) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size** (μm) 4-5 (L), 4-5 (W) **Original No.** B-620
- 0988 Sampling** 2001-10-31, West Sea (34°04' N, 126°47' E), open sea, middle water, 19°C **Isolator** Lee, GA (2002-06-24) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size** (μm) 6-8 (L), 4-5 (W) **Original No.** B-625
- 0989 Sampling** 2001-10-31, West Sea (36°12' N, 125°03' E), open sea, middle water, 19°C **Isolator** Lee, GA (2002-06-24) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size** (μm) 6-8 (L), 4-5 (W) **Original No.** B-627
- 1022 Sampling** 2001-10-31, West Sea (35°52' N, 125°19' E), open sea, middle water, 18°C **Isolator** Lee, GA (2002-12-20) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size** (μm) 8-9 (L), 3-5 (W) **Original No.** B-637
- 1023 Sampling** 2001-05-01, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 19°C **Isolator** Lee, GA (2002-12-20) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size** (μm) 20-25 (L), 7-10 (W) **Original No.** B-662
- 1024 Sampling** 2001-06-06, East Sea (35°32' N, 129°35' E), open sea, surface water, 18°C **Isolator** Lee, GA (2002-12-20) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size** (μm) 6-9 (L), 4-5 (W) **Original No.** B-664
- 1077 Sampling** 2004-03-29, East Sea (33°34' N, 128°30' E), open sea, surface water **Isolator** Park, SJ (2004-11-24) **Identifier** Lee, JH **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size** (μm) 8-14 (L), 2-4 (W) **Original No.** B-732
- 1240 Sampling** 2005-08-29, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 24°C, 33 psu **Isolator** Jeong, EH (2005-11-07) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size** (μm) 8-10 (L), 4-7 (W) **Original No.** B-748
- 1247 Sampling** 2005-09-16, Mokdo/Jeonnam (34°26'25" N, 127°17'34" E), coast, surface water, 24°C **Isolator** Jeong, EH (2006-01-17) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size** (μm) 8-10 (L), 5-8 (W) **Original No.** B-751
- 1264 Sampling** 2005-11-01, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 14°C, 29 psu **Isolator** Jeong, EH (2006-03-13) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size** (μm) 23-26 (L), 6-10 (W) **Original No.** B-763
- 1423 Sampling** 2008-08-13, Taean/Chungnam (36°40'39" N, 126°08'09" E), coast, surface water, 32°C, 34 psu **Isolator** Jeong, EH (2008-10-13) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 20°C, 33 psu, 20 PPF, 3 M **Size** (μm) 48-51 (L), 27-34 (W) **Original No.** B-868
- 1541 Sampling** 2009-08-02, Yokjido/Gyeongnam (34°38'30" N, 128°16'22" E), coast, surface water, 24°C **Isolator** Jo, MJ (2009-10-26) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size** (μm) 55-58 (L), 32-36 (W) **Original No.** B-926

ANABAENA: Cyanophyceae

Anabaena azollae Strasburger

Syn. *Trichormus azollae* (Strasburger) Komárek & Anagnostidis

2162 Source KIOST **Sampling** 2013-10-23, Kosrae, Micronesia (05°17'06" N, 162°57'25" E), reservoir, surface water, 26°C **Isolator** Jo, MJ (2013-12-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 18°C, 0 psu, 20 PPF, 1 M, **Size (µm)** 4-7 (L), 4-5 (W) **Original No.** FCy-59 **Remarks** high °C sp.

Anabaena circinalis (Kützting) Hansgirg

2184 Source KIOST **Sampling** 2013-10-24, Kosrae, Micronesia (05°20'00" N, 162°58'27" E), reservoir, surface water, 25°C **Isolator** Jo, MJ (2014-02-17) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 18°C, 0 psu, 20 PPF, 1 M, **Size (µm)** 4-5 (L), 8-9 (W) **Original No.** FCy-62

ANKISTRODESMUS: Chlorophyceae

Ankistrodesmus falcatus (Corda) Ralfs

Syn. *Micrasterias falcatus* Corda

2157 Sampling 2013-10-10, Sangju/Gyeongbuk (36°30'46" N, 128°09'39" E), reservoir, surface water, 21°C **Isolator** Jo, MJ (2013-12-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 18°C, 0 psu, 40 PPF, 1 M, **Size (µm)** 45-57 (L), 3-5 (W) **Original No.** FC-255

Ankistrodesmus falcatus var. *tumidus* (West & West) G. S. West

Syn. *Closteriopsis acicularis* (Chodat) J. H. Belcher & Swale

1248 Sampling 2005-10-01, Upo/Gyeongnam (35°32'53" N, 128°24'25" E), swamp, surface water, 15°C **Isolator** Park, SJ (2006-01-17) **Identifier** Lee, OM **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 45-66 (L), 5-10 (W) **Gene data** 18S rRNA (JQ315498) **Original No.** FC-118

Ankistrodesmus gracilis (Reinsch) Korshikov

Syn. *Selenastrum gracile* Reinsch

1772 Sampling 2011-02-22, Dongjin River/Jeonbuk (35°45'33" N, 126°46'42" E), surface water, 8°C **Isolator** Jo, MJ (2011-03-31) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** JM-agar, JM, 20°C, 0 psu, 60 PPF, 1 M **Size (µm)** 26-77 (L), 2-7 (W) **Original No.** FC-180

Ankistrodesmus westii G. M. Smith

1470 Sampling 2008-12-09, Namgu/Busan (35°07'56" N, 129°06'06" E), pond, surface water, 8°C, 0 psu, **Isolator** Jeong, EH (2009-01-07) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 20°C, 0 psu, 60 PPF, 4 M **Size (µm)** 15-21 (L), 2 (W) **Original No.** FC-137

1886 Sampling 2011-06-08, Aewol/Jeju (33°27'15" N, 126°20'49" E), pond, surface water, 25°C **Isolator** Jo, MJ (2012-02-08) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 20°C, 0 psu, 60 PPF, 1 M **Size (µm)** 24-29 (L), 3-5 (W) **Original No.** FC-207

1963 Sampling 2012-07-25, Upo/Gyeongnam (35°32'47" N, 128°23'59" E), swamp, surface water, 32°C **Isolator** Jo, MJ (2012-10-23) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 20°C, 0 psu, 60 PPF, 1 M **Size (µm)** 15-20 (L), 12-18 (W) **Original No.** FC-225

Ankistrodesmus sp.

1507 Source Kunsan Univ. (MANK 1-17) **Sampling** Mangyeong River/Jeonbuk, surface water, 2 psu (2009-07-30) **States** axenic, agar, liquid, cryopreserved **Culture** JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 11-17 (L), 2-3 (W) **Original No.** FC-143

APHANOCAPSA: Cyanophyceae

Aphanocapsa grevillei (Hassall) Rabenhorst

Syn. *Palmella grevillei* Berkeley

1709 Sampling 2010-09-09, Nakdong River/Busan (35°06'17" N, 128°53'42" E), estuary, surface water, 24°C **Isolator** Jo, MJ (2010-10-15) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 23°C, 0 psu, 40 PPF, 1 M **Size (µm)** 10-12 (L), 6-7 (W) **Original No.** FCy-39

Aphanocapsa pulchra (Kützting) Rabenhorst

Syn. *Microcystis smithii* Komárek & Anagnostidis

1837 Sampling 2011-06-07, Seongsan/Jeju (33°30'11" N, 126°53'28" E), coast, surface water, 18°C, 3 psu **Isolator** Jo, MJ (2011-08-31) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 20°C, 0 psu, 40 PPF, 1 M **Size (µm)** 3-4 (Ø) **Original No.** FCy-36

Aphanocapsa rivularis (Carmichael) Rabenhorst

Syn. *Palmella rivularis* Carmichael

1942 Sampling 2012-05-16, Tamjin River/Jeonnam (34°39'37" N, 126°53'58" E), surface water, 21°C **Isolator** Jo, MJ (2012-07-17) **Identifier** Hur, SB **States**

non-axenic, liquid, cryopreserved **Culture** JM, 18°C, 0 psu, 40 PPF, 1 M **Size (µm)** 4-6 (Ø) **Original No.** FCy-50

APHANOTHECE: Cyanophyceae

Aphanothece castagnei (Brébisson) Rabenhorst

1834 Sampling 2011-06-08, Hallim/Jeju (33°17'39" N, 126°13'59" E), pond, surface water, 24°C **Isolator** Jo, MJ (2011-08-31) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** JM, 20°C, 0 psu, 40 PPF, 1 M **Size (µm)** 7-8 (L), 4-6 (W) **Original No.** FCy-35

Aphanothece saxicula Nägeli

1957 Sampling 2012-07-25, Upo/Gyeongnam (35°32'53" N, 128°24'25" E), swamp, surface water, 30°C **Isolator** Jo, MJ (2012-10-23) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 20°C, 0 psu, 40 PPF, 1 M **Size (µm)** 4-5 (L), 2-3 (W) **Original No.** FCy-53

Aphanothece sp.

0088 Sampling 1995-08-18, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Hur, SB (1996-03-27) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 3-10 (Ø) **Original No.** Cy-40

0089 Sampling 1995-05-08, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 17°C, 33 psu **Isolator** Hur, SB (1996-03-27) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 5-10 (Ø) **Original No.** Cy-41

1231 Sampling 2005-06-27, Upo/Gyeongnam (35°32'53" N, 128°24'25" E), swamp, surface water, 26°C **Isolator** Jeong, EH (2005-09-01) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 20°C, 0 psu, 40 PPF, 1 M **Size (µm)** 9-17 (L), 2-3 (W) **Original No.** FCy-17

1888 Sampling 2011-06-08, Hangyeong/Jeju (33°19'8" N, 126°11'18" E), reservoir, surface water, 27°C **Isolator** Jo, MJ (2012-02-08) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 20°C, 0 psu, 60 PPF, 1 M **Size (µm)** 12-15 (L), 9-11 (W) **Original No.** FCy-66

ARDISSONIA: Bacillariophyceae

Ardissonia fulgens (Greville) Grunow

1751 Sampling 2011-01-12, Gijang/Busan (35°16'55" N, 129°15'30" E), coast, surface water, 12°C, 33

psu **Isolator** Jo, MJ (2011-02-08) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 275-296 (L), 10-21 (W) **Original No.** B-1047

1937 Sampling 2012-04-26, Hansando/Gyeongnam (34°46'07" N, 128°30'47" E), coast, surface water, 15°C, 29 psu **Isolator** Jo, MJ (2012-05-31) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 293-403 (L), 21-23 (W) **Original No.** B-1108

ASTERIONELLA: Bacillariophyceae

Asterionella glacilis Castracane

Syn. *Asterionellopsis glacialis* (Castracane) Round

1315 Sampling 2006-08-01, Jinhae Bay/Gyeongnam (35°08'35" N, 128°40'58" E), coast, surface water, 26°C, 29 psu **Isolator** Jeong, EH (2006-11-22) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 50-64 (L), 5-7 (W) **Original No.** B-791

1316 Sampling 2006-07-01 Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 24°C **Isolator** Jeong, EH (2006-11-22) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 27-31 (L), 7-12 (W) **Original No.** B-794

1543 Sampling 2009-07-22, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 15°C, 33 psu **Isolator** Jo, MJ (2009-10-26) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 78-83 (L), 16-20 (W) **Original No.** B-917

1591 Sampling 2010-01-05, Namhae/Gyeongnam (34°42'47" N, 127°59'13" E), coast, surface water, 17°C **Isolator** Jo, MJ (2010-02-08) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 103-110 (L), 16-19 (W) **Original No.** B-956

1743 Sampling 2010-11-11, Yeongdeok/Gyeongbuk (36°24'50" N, 129°27'00" E), open sea, deep sea, deep water, 1°C **Isolator** Jo, MJ (2010-12-28) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 87-96 (L), 8-16 (W) **Original No.** B-1039 **Remarks** low °C sp.

1764 Sampling 2010-02-22, Geum River/Jeonbuk (36°00'54" N, 126°45'24" E), estuary, surface water, 6°C, 10 psu **Isolator** Jo, MJ (2011-03-31) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2-E, 20°C, 15 psu, 20 PPF, 1 M **Size (µm)** 70-76 (L), 8-13 (W) **Original No.** EB-51

Asterionella gracillima (Hantzsch) Heiberg

1769 Sampling 2011-02-22, Dongjin River/Jeonbuk (35°45'33" N, 126°46'42" E), surface water, 8°C **Isolator** Jo, MJ (2013-03-31) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 20°C, 0 psu, 20 PPF, 1 M **Size (µm)** 46-48 (L), 2-3 (W) **Original No.** FB-62

Asterionella kariana Grunow

1405 Sampling 2008-07-02, Jejusi/Jeju (33°34'32" N, 126°31'11" E), coast, surface water, 13°C, 34 psu **Isolator** Jeong, EH (2008-09-01) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 24-29 (L), 45 (W) **Original No.** B-855

1602 Sampling 2010-02-23, Malipo/Chungnam (36°46'38" N, 126°07'49" E), coast, surface water, 4°C, 32 psu **Isolator** Jo, MJ (2010-03-17) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 39-42 (L), 9-13 (W) **Original No.** B-967

1905 Sampling 2012-02-26, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 11°C, 31 psu **Isolator** Jo, MJ (2012-03-29) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 36-42 (L), 3-5 (W) **Original No.** B-1097

Asterionella sp.

0529 Sampling 2001-03-29, Buan/Jeonbuk (35°35'31" N, 126°37'30" E), coast, mud, 9°C, 31 psu **Isolator** Lee, GA (2001-08-27) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 15-20 (L), 5-9 (W) **Original No.** B-536

1362 Sampling 2007-01-**, South Sea (34°30' N, 129°44' E), coast, mud, 16°C, 31 psu **Isolator** Jeong, EH (2007-03-22) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 24-26 (L), 4-6 (W) **Original No.** B-819

ASTERIONELLOPSIS: Bacillariophyceae

Asterionellopsis glacialis (Castracane) Round

Syn. *Asterionella glacialis* (Castracane) Round

0638 Sampling 1999-02-09, Samcheonpo/Gyeongnam (34°55'29" N, 128°05'02" E), coast, surface water **Isolator** Lee, GA (1999-06-30) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 18-30 (L), 6-10 (W) **Original No.** B-296

0639 Sampling 1999-03-22, Buan/Jeonbuk (35°49'17" N,

126°38'29" E), coast, surface water, 8°C, 31 psu **Isolator** Lee, GA (1999-10-26) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 20-33 (L), 6-13 (W) **Original No.** B-317

0640 Sampling 1999-03-24, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 11°C, 30 psu **Isolator** Lee, GA (1999-10-26) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 23-28 (L), 6-10 (W) **Original No.** B-334

0641 Sampling 1998-12-31, Maemuldo/Gyeongnam (34°46'10" N, 128°38'51" E), coast, surface water **Isolator** Lee, GA (1999-07-16) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 18-21 (L), 5-8 (W) **Original No.** B-340

0642 Sampling 1999-04-17, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 11°C, 30 psu **Isolator** Lee, GA (1999-07-21) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 15-20 (L), 6-10 (W) **Original No.** B-345

0671 Sampling 1999-04-17, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 11°C, 30 psu **Isolator** Lee, GA (1999-07-21) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 13-30 (L), 6-8 (W) **Original No.** B-352

0672 Sampling 1999-08-14, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 27°C, 30 psu **Isolator** Lee, GA (2000-01-20) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 18-28 (L), 5-11 (W) **Original No.** B-365

0673 Sampling 1999-08-14, Buan (35°49'17" N, 126°38'29" E), coast, surface water, 28°C, 30 psu **Isolator** Lee, GA (2000-01-20) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 15-25 (L), 6-10 (W) **Original No.** B-385

0774 Sampling 1998-12-24, Jindong/Gyeongnam (35°06'09" N, 128°29'40" E), coast, surface water **Isolator** Lee, GA (1999-07-16) **Identifier** Lee, JH **States** axenic, agar, liquid **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 18-23 (L), 5-11 (W) **Original No.** B-237

ASTEROCOCCUS: Chlorophyceae

Asterococcus limneticus G. M. Smith

0719 Sampling 1996-12-21, Ansan/Gyeonggi (37°18'32"

N, 126°43'06" E), salt farm, surface water **Isolator** Hur, SB (1997-08-05) **Identifier** Lee, SG **States** non-axenic, liquid, cryopreserved **Culture** f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 3-8 (Ø) **Original No.** C-251

1989 Sampling 2012-07-25, Upo/Gyeongnam (35°32'53" N, 128°24'25" E), swamp, surface water, 30°C **Isolator** Jo, MJ (2012-12-27) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 1 M **Size (µm)** 13-17 (Ø) **Original No.** FC-237

Asterococcus sp.

1447 Sampling 2008-09-26, Nakdong River/Busan (35°06'17" N, 128°53'42" E), estuary, surface water, 23°C **Isolator** Jeong, EH (2008-11-05) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 12-14 (Ø) **Original No.** FC-130

ASTEROMONAS: Chlorophyceae

Asteromonas gracilis Artari

1836 Sampling 2011-06-07, Gimnyeong/Jeju (33°33'32" N, 126°45'41" E), coast, surface water, 21°C, 31 psu **Isolator** Jo, MJ (2011-08-31) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** f/2, 23°C, 33 psu, 60 PPF, 1 M **Size (µm)** 15-18 (L), 11-14 (W) **Original No.** C-280

ASTEROMPHALUS: Bacillariophyceae

Asteromphalus cleveanus Grunow

1424 Sampling 2008-09-05, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 25°C, 32 psu **Isolator** Jeong, EH (2008-10-13) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 68-71 (L), 47-49 (W) **Original No.** B-874

1568 Sampling 2009-12-08, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 14°C, 34 psu **Isolator** Jo, MJ (2010-01-12) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 60-64 (L), 40-45 (W) **Original No.** B-952

Asteromphalus flabellatus Brébisson

1632 Sampling 2010-04-14, Namcheon Bay/Busan (35°08'14" N, 129°06'49" E), coast, surface water, 13°C, 34 psu **Isolator** Jo, MJ (2010-06-17) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 44-49 (Ø) **Original**

No. B-968

Asteromphalus heptactis (Brébisson) Ralfs in Pritchard
Syn. *Spatangidium heptactis* Brébisson

1482 Sampling 2008-12-19, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 11°C, 34 psu **Isolator** Jeong, EH (2009-02-19) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 50-52 (Ø) **Original No.** B-907

1866 Sampling 2011-11-16, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 17°C, 33 psu **Isolator** Jo, MJ (2011-12-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 41-47 (Ø) **Original No.** B-1081

1932 Sampling 2012-05-02, Yokjido/Gyeongnam (34°38'30" N, 128°16'22" E), coast, surface water, 32°C, 15 psu **Isolator** Jo, MJ (2012-05-31) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 40-41 (Ø) **Original No.** B-1105

AULACODISCUS: Bacillariophyceae

Aulacodiscus kittoni Arnott ex Ralfs

Syn. *Tripodiscus kittonii* (Arnott ex Ralfs in Pritchard) Kuntze

1752 Sampling 2010-12-07, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 12°C, 34 psu **Isolator** Jo, MJ (2011-02-08) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 46-51 (L), 10-26 (W) **Original No.** B-1048

AULACOSEIRA: Bacillariophyceae

Aulacoseira ambigua (Grunow) Simonsen

1900 Sampling 2012-02-27, Gunsan/Jeonbuk (35°57'02" N, 126°41'37" E), reservoir, surface water, 8°C **Isolator** Jo, MJ (2012-03-29) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 20°C, 0 psu, 40 PPF, 1 M **Size (µm)** 26-36 (L), 7-8 (W) **Original No.** FB-64

AURICULA: Bacillariophyceae

Auricula minuta Cleve

0228 Sampling 1999-12-24, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 6°C, 31 psu **Isolator** Lee, GA (2000-04-07) **Identifier** Lee, K **States** axenic, agar, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 15-23 (L), 6-9 (W) **Original No.**

B-436

0433 Sampling 2000-03-11, Ulsan/Gyeongnam (35°31'01" N, 129°22'44" E), coast, surface water, 13°C **Isolator** Lee, GA (2000-06-27) **Identifier** Lee, K **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 10-18 (L), 5-6 (W) **Original No.** B-501

0990 Sampling 2001-09-01, Uljin/Gyeongbuk (36°57'28" N, 129°25'00" E), hatchery, substratum **Isolator** Lee, GA (2002-06-24) **Identifier** Lee, K **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 20-30 (L), 5-6 (W) **Original No.** B-618

0991 Sampling 2001-09-01, Wando/Jeonnam (34°18'33" N, 126°51'18" E), hatchery, substratum **Isolator** Lee, GA (2002-06-24) **Identifier** Lee, K **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 19-30 (L), 6-9 (W) **Original No.** B-619

0992 Sampling 2001-11-09, Buan/Jeonbuk (35°44'44" N, 126°35'27" E), hatchery, substratum **Isolator** Lee, GA (2002-06-24) **Identifier** Lee, K **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 15-23 (L), 7-10 (W) **Original No.** B-629

AZPEITIA: Bacillariophyceae

Azpeitia neocrenulata (Vanlandingham) G. Fryxell & T. P. Watkins

Syn. *Coscinodiscus neocrenulatus* S. L. VanLandingham

1633 Sampling 2010-05-13, Dokdo/Gyeongbuk (37°14'34" N, 131°36'19" E), open sea, deep sea, deep water, 1°C **Isolator** Jo, MJ (2010-06-17) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 42-45 (L), 21-25 (W) **Original No.** B-984 **Remarks** low °C sp.

BACILLARIA: Bacillariophyceae

Bacillaria paradoxa J. F. Gmelin

1265 Sampling 2005-11-02, Bogildo/Jeonnam (34°08'17" N, 126°33'54" E), coast, surface water, 15°C, 33 psu **Isolator** Jeong, EH (2006-03-13) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 97-100 (L), 4-6 (W) **Original No.** B-757

Bacillaria paxillifer (O. F. Müller) T. Marsson

Syn. *Nitzschia paxillifer* (O. F. Müller) Heiberg

0602 Sampling 1986-11-01, Oido/Incheon (37°20'48" N, 126°40'57" E), salt farm, surface water **Isolator** Hur,

SB (1987-04-29) **Identifier** Lee, SG **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 9-13 (L), 2-3 (W) **Original No.** B-36 **References** 13

1317 Sampling 2006-09-01, South Sea (34°60' N 128°60' E), surface water, 24°C **Isolator** Jeong, EH (2006-11-22) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 98-103 (L), 3-7 (W) **Original No.** B-811

1615 Sampling 2010-04-14, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 13°C, 34 psu **Isolator** Jo, MJ (2010-04-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 137-140 (L), 7-11 (W) **Original No.** B-977

1811 Sampling 2011-06-08, Moseulpo/Jeju (33°11'10" N, 126°15'42" E), open sea, surface water, 17°C, 33 psu **Isolator** Jo, MJ (2011-07-28) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 163-164 (L), 5-8 (W) **Original No.** B-1067

BACTERIASTRUM: Bacillariophyceae

Bacteriastrium delicatulum Cleve

1444 Sampling 2008-09-11, Tongyeong/Gyeongnam (34°34'34" N, 128°11'33" E), coast, surface water, 25°C, 32 psu **Isolator** Jeong, EH (2008-11-05) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 28-30 (L), 18-27 (W) **Original No.** B-886

1719 Sampling 2010-11-04, Namcheon Bay/Busan (35°08'14" N, 129°06'49" E), coast, surface water, 18°C, 33 psu **Isolator** Jo, MJ (2010-11-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 15-27 (L), 10 (W) **Original No.** B-1019

Bacteriastrium elegans Pavillard

1697 Sampling 2010-01-19, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 11°C, 34 psu **Isolator** Jo, MJ (2010-02-08) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 30-32 (Ø) **Original No.** B-966

Bacteriastrium hyalinum Lauder

1425 Sampling 2008-09-05, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 25°C, 32 psu, **Isolator** Jeong, EH (2008-10-13) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu,

40 PPF, 1 M Size (μm) 22-34 (L), 16-18 (W) **Original No.** B-873

Bacteriastrum hyalinum var. *princeps* (Castrachane) Ikari

1693 Sampling 2009-09-25, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 24°C, 32 psu **Isolator** Jo, MJ (2009-10-26) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 40-45 (L), 42-84 (W) **Original No.** B-933

Bacteriastrum varians Lauder

2087 Sampling 2013-01-11, Seongsan/Jeju (33°22'40" N, 127°43'29" E), coast, surface water, 17°C, 33 psu **Isolator** Jo, MJ (2013-03-12) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 40 PPF, 1 M Size (μm) 26-31 (\emptyset) **Original No.** B-1132

BATRACHOSPENECEA: Rhodophyceae

Batrachospenecea sp.

1221 Sampling 2004-12-15, Upo/Gyeongnam (35°32'53" N, 128°24'25" E), swamp, surface water, 3°C **Isolator** Jeong, EH (2005-05-13) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** JM-agar, JM, 20°C, 0 psu, 40 PPF, 1 M Size (μm) 9-14 (L), 4-8 (W) **Original No.** FRr-1

BELLEROCHEA: Bacillariophyceae

Bellerochea malleus (Brightwell) Van Heurck

2120 Sampling 2012-10-18, Pyoseon/Jeju (33°19'40" N, 126°50'36" E), coast, surface water, 19°C, 33 psu **Isolator** Jo, MJ (2013-06-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M Size (μm) 65-81 (L), 24-29 (W) **Original No.** B-1159

Bellerochea sp.

2212 Source KIOST **Sampling** 2013-10-22, Kosrae, Micronesia (05°19'14" N, 162°55'28" E), coast, surface water, 30°C, 30 psu **Isolator** Jo, MJ (2013-04-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 23°C, 33 psu, 20 PPF, 1 M Size (μm) 9-11 (\emptyset) **Original No.** B-1188

BERKELEYA: Bacillariophyceae

Berkeleya fragilis Greville

Syn. *Amphipleura micans* var. *fragilis* (Greville) Cleve

1300 Sampling 2006-04-07, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, 15°C, 34 psu **Isolator** Jeong,

EH (2006-07-10) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 7-8 (L), 2-3 (W) **Original No.** B-778

BIDDULPHIA: Bacillariophyceae

Biddulphia biddulphiana (J. E. Smith) Boyer

Syn. *Conferva biddulphiana* J. E. Smith

1318 Sampling 2006-09-01, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 24°C, 30 psu **Isolator** Jeong, EH (2006-11-22) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 30-52 (L), 59-61 (W) **Original No.** B-809

Biddulphia longicuris Greville

Syn. *Odontella longicuris* (Greville) M. A. Hoban

1397 Sampling 2007-10-11, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 20°C, 33 psu **Isolator** Jeong, EH (2008-06-23) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 55-75 (L), 45-50 (W) **Original No.** B-843

1426 Sampling 2008-08-21, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 23°C, 31 psu **Isolator** Jeong, EH (2008-10-13) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 63-70 (L), 34-58 (W) **Original No.** B-866

1569 Sampling 2009-12-02, Namcheon Bay/Busan (35°08'14" N, 129°06'49" E), coast, surface water, 16°C, 33 psu **Isolator** Jo, MJ (2010-01-12) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 36-50 (L), 14-18 (W) **Original No.** B-947

Biddulphia obtusa (Kützing) Ralfs

Syn. *Odontella obtusa* Kützing

1457 Sampling 2008-10-24, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 20°C, 30 psu **Isolator** Jeong, EH (2008-12-04) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 46-75 (L), 50-53 (W) **Gene data** 18S rRNA (JQ315660), *rbcL* (JQ315439) **Original No.** B-888

1868 Sampling 2011-10-27, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 18°C, 33 psu **Isolator** Jo, MJ (2011-12-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 44-66 (L), 29-31 (W) **Original No.** B-1082

Biddulphia reticulata Roper

1992 Sampling 2012-11-21, Namcheon Bay/Busan (35°08'14" N, 129°06'49" E), coast, surface water, 15°C, 33 psu **Isolator** Jo, MJ (2012-12-27) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 40 PPF, 1 M **Size (µm)** 96-97 (Ø) **Original No.** B-1125

Biddulphia sp.

0223 Sampling 1999-11-22, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 14°C, 31 psu **Isolator** Lee, GA (2000-02-10) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 18-29 (L), 5-13 (W) **Original No.** B-444

0225 Sampling 1999-12-23, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 13°C **Isolator** Lee, GA (2000-03-10) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 18-20 (L), 5-14 (W) **Original No.** B-452

0272 Sampling 1999-10-28, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 17°C **Isolator** Lee, GA (1999-12-30) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 18-23 (L), 6-11 (W) **Original No.** B-459

0384 Sampling 1999-12-27, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 11°C **Isolator** Lee, GA (2000-03-27) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 15-26 (L), 5-13 (W) **Original No.** B-489

0427 Sampling 2000-02-26, Uljin/Gyeongbuk (36°57'28" N, 129°25'00" E), hatchery, substratum, 11°C **Isolator** Lee, GA (2000-05-22) **Identifier** Hur, SB **States** non-axenic, agar, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 15-20 (L), 5-15 (W) **Original No.** B-508

0825 Sampling 1999-09-14, Ulsan/Gyeongnam (35°31'01" N, 129°22'44" E), coast, surface water, 20°C **Isolator** Lee, GA (2000-01-30) **Identifier** Hur, SB **States** non-axenic, agar, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 18-23 (L), 15-23 (W) **Original No.** B-390

1445 Sampling 2008-05-29, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 20°C, 30 psu **Isolator** Jeong, EH (2008-11-05) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 78-81 (L), 57-62 (W) **Original No.** B-882

BOTRYOCOCCUS: Chlorophyceae*Botryococcus braunii* Kützing

1350 Source CCAP 807/1 (2007-01-22) **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 13-15 (L), 8-11 (W) **Gene data** 18S rRNA (JQ315763) **Original No.** FC-124 **References** 91, 164 **Remarks** high lipid

1681 Source CCAP 807/2 (2003-01-22) **States** axenic, agar liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 8-11 (L), 13-15 (W) **Original No.** FC-86 **Remarks** high lipid

CALONEIS: Bacillariophyceae*Caloneis crassa* (Gregory) Ross

Syn. *Navicula crassa* Gregory

1603 Sampling 2010-02-19, Nakdong River/Busan (35°06'17" N, 128°53'42" E), estuary, surface water, 5°C, 23 psu **Isolator** Jo, MJ (2010-03-17) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2-E, 20°C, 15 psu, 40 PPF, 2 M **Size (µm)** 21-27 (L), 13-21 (W) **Original No.** EB-47

Caloneis schroederi Hustedt

Syn. *Pinnularia schroederi* (Hustedt) B. J. Cholnoky

0900 Sampling 1986-08-01, Oido/Incheon (37°20'48" N, 126°40'57" E), salt farm, surface water **Isolator** Hur, SB (1986-12-15) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 18-25 (L), 5-6 (W) **Original No.** B-39 **References** 2, 4, 10, 13, 67, 69, 91, 97, 110, 139, 167, 168 **Remarks** aquaculture

CAMPYLODISCUS: Bacillariophyceae*Campylodiscus fastuosus* Ehrenberg

1817 Sampling 2011-06-07, Woljeong/Jeju (33°33'50" N, 126°46'49" E), coast, surface water, 19°C, 33 psu **Isolator** Jo, MJ (2011-07-28) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 27-30 (Ø) **Original No.** B-1073

Campylodiscus incertus A. Schmidt

2133 Source KIOST **Sampling** 2012-11-19, Chuuk, Micronesia (07°27'05" N, 151°53'31" E), coast, surface water, 30°C, 25 psu **Isolator** Jo, MJ (2013-06-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 25-27 (Ø) **Original No.** B-1165 **Remarks** high °C sp.

Campylodiscus ralfsii W. Smith

1570 Sampling 2009-12-08, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 14°C, 34 psu **Isolator** Jo, MJ (2010-01-12) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 36-42 (Ø) **Original No.** B-941

Campylodiscus taeiatus W. Smith

1483 Sampling 2008-11-26, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 14°C, 34 psu **Isolator** Jeong, EH (2009-02-19) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 40-43 (Ø) **Original No.** B-902

2203 Sampling 2014-01-18, Udo/Jeju (33°28'07" N, 126°57'08" E), open sea, surface water, 16°C, 33 psu **Isolator** Jo, MJ (2014-04-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 117-123 (Ø) **Original No.** B-1186

Campylodiscus undulatus A. Schmidt

1878 Sampling 2011-10-27, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 18°C, 33 psu **Isolator** Jo, MJ (2011-12-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 123-129 (Ø) **Original No.** B-1087

Campylodiscus sp.

1933 Sampling 2012-05-13, Namcheon Bay/Busan (35°08'14" N, 129°06'49" E), coast, surface water, 15°C, 33 psu **Isolator** Jo, MJ (2012-05-31) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 40 PPF, 1 M **Size (µm)** 20-23 (Ø) **Original No.** B-1106

CARTERIA: Chlorophyceae*Carteria* sp.

1203 Sampling 2004-12-15, Upo/Gyeongnam (35°32'53" N, 128°24'25" E), swamp, surface water, 6°C **Isolator** Jeong, EH (2005-03-10) **Identifier** Lee, OM **States** axenic, agar, liquid **Culture** JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 14-35 (L), 12-30 (W) **Gene data** 18S rRNA (GQ122380) **Original No.** FC-98

CERATAULINA: Bacillariophyceae*Cerataulina bergonii* (H. Peragallo) Schütt

Syn. *Cerataulina pelagica* (Cleve) Hendey

0496 Sampling 2001-03-01, Buan/Jeonbuk (35°35'31" N, 126°37'30" E), coast, mud, 9°C, 31 psu **Isolator** Lee, GA (2001-07-24) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 15-28 (L), 20-38 (W) **Original No.** B-565

1301 Sampling 2006-04-21, Jindong/Gyeongnam (35°06'09" N, 128°29'40" E), coast, 12°C, 35 psu **Isolator** Jeong, EH (2006-07-10) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 25-42 (L), 7-10 (W) **Original No.** B-781

Cerataulina compacta Ostefeld

1363 Sampling 2006-12-**, Jindong/Gyeongnam (35°06'09" N, 128°29'40" E), coast, surface water, 11°C, 33 psu **Isolator** Jeong, EH (2007-03-22) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 31-50 (L), 10-12 (W) **Original No.** B-827

1696 Sampling 2010-01-19, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 11°C, 34 psu **Isolator** Jo, MJ (2010-02-08) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 57-67 (L), 45-47 (W) **Original No.** B-963

Cerataulina pelagica (Cleve) Hendey

Syn. *Cerataulina bergonii* (H. Peragallo) Schütt

1446 Sampling 2008-10-09, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 23°C, 32 psu **Isolator** Jeong, EH (2008-11-05) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 99-130 (L), 28-30 (W) **Original No.** B-879

1689 Sampling 2009-01-13, Geomundo/Jeonnam (34°02'42" N, 127°17'49" E), coast, surface water, 15°C, 34 psu **Isolator** Jo, MJ (2009-02-19) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 35-48 (L), 25-28 (W) **Gene data** 18S rRNA (JQ315661), *rbcL* (JQ315442) **Original No.** B-909

1695 Sampling 2010-01-08, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 11°C, 34 psu **Isolator** Jo, MJ (2010-02-08) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 30-44 (L), 22-25 (W) **Gene data** 18S rRNA (JQ315662), *rbcL* (JQ315443) **Original No.** B-963

nal No. B-955

1700 Sampling 2010-04-14, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 13°C, 33 psu **Isolator** Jo, MJ (2010-04-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 27-37 (L), 35 (W) **Gene data** 18S rRNA (JQ315663), *rbcl* (JQ315444) **Original No.** B-978

Cerataulina sp.

1571 Sampling 2009-11-05, Geomundo/Jeonnam (34°02'42" N, 127°17'49" E), coast, surface water, 17°C **Isolator** Jo, MJ (2010-01-12) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 31-36 (L), 26-30 (W) **Original No.** B-954

CHAETOCEROS: Bacillariophyceae*Chaetoceros atlanticus* Cleve

Syn. *Chaetoceros tetrachaeta* Ehrenberg

1087 Sampling 2004-08-12, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Bae, JH (2004-11-25) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 7-10 (L), 4-6 (W) **Original No.** B-691

1088 Sampling 2004-08-10, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Bae, JH (2004-11-25) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 6-14 (L), 3-10 (W) **Original No.** B-736

Chaetoceros brevis Schütt

2092 Source KIOST **Sampling** 2012-11-19, Chuuk, Micronesia (07°27'05" N, 151°53'31" E), coast, surface water, 30°C, 25 psu **Isolator** Jo, MJ (2013-03-12) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 14-19 (L), 8-10 (W) **Original No.** B-1136 **Remarks** high °C sp.

Chaetoceros ceratosporus Ostefeld

1118 Sampling 2004-08-11, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Bae, JH (2004-12-01) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 2-5 (L), 2-3 (W) **Original No.** B-726 **Remarks** aquaculture

Chaetoceros cinctus Gran

1119 Sampling 2004-08-17, Haeundae/Busan (35°09'06"

N, 129°09'07" E), coast, surface water **Isolator** Bae, JH (2004-12-01) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 14-18 (L), 11-16 (W) **Original No.** B-715

Chaetoceros danicus Cleve

1364 Sampling 2006-12-**, Jindong/Gyeongnam (35°06'09" N, 128°29'40" E), coast, surface water, 11°C **Isolator** Jeong, EH (2007-03-22) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 17-50 (L), 10-14 (W) **Original No.** B-821

Chaetoceros dictyota Ehrenberg

Syn. *Chaetoceros distans* Cleve

1120 Sampling 2004-08-09, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Bae, JH (2004-12-01) **Identifier** Lee, JH **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 10-20 (L), 10-15 (W) **Original No.** B-728

Chaetoceros didymus Ehrenberg

0775 Sampling 1996-02-13, Namhae/Gyeongnam (34°42'47" N, 127°59'13" E), coast, surface water **Isolator** Hur, SB (1996-07-15) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 8-10 (L), 5-7 (W) **Original No.** B-217

1199 Sampling 1996-02-08, Namhae/Gyeongnam (34°42'47" N, 127°59'13" E), coast, surface water **Isolator** Hur, SB (1996-07-15) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 10-13 (L), 5-8 (W) **Original No.** B-170

Chaetoceros didymus var. *protuberans* (H. S. Lauder) H. H. Gran & K. Yendo

0776 Sampling 1996-02-08, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 6°C, 33 psu **Isolator** Hur, SB (1996-07-15) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 10-11 (L), 5-6 (W) **Original No.** B-199 **References** 115

1676 Sampling 2004-05-25, East Sea (34°43.28' N, 128°06.97' E), open sea, surface water **Isolator** Jo, MJ (2005-11-25) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 10-28 (L), 6-15 (W) **Original No.** B-695

Chaetoceros difficilis Cleve

- 1089 Sampling** 2004-07-06, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Lee, GA (2004-11-25) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 5-10 (L), 4-8 (W) **Original No.** B-734 **References** 165
- 1121 Sampling** 2004-08-16, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Lee, GA (2004-12-01) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 15-18 (L), 8-18 (W) **Original No.** B-720

Chaetoceros fragilis Meunier

- 1090 Sampling** 2004-07-09, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Lee, GA (2004-11-25) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 3-8 (L), 2-5 (W) **Original No.** B-739
- 1122 Sampling** 2004-08-11, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Lee, GA (2004-12-01) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 2-11 (L), 2-5 (W) **Original No.** B-725

Chaetoceros gracilis F. Schütt

- 0027 Source** Delaware Univ. (DE-1), USA (1986-08-06) **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 4-6 (Ø) **References** 2, 3, 25, 26, 46 **Original No.** B-15 **Remarks** aquaculture, high protein and lipid
- 0603 Sampling** 1987-09-08, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water **Isolator** Hur, SB (1987-11-12) **Identifier** Lee, JH **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 5-6 (Ø) **Original No.** B-23 **References** 76 **Remarks** aquaculture, high protein and lipid
- 0604 Sampling** 1995-04-01, Gyunggi Bay/Gyunggi (37°09'43" N, 126°41'05" E), salt farm, surface water **Isolator** Hur, SB (1995-10-03) **Identifier** Lee, JH **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 5-6 (Ø) **Original No.** B-52 **References** 99, 102, 117, 125 **Remarks** aquaculture, high protein and lipid
- 0605 Sampling** 1995-07-01, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 26°C, 33 psu **Isolator** Hur, SB (1996-03-29) **Identifier** Lee, JH **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)**

5-8 (Ø) **Original No.** B-117 **References** 98 **Remarks** aquaculture, high protein and lipid

- 0643 Sampling** 1999-04-02, Tongyeong/Gyeongnam (34°50'18" N, 128°25'04" E), coast, surface water, 12°C **Isolator** Lee, GA (1999-07-21) **Identifier** Lee, JH **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 7-9 (L), 4-6 (W) **Original No.** B-339 **Remarks** aquaculture, high protein and lipid
- 0674 Sampling** 1999-09-13, Buan/Jeonnam (35°49'17" N, 126°38'29" E), coast, surface water, 27°C, 29 psu **Isolator** Lee, GA (2000-01-30) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 4-5 (Ø) **Original No.** B-364 **Remarks** aquaculture, high protein and lipid
- 0720 Sampling** 1995-09-28, Buan/Jeonnam (35°49'17" N, 126°38'29" E), coast, surface water **Isolator** Hur, SB (1996-04-17) **Identifier** Lee, JH **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 5-8 (Ø) **Original No.** B-120 **Remarks** aquaculture, high protein and lipid

Chaetoceros karianus Grunow

- 0480 Sampling** 2001-03-01, Incheon Pier/Incheon (37°23'11" N, 126°36'53" E), coast, surface water, 13°C **Isolator** Lee, GA (2001-06-26) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 8-13 (L), 3-5 (W) **Original No.** B-600
- 0530 Sampling** 2001-03-29, Buan/Jeonnam (35°35'31" N, 126°37'30" E), coast, mud, 9°C, 31 psu **Isolator** Lee, GA (2001-08-27) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 8-11 (L), 5-6 (W) **Original No.** B-531

Chaetoceros pendulus Karsten

- 1365 Sampling** 2007-01-**, Jinhae Bay/Gyeongnam (35°08'35" N, 128°40'58" E), coast, surface water, 8°C **Isolator** Jeong, EH (2007-03-22) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 16-26 (L), 7-20 (W) **Original No.** B-822

Chaetoceros pseudocrinitus Ostenfeld

- 1634 Sampling** 2010-05-12, Ulleungdo/Gyeongbuk (37°27'22" N, 130°44'56" E), open sea, deep sea, deep water, 1°C **Isolator** Jo, MJ (2010-06-17) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 9-12 (L), 7-10 (W) **Original No.** B-980 **Remarks** low °C sp.

1635 Sampling 2010-05-13, Pohang/Gyeongbuk (36°07'00" N, 129°32'10" E), open sea, deep sea, deep water, 1°C **Isolator** Jo, MJ (2013-06-17) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 7-13 (L), 7-9 (W) **Original No.** B-988 **Remarks** low °C sp.

Chaetoceros salsugineum Takano

2118 Source KIOST **Sampling** 2012-11-22, Chuk, Micronesia (07°26'51" N, 151°54'07" E), coast, surface water, 30°C, 28 psu **Isolator** Jo, MJ (2013-04-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 4-6 (Ø) **Original No.** B-1157 **Remarks** high °C sp.

Chaetoceros septentrionalis Østrup

0269 Sampling 1999-09-28, Chungmu/Gyeongnam (34°50'22" N, 128°26'19" E), coast, surface water, 22°C **Isolator** Lee, GA (1999-12-27) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 8-10 (L), 3-5 (W) **Original No.** B-403

0644 Sampling 1999-02-03, Samcheonpo/Gyeongnam (34°55'29" N, 128°05'02" E), coast, surface water **Isolator** Lee, GA (1999-05-22) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 4-6 (L), 3-5 (W) **Original No.** B-290

0645 Sampling 1999-03-22, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 8°C, 30 psu **Isolator** Lee, GA (1999-06-30) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 6-10 (L), 3-4 (W) **Original No.** B-301

0646 Sampling 1999-02-24, Maemuldo/Gyeongnam (34°46'10" N, 128°38'51" E), coast, surface water **Isolator** Lee, GA (1999-05-22) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 5-8 (L), 3-4 (W) **Original No.** B-314

0675 Sampling 1999-08-14, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 29°C, 33 psu **Isolator** Lee, GA (2000-01-20) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 5-6 (L), 4-5 (W) **Original No.** B-368

0676 Sampling 1999-09-30, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 21°C **Isolator** Lee, GA (2000-01-30) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF,

1 M **Size (µm)** 7-10 (L), 4-6 (W) **Original No.** B-373
0721 Sampling 1996-02-08, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 6°C, 33 psu **Isolator** Hur, SB (1996-07-15) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 3-4 (L), 2-4 (W) **Original No.** B-145

0777 Sampling 1999-08-14, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water **Isolator** Lee, GA (2001-10-24) **Identifier** Lee, JH **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 4-5 (L), 2-3 (W) **Original No.** B-227

Chaetoceros simplex Ostensfeld

0045 Source Institute, Japan (1986-10-06) **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 5-8 (Ø) **Original No.** B-16 **References** 2, 4, 10, 13, 32, 76, 165 **Remarks** aquaculture

0606 Sampling 1986-07-01, Oido/Incheon (37°20'48" N, 126°40'57" E), salt farm, surface water **Isolator** Hur, SB (1986-11-19) **Identifier** Lee, JH **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 6-10 (L), 5-6 (W) **Original No.** B-18 **References** 2, 4, 13, 19, 64, 76 **Remarks** aquaculture

0607 Sampling 1994-08-01, Anmyundo/Chungnam (36°34'56" N, 126°22'17" E), salt farm, surface water **Isolator** Hur, SB (1996-03-27) **Identifier** Lee, JH **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 7-11 (L), 5-6 (W) **Original No.** B-87 **Remarks** aquaculture

0608 Sampling 1995-09-01, Taean/Chungnam (36°40'39" N, 126°08'09" E), coast, surface water **Isolator** Hur, SB (1996-04-17) **Identifier** Lee, JH **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 5-8 (Ø) **Original No.** B-98 **Remarks** aquaculture

0722 Sampling 1995-12-04, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 9°C **Isolator** Hur, SB (1996-04-17) **Identifier** Lee, JH **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 7-10 (L), 5-9 (W) **Original No.** B-139 **Remarks** aquaculture

0723 Sampling 1995-12-07, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 10°C, 33 psu **Isolator** Hur, SB (1996-04-17) **Identifier** Lee, JH **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)**

7-10 (L), 5-6 (W) **Original No.** B-166 **Remarks** aquaculture

- 0724 Sampling** 1996-02-24, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 6°C, 33 psu **Isolator** Hur, SB (1996-07-15) **Identifier** Lee, JH **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 5-6 (Ø) **Original No.** B-174 **Remarks** aquaculture
- 0778 Sampling** 1995-12-04, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 9°C **Isolator** Hur, SB (1996-04-17) **Identifier** Lee, JH **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 5-8 (Ø) **Original No.** B-197 **Remarks** aquaculture
- 0779 Sampling** 1996-08-27, Taejongdae/Busan (35°03'20" N, 129°04'50" E), coast, surface water **Isolator** Hur, SB (1997-01-22) **Identifier** Lee, JH **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 5-8 (Ø) **Original No.** B-205 **References** 122 **Remarks** aquaculture

Chaetoceros simplex var. *calcitrans* Paulsen

Syn. *Chaetoceros calcitrans* (Paulsen) Takano

- 0609 Sampling** 1986-08-01, Masan Bay/Gyeongnam (35°11'20" N, 128°34'00" E), coast, surface water **Isolator** Hur, SB (1986-12-15) **Identifier** Lee, JH **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 5-6 (L), 3-5 (W) **Original No.** B-21 **References** 13, 60, 74, 81, 97 **Remarks** aquaculture, high protein and lipid
- 0826 Sampling** 1998-09-21, Jindong/Gyeongnam (35°06'09" N, 128°29'40" E), coast, surface water **Isolator** Lee, GA (1999-02-10) **Identifier** Lee, JH **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 5-8 (L), 3-5 (W) **Original No.** B-258 **References** 88, 98 **Remarks** aquaculture, high protein and lipid

Chaetoceros teres Cleve

- 1096 Sampling** 2004-08-11, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Lee, GA (2004-11-25) **Identifier** Lee, JH **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 12-25 (L), 8-18 (W) **Original No.** B-690

Chaetoceros tortissimus Gran

- 1636 Sampling** 2010-05-13, Dokdo/Gyeongbuk (37°16'25" N, 131°44'51" E), open sea, deep sea, deep water, 1°C **Isolator** Jo, MJ (2010-06-17) **Identifier** Hur, SB

States non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 5-7 (L), 10 (W) **Original No.** B-990 **Remarks** low °C sp.

Chaetoceros vistulae Apstein

- 0679 Sampling** 1999-09-14, Gampo/Gyeongbuk (35°48'17" N, 129°30'32" E), coast, surface water, 26°C **Isolator** Lee, GA (2000-01-30) **Identifier** Lee, JH **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 5-9 (L), 4-5 (W) **Original No.** B-397
- 0827 Sampling** 1999-01-06, Jindong/Gyeongnam (35°06'09" N, 128°29'40" E), coast, surface water **Isolator** Lee, GA (1999-05-22) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 8-11 (L), 4-5 (W) **Original No.** B-277

Chaetoceros sp.

- 0224 Sampling** 1999-11-01, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 15°C **Isolator** Lee, GA (2000-02-27) **Identifier** Lee, JH **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 6-9 (Ø) **Original No.** B-464
- 0284 Sampling** 1999-10-23, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 17°C, 30 psu **Isolator** Lee, GA (2000-01-15) **Identifier** Hur, SB **States** axenic, agar + liquid, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 5-9 (L), 4-5 (W) **Original No.** B-422
- 0451 Sampling** 2000-11-06, Yangyang/Gangwon (38°04'34" N, 128°40'40" E), coast, surface water, 16°C **Isolator** Lee, GA (2001-02-26) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 6-8 (L), 4-5 (W) **Original No.** B-530
- 0459 Sampling** 1999-02-25, Gwangalli/Busan (35°08'47" N, 129°06'55" E), estuary, surface water, 12°C **Isolator** Lee, GA (2001-03-26) **Identifier** Hur, SB **States** axenic, agar + liquid, liquid, cryopreserved **Culture** f/2-E, 20°C, 15 psu, 40 PPF, 2 M **Size (µm)** 10-16 (L), 7-8 (W) **Original No.** EB-12
- 0460 Sampling** 1999-02-11, Suyeong Bay/Busan (35°09'55" N, 129°07'34" E), estuary, surface water, 12°C **Isolator** Lee, GA (2001-03-26) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2-E, 20°C, 15 psu, 40 PPF, 2 M **Size (µm)** 5-10 (L), 4-6 (W) **Original No.** EB-19
- 0484 Sampling** 2001-03-01, Hansando/Gyeongnam

- (34°46'07" N, 128°30'47" E), coast, surface water, 11°C **Isolator** Lee, GA (2001-06-27) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 10-15 (L), 5-6 (W) **Original No.** B-604
- 0610 Source** Seasalt Ltd., UK (2001-10-11) **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 4-8 (L), 4-5 (W) **Original No.** B-43
- 0647 Sampling** 1999-04-02, Sarangdo/Gyeongnam (34°50'23" N, 128°12'28" E), coast, surface water, 12°C **Isolator** Lee, GA (1999-07-21) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 6-9 (L), 3-5 (W) **Original No.** B-338
- 0648 Sampling** 1999-04-29, Namhae/Gyeongnam (34°42'47" N, 127°59'13" E), coast, surface water, 16°C **Isolator** Lee, GA (1999-07-21) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 4-8 (L), 4-6 (W) **Original No.** B-341
- 0677 Sampling** 1999-07-20, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 30°C **Isolator** Lee, GA (1999-11-11) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 4-8 (L), 4-6 (W) **Original No.** B-350
- 0678 Sampling** 1999-08-17, East Sea (35°41' N, 130°01' E), open sea, surface water, 25°C **Isolator** Lee, GA (2000-01-20) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 6-8 (L), 4-6 (W) **Original No.** B-383
- 0725 Sampling** 1996-02-08, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 6°C **Isolator** Hur, SB (1996-07-15) **Identifier** Lee, JH **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 5-8 (L), 4-6 (W) **Original No.** B-169
- 0780 Sampling** 1996-07-16, Ulsan/Gyeongnam (35°31'01" N, 129°22'44" E), coast, surface water, 17°C **Isolator** Hur, SB (1996-10-30) **Identifier** Lee, JH **States** axenic, agar, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 6-11 (L), 3-4 (W) **Original No.** B-191
- 0781 Source** NFRDI **Sampling** 1999-01-25, Namhae/Gyeongnam, coast, surface water (2001-10-24) **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 5-9 (L), 4-6 (W) **Original No.** B-231
- 0782 Source** NFRDI **Sampling** 1999-01-25, Namhae/Gyeongnam, coast, surface water (2001-10-24) **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 6-9 (L), 4-5 (W) **Original No.** B-234
- 0783 Sampling** 1998-12-31, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 10°C **Isolator** Lee, GA (1999-02-10) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 5-8 (L), 4-6 (W) **Original No.** B-248
- 0784 Sampling** 1998-12-31, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 10°C **Isolator** Lee, GA (1999-02-10) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 4-8 (L), 4-5 (W) **Original No.** B-249
- 0993 Sampling** 2001-03-27, East Sea (35°50' N, 129°34' E), open sea, surface water, 13°C **Isolator** Lee, GA (2002-06-24) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 5-8 (L), 3-5 (W) **Original No.** B-608
- 1091 Sampling** 2004-08-11, Haeundae/Busan (35°09'06" N, 129°09'07" E) **Isolator** Lee, GA (2004-11-25) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 5-11 (L), 2-10 (W) **Original No.** B-682
- 1092 Sampling** 2004-07-21, Haeundae/Busan (35°09'06" N, 129°09'07" E) **Isolator** Lee, GA (2004-11-25) **Identifier** Hur, SB **States** axenic, agar + liquid, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 5-10 (L), 2-5 (W) **Original No.** B-683
- 1093 Sampling** 2004-08-11, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Lee, GA (2004-11-25) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 7-10 (L), 3-5 (W) **Original No.** B-684
- 1094 Sampling** 2004-07-21, Haeundae/Busan (35°09'06" N, 129°09'07" E) **Isolator** Lee, GA (2004-11-25) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 4-14 (L), 3-5 (W) **Original No.** B-685
- 1095 Sampling** 2004-08-11, Haeundae/Busan (35°09'06" N, 129°09'07" E) **Isolator** Lee, GA (2004-11-25) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 10-17 (L), 8-10 (W) **Original No.** B-686
- 1109 Sampling** 2004-08-11, Haeunda/Busane (35°09'06" N, 129°09'07" E) **Isolator** Lee, GA (2004-11-30)

- Identifier** Hur, SB **States** axenic, agar + liquid, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (μm) 5-10 (L), 5-10 (W) **Original No.** B-698
- 1110 Sampling** 2004-08-12, Haeundae/Busan (35°09'06" N, 129°09'07" E) **Isolator** Lee, GA (2004-11-30) **Identifier** Hur, SB **States** axenic, agar + liquid, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (μm) 5-12 (L), 3-5 (W) **Original No.** B-699
- 1111 Sampling** 2004-08-11, Haeundae/Busan (35°09'06" N, 129°09'07" E) **Isolator** Lee, GA (2004-11-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (μm) 5-10 (\emptyset) **Original No.** B-700
- 1112 Sampling** 2004-08-16, Haeundae/Busan (35°09'06" N, 129°09'07" E) **Isolator** Lee, GA (2004-11-30) **Identifier** Hur, SB **States** axenic, agar + liquid, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (μm) 5-10 (L), 5-8 (W) **Original No.** B-701
- 1113 Sampling** 2004-08-16, Haeundae/Busan (35°09'06" N, 129°09'07" E) **Isolator** Lee, GA (2004-11-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (μm) 5-13 (L), 5-8 (W) **Original No.** B-702
- 1114 Sampling** 2004-07-27, Haeundae/Busan (35°09'06" N, 129°09'07" E) **Isolator** Lee, GA (2004-11-30) **Identifier** Hur, SB **States** axenic, agar + liquid, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (μm) 18-25 (L), 2-5 (W) **Original No.** B-704
- 1123 Sampling** 2004-07-21, Haeundae/Busan (35°09'06" N, 129°09'07" E) **Isolator** Lee, GA (2004-12-01) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (μm) 5-8 (L), 3-9 (W) **Original No.** B-709
- 1124 Sampling** 2004-08-11, Haeundae/Busan (35°09'06" N, 129°09'07" E) **Isolator** Lee, GA (2004-12-01) **Identifier** Lee, JH **States** axenic, agar + liquid, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (μm) 7-11 (L), 4-7 (W) **Original No.** B-718
- 1125 Sampling** 2004-08-17, Haeundae/Busan (35°9'6" N, 129°9'7" E) **Isolator** Lee, GA (2004-12-01) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (μm) 10-21 (L), 10-11 (W) **Original No.** B-723
- 1126 Sampling** 2004-08-11, Haeundae/Busan (35°09'06" N, 129°09'07" E) **Isolator** Lee, GA (2004-12-01) **Identifier** Hur, SB **States** axenic, agar + liquid, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (μm) 3-12 (L), 3-10 (W) **Original No.** B-727
- 1127 Sampling** 2004-07-21, Haeundae/Busan (35°09'06" N, 129°09'07" E) **Isolator** Lee, GA (2004-12-01) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (μm) 5-9 (L), 2-4 (W) **Original No.** B-737
- 1188 Sampling** 2004-04-07, Ulrungdo/Gyeongbuk (37°29'35" N, 130°46'09" E), open sea, bottom water, 6°C, 34 psu **Isolator** Lee, GA (2004-12-11) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (μm) 6-10 (L), 3-6 (W) **Original No.** B-669 **Remarks** low °C sp.
- 1189 Sampling** 2004-04-07, Ulrungdo/Gyeongbuk (37°29'35" N, 130°46'09" E), open sea, bottom water, 0°C, 34 psu **Isolator** Lee, GA (2004-12-11) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (μm) 15-25 (L), 8-14 (W) **Original No.** B-675 **Remarks** low °C sp.
- 1190 Sampling** 2004-04-07, Ulrungdo/Gyeongbuk (37°29'35" N, 130°46'09" E), open sea, bottom water, 0°C, 34 psu **Isolator** Lee, GA (2004-12-11) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (μm) 13-28 (L), 9-13 (W) **Original No.** B-676 **Remarks** low °C sp.
- 1224 Sampling** 2005-07-15, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 23°C, 34 psu **Isolator** Jeong, EH (2005-09-01) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (μm) 10-15 **Original No.** B-744
- 1266 Sampling** 2006-01-17, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 11°C, 33 psu **Isolator** Jeong, EH (2006-03-13) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (μm) 6-10 (L), 3-5 (W) **Original No.** B-762
- 1319 Sampling** 2006-05-01, Jindong/Gyeongnam (35°06'09" N, 128°29'40" E), coast, surface water, 16°C, 32 psu **Isolator** Jeong, EH (2006-11-22) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (μm) 3-5 (\emptyset) **Original No.** B-795
- 2195 Source** KIOST **Sampling** 2013-10-24, Kosrae, Micronesia (05°18'22" N, 162°58'33" E), coast, surface water, 26°C, 30 psu **Isolator** Jo, MJ (2014-02-17) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size** (μm) 5-8 (L), 3-4 (W) **Original No.** B-1184

CHAETOPHORA: Chlorophyceae*Chaetophora elegans* (Roth) C. AgardhSyn. *Rivularia elegans* Roth

2146 Sampling 2013-08-19, Kyungju/Gyeongbuk (35°46'04" N, 129°13'25" E), swamp, surface water **Isolator** Jo, MJ (2013-09-25) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 18°C, 0 psu, 40 PPF, 1 M **Size (µm)** 9-37 (L), 3-5 (W) **Original No.** FC-251

CHATONELLA: Raphidophyceae*Chattonella subsalsa* Biecheler

1716 Sampling 2010-07-07, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 21°C, 32 psu **Isolator** Jo, MJ (2010-10-15) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 29-43 (L), 17-22 (W) **Original No.** Ra-27 **Remarks** toxic

Chattonella sp.

0579 Sampling 1999-04-01, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 15°C **Isolator** Lee, GA (1999-07-21) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 70-85 (L), 30-40 (W) **Original No.** Ra-5 **References** 133

2080 Source Kunsan Univ. (KNUTP CHS-111106) **Sampling** 2011-11-06, Haeundae/Busan (35°09'11" N, 129°07'09" E), coast, surface water, 20°C, 30 psu (2013-01-02) **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 11-15 (L), 10-15 (W) **Original No.** Ra-31

CHLAMYDOMONAS: Chlorophyceae*Chlamydomonas angulosa* O. Dill

0052 Sampling 1987-04-01, Nakdong River/Busan (35°06'17" N, 128°53'42" E), surface water **Isolator** Hur, SB (1987-11-12) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 8-13 (L), 6-10 (W) **Gene data** 18S rRNA (JQ315765) **Original No.** FC-3 **References** 13, 121

0866 Sampling 1999-09-13, Upo/Gyeongnam (35°32'53" N, 128°24'25" E), swamp, surface water, 28°C **Isolator** Lee, GA (2000-01-30) **Identifier** Lee, OM **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 5-13 (L), 6-10 (W) **Gene data** 18S rRNA (JQ315505) **Original No.** FC-62

Chlamydomonas coccoides Butcher

1755 Sampling 2010-11-10, Yeongdeok/Gyeongbuk (36°24'50" N, 129°27'00" E), open sea, surface water, 17°C **Isolator** Jo, MJ (2011-02-08) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 60 PPF, 1 M **Size (µm)** 5-9 (Ø) **Original No.** C-279

1899 Sampling 2011-11-25, Nackdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 14°C, 35 psu **Isolator** Jo, MJ (2012-02-08) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 60 PPF, 1 M **Size (µm)** 8-10 (Ø) **Original No.** C-283

Chlamydomonas globosa Snow

1471 Sampling 2008-12-09, Namgu/Busan (35°07'56" N, 129°06'06" E), pond, surface water, 8°C **Isolator** Jeong, EH (2009-01-07) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** JM-agar, JM, 20°C, 0 psu, 60 PPF, 4 M **Size (µm)** 9-12 (L), 6-8 (W) **Original No.** FC-136

1890 Sampling 2011-12-08, Nackdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 11°C, **Isolator** Jo, MJ (2012-02-08) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** JM-agar, JM, 20°C, 0 psu, 60 PPF, 1 M **Size (µm)** 9-11 (Ø) **Original No.** FC-209

1958 Sampling 2012-07-25, Upo/Gyeongnam (35°33'40" N, 128°25'57" E), swamp, surface water, 32°C **Isolator** Jo, MJ (2012-10-23) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** JM-agar, JM, 20°C, 0 psu, 60 PPF, 1 M **Size (µm)** 7-9 (L), 6-8 (W) **Original No.** FC-223

Chlamydomonas hedleyi Lee, Crockett, Hagen et Stone

0188 Sampling 1996-04-22, South Sea (34°45' N, 128°40' E), open sea, surface water, 11°C **Isolator** Hur, SB (1997-05-12) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 5-13 (Ø) **Gene data** 18S rRNA (JQ315503) **Original No.** C-123

0285 Sampling 1999-08-18, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 25°C **Isolator** Lee, GA (2000-01-15) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 6-10 (Ø) **Gene data** 18S rRNA (JQ315504) **Original No.** C-163

1225 Sampling 2005-06-27, Nakdong River/Busan (35°06'17" N, 128°53'42" E), estuary, surface water, 18°C, 16 psu **Isolator** Jeong, EH (2005-09-01) **Identifier** Hur, SB **States** axenic, agar, liquid, cryo-

preserved **Culture** LDM-E, f/2-E, 23°C, 15 psu, 60 PPF, 4 M **Size** (μm) 10-12 (\emptyset) **Gene data** 18S rRNA (GQ122368) **Original No.** EC-36

Chlamydomonas insignis Anakhin

1249 Sampling 2005-10-04, Nakdong River/Busan (35°06'17" N, 128°53'42" E), surface water, 22°C **Isolator** Jeong, EH (2006-01-17) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size** (μm) 40-60 (\emptyset) **Original No.** FC-113

Chlamydomonas pulsatilla Wollenweber

1732 Sampling 2010-10-21, reservoir, 25°C **Isolator** Jo, MJ (2010-11-30) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 1 M **Size** (μm) 15-25 (L), 11-20 (W) **Original No.** FC-175

1765 Sampling 2011-02-22, Geum River/Chungnam (36°00'54" N, 126°45'24" E), estuary, surface water, 6°C, 10 psu **Isolator** Jo, MJ (2011-03-31) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM-E, f/2-E, 20°C, 30 psu, 60 PPF, 1 M **Size** (μm) 16-22 (\emptyset) **Original No.** EC-39

Chlamydomonas reginae Ettl & Green

1839 Sampling 2011-07-05, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 13°C, 33 psu **Isolator** Jo, MJ (2011-08-31) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 60 PPF, 1 M **Size** (μm) 10-14 (\emptyset) **Original No.** C-291

Chlamydomonas segnis Ettl

0349 Sampling 1999-09-09, Namgu/Busan (35°07'56" N, 129°06'06" E), pond, surface water, 28°C **Isolator** Lee, GA (2000-02-27) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size** (μm) 13-23 (L), 3-5 (W) **Gene data** 18S rRNA (JQ315508) **Original No.** FC-35

0867 Sampling 2000-08-15, Junam/Gyeongnam (35°18'49" N, 128°40'25" E), reservoir, mud, 30°C **Isolator** Lee, GA (2001-01-27) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size** (μm) 8-20 (L), 3-5 (W) **Gene data** 18S rRNA (JQ315507) **Original No.** FC-63

1045 Sampling 2001-05-01, Nakdong River/Busan (35°06'17" N, 128°53'42" E), surface water, 16°C **Iso-**

lator Lee, GA (2003-01-04) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size** (μm) 13-28 (L), 3-5 (W) **Gene data** 18S rRNA (JQ315506) **Original No.** FC-75

Chlamydomonas sp.

0046 Sampling 1986-06-01, Chungmu/Gyeongnam (34°50'22" N, 128°26'19" E), salt farm, surface water **Isolator** Hur, SB (1986-11-06) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size** (μm) 3-13 (\emptyset) **Gene data** 18S rRNA (JQ315512) **Original No.** C-16 **References** 2, 4, 10, 13

0085 Sampling 1995-08-26, Duekryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 27°C, 31 psu **Isolator** Hur, SB (1996-03-27) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size** (μm) 3-10 (\emptyset) **Gene data** 18S rRNA (JQ315513) **Original No.** C-56

0155 Sampling 1996-05-31, South Sea (34°04' N, 129°06' E), open sea, surface water, 15°C **Isolator** Hur, SB (1997-02-03) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size** (μm) 5-13 (\emptyset) **Gene data** 18S rRNA (JQ315514) **Original No.** C-104

0172 Sampling 1996-05-31, South Sea (34°04' N, 129°06' E), open sea, surface water, 15°C **Isolator** Hur, SB (1997-02-10) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size** (μm) 3-13 (\emptyset) **Gene data** 18S rRNA (JQ315515) **Original No.** C-116

0179 Sampling 1996-03-20, Jinhae/Gyeongnam (35°08'35" N, 128°40'58" E), reservoir, surface water **Isolator** Hur, SB (1997-02-10) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size** (μm) 5-25 (\emptyset) **Original No.** FC-17

0189 Sampling 1996-09-20, Namhae/Gyeongnam (34°42'47" N, 127°59'13" E) coast, surface water **Isolator** Hur, SB (1997-05-12) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size** (μm) 3-8 (\emptyset) **Gene data** 18S rRNA (JQ315516) **Original No.** C-131

0206 Sampling 1996-04-25, Andongho/Gyeongbuk (36°34'02" N, 128°44'57" E), reservoir **Isolator** Hur, SB (1997-09-01) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size** (μm) 8-20 (\emptyset) **Original No.** FC-22 **References** 54

- 0249 Sampling** 1999-08-12, Namgu/Busan (35°07'56" N, 129°06'06" E), pond, surface water, 27°C **Isolator** Lee, GA (1999-08-12) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 3-13 (L), 4-11 (W) **Gene data** 18S rRNA (JQ315635) **Original No.** FC-31
- 0321 Sampling** 1999-08-19, Haeundae/Busan (35°09'55" N, 129°07'34" E), estuary, surface water, 27°C **Isolator** Lee, GA (2000-01-30) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM-E, f/2-E, 23°C, 15 psu, 60 PPF, 4 M **Size (µm)** 4-10 (Ø) **Gene data** 18S rRNA (GQ122366) **Original No.** EC-11
- 0325 Sampling** 1999-09-22, Haeundae/Busan (35°08'46" N, 129°06'55" E), estuary, surface water, 25°C **Isolator** Lee, GA (2000-01-30) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM-E, f/2-E, 23°C, 15 psu, 60 PPF, 4 M **Size (µm)** 3-8 (Ø) **Gene data** 18S rRNA (JQ315518) **Original No.** EC-17
- 0350 Sampling** 1999-09-09, Namgu/Busan (35°07'56" N, 129°06'06" E), pond, surface water, 28°C **Isolator** Lee, GA (2000-02-27) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 10-28 (L), 3-6 (W) **Gene data** 18S rRNA (JQ315509) **Original No.** FC-36
- 0474 Sampling** 2000-08-09, Dokdo/Gyeongbuk (37°14'34" N, 131°36'19" E), open sea, surface water, 23°C **Isolator** Lee, GA (2001-06-07) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 3-5 (Ø) **Gene data** 18S rRNA (JQ315517) **Original No.** C-224
- 0869 Sampling** 2000-08-15, Junam/Gyeongnam (35°18'49" N, 128°40'25" E), reservoir, surface water, 30°C **Isolator** Lee, GA (2001-01-27) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 5-13 (Ø) **Gene data** 18S rRNA (JQ315510) **Original No.** FC-64
- 1204 Sampling** 2004-12-15, Upo/Gyeongnam (35°32'53" N, 128°24'25" E), swamp, surface water, 2°C **Isolator** Bae, JH (2005-03-10) **Identifier** Lee, OM **States** axenic, agar, liquid **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 2-5 (L), 2-3 (W) **Gene data** 18S rRNA (JQ315511) **Original No.** FC-95
- 1217 Sampling** 2005-03-30, Upo/Gyeongnam (35°32'53" N, 128°24'25" E), swamp, surface water, 15°C **Isolator** Jeong, EH (2005-05-12) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** JM-agar, JM, 20°C, 0 psu, 60 PPF, 1 M **Size (µm)** 2-6 (Ø) **Original No.** FC-218
- 1237 Sampling** 2005-06-24, Upo/Gyeongnam (35°32'53" N, 128°24'25" E), swamp, surface water **Isolator** Jeong, EH (2005-09-01) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 20°C, 0 psu, 40 PPF, 1 M **Size (µm)** 7-10 (Ø) **Original No.** FC-268
- 1831 Sampling** 2010-07-09, Nakdong River/Busan (35°06'17" N, 128°53'42" E), estuary, surface water, 24°C **Isolator** Jo, MJ (2010-10-15) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM-E, f/2-E, 15°C, 15 psu, 60 PPF, 1 M **Size (µm)** 12-14 (L), 8-10 (W) **Original No.** EC-38
- 1844 Sampling** 2011-06-07, Seogwipo/Jeju (33°22'08" N, 126°41'36" E), swamp, surface water, 24°C **Isolator** Jo, MJ (2011-08-31) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** JM-agar, JM, 20°C, 0 psu, 60 PPF, 1 M **Size (µm)** 15-19 (L), 10-13 (W) **Original No.** FC-197
- 1907 Sampling** 2012-01-28, Geojedo/Gyeongnam (34°50'45" N, 128°34'57" E), coast, surface water, 13°C **Isolator** Jo, MJ (2013-03-29) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 7-9 (L), 3-5 (W) **Original No.** FC-269
- 1929 Sampling** 2011-12-08, Nakdong River/Busan (35°06'17" N, 128°53'42" E), estuary, surface water, 11°C, 16 psu **Isolator** Jo, MJ (2012-03-29) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2-E, 18°C, 15 psu, 60 PPF, 1 M **Size (µm)** 9-13 (Ø) **Original No.** EC-42
- 1961 Sampling** 2012-07-04, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 23°C, 33 psu **Isolator** Jo, MJ (2012-10-23) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 40 PPF, 1 M **Size (µm)** 10-13 (L), 6-8 (W) **Original No.** FC-270
- 1969 Sampling** 2012-07-25, Upo/Gyeongnam (35°32'53" N, 128°24'25" E), swamp, surface water, 30°C **Isolator** Jo, MJ (2013-04-24) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** JM-agar, JM, 20°C, 0 psu, 60 PPF, 1 M **Size (µm)** 6-9 (L), 5-8 (W) **Original No.** C-131

CHLORELLA: Chlorophyceae

Chlorella ellipsoidea Gerneck

0002 Source UTEX 20 (1985-01-20) **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 3-8 (Ø) **Gene data** 18S rRNA (HQ702324) **Original No.** FC-6 **References** 13, 39, 94, 111 **Remarks** aquaculture, high protein and lipid

1987 Sampling 2012-10-17, Hallim/Jeju (33°17'39" N, 126°13'59" E), swamp, surface water, 19°C **Isolator**

Jo, MJ (2012-12-27) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 1 M **Size (µm)** 10-11 (L), 6-8 (W) **Original No.** FC-235 **Remarks** aquaculture, high protein and lipid

Chlorella saccharophila (Krüger) Migula

0146 Sampling 1996-11-19, Hwajinpo/Gangwon (38°28'59" N, 128°25'54" E), lagoon, surface water **Isolator** Hur, SB (1997-01-10) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM-E, f/2-E, 23°C, 15 psu, 60 PPF, 4 M **Size (µm)** 3-8 (Ø) **Gene data** 18S rRNA (HQ702321) **Original No.** EC-5 **References** 71

0158 Sampling 1996-07-16, Ulsan/Gyeongbuk (35°31'01" N, 129°22'44" E), coast, surface water, 26°C, 33 psu **Isolator** Hur, SB (1997-02-03) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 3-10 (Ø) **Gene data** 18S rRNA (JQ315770) **Original No.** C-101

0192 Sampling 1996-08-01, Gimhae/Gyeongnam (35°12'38" N, 128°59'47" E), reservoir, surface water **Isolator** Hur, SB (1997-05-12) **Identifier** Lee, SG **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 3-10 (Ø) **Gene data** 18S rRNA (JQ315766) **Original No.** FC-20

0195 Sampling 1996-04-25, Chungmu/Gyeongnam (34°50'22" N, 128°26'19" E), coast, surface water, 13°C **Isolator** Hur, SB (1997-08-02) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 5-13 (Ø) **Gene data** 18S rRNA (JQ315768) **Original No.** C-126

0335 Sampling 1999-08-12, Namgu/Busan (35°07'56" N, 129°06'06" E), pond, surface water, 27°C **Isolator** Lee, GA (2000-02-11) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 5-10 (L), 3-7 (W) **Gene data** 18S rRNA (HQ702277) **Original No.** FC-29 **References** 71

Chlorella saccharophila var. *saccharophila* Krüger

0003 Source UTEX 247 (1985-01-20) **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 3-8 (L), 3-5 (W) **Gene data** 18S rRNA (HQ702323) **Original No.** C-21 **References** 1, 3, 24, 35, 36, 38, 50, 79, 87, 151 **Remarks** aquaculture

0004 Source UTEX 247 (1985-01-20) **States** axenic, agar,

liquid **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 3-8 (L), 3-5 (W) **Gene data** 18S rRNA (HQ702322) **Original No.** FC-5 **References** 13, 39, 116, 121 **Remarks** aquaculture

0183 Sampling 1996-10-09, South Sea (34°51' N, 129°52' E), open sea, surface water, 17°C **Isolator** Hur, SB (1997-03-14) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 5-10 (L), 3-6 (W) **Gene data** 18S rRNA (HQ702326) **Original No.** FC-177 **References** 151 **Remarks** aquaculture

Chlorella stigmatophora Butcher

0005 Source UTEX 993 (1985-01-20) **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 1-5 (Ø) **Original No.** C-19 **References** 1, 2, 3, 4, 5, 10, 13, 76

Chlorella vulgaris Beyerinck (Beijerinck)

0006 Source UTEX 259 (1985-01-20) **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 3-5 (Ø) **Gene data** 18S rRNA (GQ122369) **Original No.** FC-1 **References** 1, 2, 3, 4, 13, 101, 112, 151 **Remarks** aquaculture, high protein and lipid

0009 Source UTEX 26 (1985-12-03) **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 1-8 (Ø) **Gene data** 18S rRNA (GQ122370) **Original No.** FC-4 **References** 1, 3, 13, 39, 151 **Remarks** aquaculture, high protein and lipid

0065 Sampling 1990-02-01, Yeosu/Jeonnam (34°45'06" N, 127°39'29" E), coast, surface water **Isolator** Lee, GA (2010-10-24) **Identifier** Kim, YJ **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 20 PPF, 4 M **Size (µm)** 3-8 (Ø) **Gene data** 18S rRNA (GQ122334) **Original No.** C-27 **References** 13, 36, 37 **Remarks** aquaculture, high protein and lipid

0120 Sampling 1995-02-01, Hwajinpo/Gangwon (38°28'59" N, 128°25'54" E), lagoon, surface water **Isolator** Lee, GA (2010-10-24) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM-E, f/2-E, 23°C, 15 psu, 60 PPF, 4 M **Size (µm)** 1-3 (Ø) **Gene data** 18S rRNA (JQ315647) **Original No.** EC-1 **References** 101, 140 **Remarks** patent, aquaculture, high protein and lipid

0138 Sampling 1995-07-01, Hwajinpo/Gangwon (38°28'59" N, 128°25'54" E), lagoon, surface water, 15 psu **Isolator** Lee, GA (2010-10-24) **Identifier** Kim, YJ **States** axenic, agar, liquid, cryopreserved

- Culture** LDM-E, f/2-E, 23°C, 15 psu, 60 PPF, 4 M **Size (µm)** 1-8 (Ø) **Gene data** 18S rRNA (HQ702293) **Original No.** EC-3 **References** 111 **Remarks** aquaculture, high protein and lipid
- 0143 Source** Myungsun Co., Korea (1996-12-01) **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 3-5 (Ø) **Gene data** 18S rRNA (HQ702286) **Original No.** FC-12 **References** 151 **Remarks** aquaculture, high protein and lipid
- 0144 Source** Sunwo Fresh Co., Korea (1996-12-01) **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 3-8 (Ø) **Gene data** 18S rRNA (HQ702289) **Original No.** FC-11 **Remarks** aquaculture, high protein and lipid
- 0145 Source** Samhae Inter. Co., Korea (1996-12-01) **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 3-8 (Ø) **Gene data** 18S rRNA (HQ702288) **Original No.** FC-13 **Remarks** aquaculture, high protein and lipid
- 0148 Sampling** 1996-10-11, South Sea (35°00' N, 130°00' E), open sea, surface water, 19°C **Isolator** Hur, SB (1997-01-22) **Identifier** Kim, YJ **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 1-5 (Ø) **Gene data** 18S rRNA (GQ122345) **Original No.** C-108 **Remarks** aquaculture, high protein and lipid
- 0149 Sampling** 1996-10-09, South Sea (34°54' N, 129°15' E), open sea, surface water, 22°C **Isolator** Hur, SB (1997-01-22) **Identifier** Kim, YJ **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 1-5 (Ø) **Gene data** 18S rRNA (GQ122346) **Original No.** C-111 **Remarks** aquaculture, high protein and lipid
- 0156 Sampling** 1996-08-27, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Hur, SB (1997-02-03) **Identifier** Kim, YJ **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 1-8 (Ø) **Gene data** 18S rRNA (GQ122343) **Original No.** C-105 **References** 78 **Remarks** aquaculture, high protein and lipid
- 0164 Sampling** 1996-09-27, Gyunggi Bay/Gyeonggi (37°09'43" N, 126°41'05" E) **Isolator** Hur, SB (1997-02-06) **Identifier** Kim, YJ **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 1-3 (Ø) **Gene data** 18S rRNA (GQ122338) **Original No.** C-77 **Remarks** aquaculture, high protein and lipid
- 0173 Sampling** 1996-09-18, Namhae/Gyeongnam (34°42'47" N, 127°59'13" E), coast, surface water **Isolator** Hur, SB (1997-02-10) **Identifier** Kim, YJ **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 3-8 (Ø) **Gene data** 18S rRNA (HQ702318) **Original No.** C-117 **Remarks** aquaculture, high protein and lipid
- 0174 Sampling** 1996-03-20, Jinhae/Gyeongnam (35°08'35" N, 128°40'58" E), hatchery, surface water **Isolator** Hur, SB (1997-02-10) **Identifier** Kim, YJ **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 3-5 (Ø) **Gene data** 18S rRNA (HQ702287) **Original No.** FC-15 **References** 101 **Remarks** patent, aquaculture, high protein and lipid
- 0175 Sampling** 1996-03-20, Jinhae/Gyeongnam (35°08'35" N, 128°40'58" E), reservoir, surface water **Isolator** Hur, SB (1997-02-10) **Identifier** Kim, YJ **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 3-8 (Ø) **Gene data** 18S rRNA (HQ702294) **Original No.** FC-16 **References** 128, 156 **Remarks** aquaculture, high protein and lipid
- 0190 Sampling** 1996-07-16, Daebyun/Busan (35°13'10" N, 129°14'06" E), coast, surface water, 17°C **Isolator** Hur, SB (1997-05-12) **Identifier** Kim, YJ **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 3-8 (Ø) **Gene data** 18S rRNA (HQ702309) **Original No.** C-119 **References** 76 **Remarks** aquaculture, high protein and lipid
- 0191 Sampling** 1996-10-09, South Sea (34°51' N, 129°22' E), open sea, surface water, 21°C **Isolator** Hur, SB (1997-05-12) **Identifier** Kim, YJ **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 1-6 (Ø) **Gene data** 18S rRNA (HQ702308) **Original No.** C-130 **References** 78 **Remarks** aquaculture, high protein and lipid
- 0274 Sampling** 1999-07-15, Namgu/Busan (35°07'56" N, 129°06'06" E), pond, surface water, 24°C **Isolator** Lee, GA (2000-01-04) **Identifier** Jeon, SR **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 6-8 (L), 4-6 (W) **Gene data** 18S rRNA (HQ702325) **Original No.** FC-41 **References** 71 **Remarks** aquaculture, high protein and lipid
- 0323 Sampling** 1999-08-19, Haeundae/Busan (35°09'55" N, 129°07'34" E), estuary, surface water, 27°C **Isolator** Lee, GA (2000-01-30) **Identifier** Jeon, SR **States** axenic, agar, liquid, cryopreserved **Culture** LDM-E, f/2-E, 23°C, 15 psu, 60 PPF, 4 M **Size (µm)** 3-5 (Ø)

- Gene data** 18S rRNA (HQ702292) **Original No.** EC-10 **References** 71 **Remarks** aquaculture, high protein and lipid
- 0339 Sampling** 1999-07-15, Namgu/Busan (35°07'56" N, 129°06'06" E), pond, surface water, 24°C **Isolator** Lee, GA (2000-02-11) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 1-5 (Ø) **Gene data** 18S rRNA (HQ702285) **Original No.** FC-42 **References** 71 **Remarks** aquaculture, high protein and lipid
- 0354 Sampling** 1999-10-15, East Sea (35°02' N, 129°29' E), open sea, surface water, 24°C **Isolator** Lee, GA (2000-02-27) **Identifier** Lee, OM **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 3-10 (Ø) **Gene data** 18S rRNA (GQ122359) **Original No.** C-204 **References** 71 **Remarks** aquaculture, high protein and lipid
- 0355 Sampling** 1999-09-09, Namgu/Busan (35°07'56" N, 129°06'06" E), pond, surface water, 28°C **Isolator** Lee, GA **Identifier** Hur, SB (2000-02-27) **States** axenic, agar, liquid, cryopreserved **Culture** JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 3-5 (Ø) **Gene data** 18S rRNA (HQ702295) **Original No.** FC-33 **References** 71 **Remarks** aquaculture, high protein and lipid
- 1128 Sampling** 2003-05-01, Haeundae/Busan (35°09'06" N, 129°09'07" E), intertidal zone, substratum, 18°C, 32 psu **Isolator** Lee, GA (2004-12-01) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 6-14 (Ø) **Original No.** C-252 **Remarks** aquaculture, high protein and lipid
- Chlorella sp.**
- 0008 Source** Institute, Japan (1985-12-03) **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 8-18 (L), 5-11 (W) **Gene data** 18S rRNA (HQ702302) **Original No.** C-10 **References** 13, 76, 98
- 0029 Sampling** 1986-05-01, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water **Isolator** Hur, SB (1986-08-25) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 3-10 (Ø) **Gene data** 18S rRNA (HQ702280) **Original No.** C-22 **References** 13
- 0038 Sampling** 1986-05-01, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water **Isolator** Hur, SB (1986-09-03) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 3-10 (Ø) **Gene data** 18S rRNA (JQ315519) **Original No.** C-15 **References** 2, 4, 10, 13, 78
- 0086 Sampling** 1995-07-25, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 26°C, 33 psu **Isolator** Hur, SB (1996-03-27) **Identifier** Kim, YJ **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 3-5 (Ø) **Gene data** 18S rRNA (GQ122336) **Original No.** C-66 **References** 78
- 0087 Sampling** 1993-01-**, Namhae/Gyeongnam (34°42'47" N, 127°59'13" E), coast, surface water **Isolator** Hur, SB (1996-03-27) **Identifier** Lee, SG **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 3-8 (Ø) **Gene data** 18S rRNA (HQ702304) **Original No.** C-62 **References** 76
- 0115 Sampling** 1995-07-20, Hwajinpo/Gangwon (38°28'59" N, 128°25'54" E), lagoon, surface water **Isolator** Hur, SB (1996-07-01) **Identifier** Lee, SG **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 2-10 (Ø) **Original No.** C-74 **References** 151
- 0132 Sampling** 1996-04-29, Jinhae Bay/Gyeongnam (35°08'35" N, 128°40'58" E), coast, surface water, 12°C **Isolator** Hur, SB (1996-07-15) **Identifier** Lee, SG **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 5-10 (Ø) **Gene data** 18S rRNA (HQ702297) **Original No.** FC-185 **References** 151
- 0137 Sampling** 1995-12-10, Nakdong River/Busan (35°06'17" N, 128°53'42" E), estuary, surface water, 15 psu **Isolator** Hur, SB (1996-09-06) **Identifier** Kim, YJ **States** axenic, agar, liquid, cryopreserved **Culture** LDM-E, f/2-E, 23°C, 15 psu, 60 PPF, 4 M **Size (µm)** 1-5 (Ø) **Gene data** 18S rRNA (HQ702276) **Original No.** FC-184 **References** 101, 136, 151
- 0163 Source** Institute, Thailand (1997-02-06) **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 30°C, 33 psu, 60 PPF, 4 M **Size (µm)** 3-5 (Ø) **Gene data** 18S rRNA (GQ122340) **Original No.** C-88 **Remarks** high °C sp.
- 0193 Sampling** 1996-04-24, Andongho/Gyeongbuk (36°34'02" N, 128°44'57" E), reservoir, surface water **Isolator** Hur, SB (1997-08-02) **Identifier** Kim, YJ **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 3-8 (Ø) **Gene data** 18S rRNA (GQ122372) **Original No.** FC-21

- 0211 Sampling** 1998-04-15, Yeosu/Jeonnam (34°45'07" N, 127°39'33" E), coast, surface water, 15°C **Isolator** Hur, SB (1998-10-24) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 1-8 (Ø) **Gene data** 18S rRNA (GQ122349) **Original No.** C-137
- 0212 Sampling** 1998-05-19, Yeosu/Jeonnam (34°45'07" N, 127°39'33" E), coast, surface water, 19°C **Isolator** Hur, SB (1998-11-30) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 1-5 (Ø) **Gene data** 18S rRNA (HQ702313) **Original No.** C-140
- 0221 Sampling** 1998-07-19, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 26°C **Isolator** Hur, SB (1999-02-04) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 2-5 (Ø) **Gene data** 18S rRNA (HQ702319) **Original No.** C-139
- 0234 Sampling** 1998-12-31, Jindong/Gyeongnam (35°06'09" N, 128°29'40" E), coast, surface water **Isolator** Lee, GA (1999-05-30) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 3-8 (Ø) **Gene data** 18S rRNA (HQ702316) **Original No.** C-138 **References** 151
- 0240 Sampling** 1998-12-16, Jindong/Gyeongnam (35°06'09" N, 128°29'40" E), coast, surface water **Isolator** Lee, GA (1999-07-01) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 1-5 (Ø) **Gene data** 18S rRNA (HQ702301) **Original No.** C-141 **References** 142
- 0241 Sampling** 1998-12-31, Jindong/Gyeongnam (35°06'09" N, 128°29'40" E), coast, surface water **Isolator** Lee, GA (1999-07-07) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 1-8 (Ø) **Gene data** 18S rRNA (HQ702300) **Original No.** C-143
- 0250 Sampling** 1999-03-04, Namgu/Busan (35°07'56" N, 129°06'06" E), pond, surface water, 13°C **Isolator** Lee, GA (1998-08-20) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 3-5 (Ø) **Gene data** 18S rRNA (HQ702284) **Original No.** FC-26
- 0252 Sampling** 1999-02-04, Hongdo/Jeonnam (34°40'49" N, 125°12'09" E), coast, surface water, 16°C **Isolator** Lee, GA (1999-08-30) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 3-8 (Ø) **Gene data** 18S rRNA (HQ702299) **Original No.** C-145
- 0253 Sampling** 1999-02-22, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 8°C, 31 psu **Isolator** Lee, GA (1999-08-30) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 3-8 (Ø) **Gene data** 18S rRNA (HQ702317) **Original No.** C-150
- 0259 Sampling** 1999-03-04, Namgu/Busan (35°07'56" N, 129°06'06" E), pond, surface water, 13°C **Isolator** Lee, GA (1999-09-02) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 3-5 (Ø) **Original No.** FC-27
- 0322 Sampling** 1999-08-26, Haeundae/Busan (35°09'06" N, 129°09'07" E), estuary, surface water, 26°C **Isolator** Lee, GA (2000-01-30) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM-E, f/2-E, 23°C, 15 psu, 60 PPF, 4 M **Size (µm)** 3-5 (Ø) **Gene data** 18S rRNA (HQ702281) **Original No.** EC-12
- 0336 Sampling** 1999-09-09, Namgu/Busan (35°07'56" N, 129°06'06" E), pond, surface water, 28°C **Isolator** Lee, GA (2000-02-11) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 3-5 (Ø) **Gene data** 18S rRNA (GQ122373) **Original No.** FC-43
- 0337 Sampling** 1999-08-12, Namgu/Busan (35°07'56" N, 129°06'06" E), pond, surface water, 27°C **Isolator** Lee, GA (2000-02-11) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 4-6 (Ø) **Gene data** 18S rRNA (HQ702283) **Original No.** FC-44
- 0338 Sampling** 1999-08-12, Namgu/Busan (35°07'56" N, 129°06'06" E), pond, surface water, 27°C **Isolator** Lee, GA (2000-10-24) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 4-6 (Ø) **Gene data** 18S rRNA (HQ702279) **Original No.** FC-30
- 0341 Sampling** 1999-08-12, Namgu/Busan (35°07'56" N, 129°06'06" E), pond, surface water **Isolator** Lee, GA (2000-02-11) **Identifier** Hur, SB **States** axenic, agar,

- liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 2-5 (Ø) **Original No.** FC-38
- 0342 Sampling** 1999-08-12, Namgu/Busan (35°07'56" N, 129°06'06" E), pond, surface water **Isolator** Lee, GA (2000-02-11) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 3-6 (Ø) **Original No.** FC-39
- 0345 Sampling** 1999-09-27, South Sea (35°07' N, 129°03' E), open sea, surface water, 27°C **Isolator** Lee, GA (2000-02-26) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 3-8 (Ø) **Gene data** 18S rRNA (GQ122352) **Original No.** C-178
- 0346 Sampling** 1999-09-02, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 27°C **Isolator** Lee, GA (2000-02-26) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 8-15 (Ø) **Gene data** 18S rRNA (HQ702315) **Original No.** C-156 **References** 132, 154
- 0351 Sampling** 1999-09-14, Gampo/Gyeongbuk (35°48'17" N, 129°30'32" E), coast, surface water, 26°C **Isolator** Lee, GA (2000-02-27) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 3-5 (Ø) **Gene data** 18S rRNA (GQ122357) **Original No.** C-185
- 0352 Sampling** 1999-09-09, Namgu/Busan (35°07'56" N, 129°06'06" E), pond, surface water, 28°C **Isolator** Lee, GA (2000-02-27) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 3-5 (Ø) **Gene data** 18S rRNA (GQ122374) **Original No.** FC-46
- 0353 Sampling** 1999-09-22, Gwangalli/Busan (35°08'47" N, 129°06'56" E), estuary, surface water, 25°C **Isolator** Lee, GA (2000-02-27) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM-E, f/2-E, 23°C, 15 psu, 60 PPF, 4 M **Size (µm)** 1-4 (Ø) **Gene data** 18S rRNA (HQ702278) **Original No.** EC-23
- 0392 Sampling** 1999-10-23, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 18°C, 30 psu **Isolator** Lee, GA (2000-04-04) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 3-5 (Ø) **Gene data** 18S rRNA (GQ122354) **Original No.** C-181
- 0393 Sampling** 1999-10-13, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 18°C, 30 psu **Isolator** Lee, GA (2000-04-04) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 3-8 (Ø) **Gene data** 18S rRNA (HQ702311) **Original No.** C-210
- 0394 Sampling** 1999-10-28, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 17°C **Isolator** Lee, GA (2000-04-04) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 1-5 (Ø) **Gene data** 18S rRNA (HQ702312) **Original No.** C-214
- 0404 Sampling** 2000-05-01, Nakdong River/Busan (35°06'17" N, 128°53'42" E), surface water **Isolator** Lee, GA (2000-04-10) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 3-6 (Ø) **Gene data** 18S rRNA (HQ702291) **Original No.** FC-73
- 0434 Sampling** 1999-12-23, Donghae/Gangwon (37°29'45" N, 129°8'42" E), coast, surface water **Isolator** Lee, GA (2000-06-27) **Identifier** Lee, OM **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 3-5 (Ø) **Gene data** 18S rRNA (HQ702306) **Original No.** C-205
- 0449 Sampling** 2000-04-30, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 18°C **Isolator** Lee, GA (2001-01-31) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 2-5 (Ø) **Gene data** 18S rRNA (HQ702307) **Original No.** C-222
- 0859 Sampling** 2001-03-29, Buan/Jeonbuk (35°35'31" N, 126°37'30" E), coast, mud **Isolator** Lee, GA (2001-10-30) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 3-8 (Ø) **Gene data** 18S rRNA (HQ702298) **Original No.** C-231 **References** 71
- 0860 Sampling** 2001-03-29, Buan/Jeonbuk (35°35'31" N, 126°37'30" E), coast, mud, 8°C, 31 psu **Isolator** Lee, GA (2001-10-30) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 3-6 (Ø) **Gene data** 18S rRNA (HQ702320) **Original No.** C-228
- 0868 Sampling** 2000-03-07, Sumjin River/Jeonbuk (34°59'39" N, 127°46'53" E), surface water, 12°C **Isolator** Lee, GA (2000-05-02) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** JM-agar, JM, 23°C, 0

- psu, 60 PPF, 4 M Size (μm) 3-13 (\emptyset) **Original No.** FC-59
- 0870 Sampling** 2000-06-06, Kum River/Jeonbuk (36°02'01" N, 126°46'01" E), coast, surface water **Isolator** Lee, GA (2001-01-27) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (μm)** 3-10 (\emptyset) **Gene data** 18S rRNA (HQ702310) **Original No.** C-278 **References** 151
- 0882 Sampling** 2000-01-30, Nakdong River/Busan (35°06'17" N, 128°53'42" E), surface water, 9°C **Isolator** Lee, GA (2000-04-16) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (μm)** 8-15 (\emptyset) **Gene data** 18S rRNA (HQ702290) **Original No.** FC-58
- 0883 Sampling** 2001-02-07, Yangyang/Gangwon (38°04'14" N, 128°37'22" E), stream, surface water, 10°C **Isolator** Lee, GA (2001-12-12) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (μm)** 3-5 (\emptyset) **Gene data** 18S rRNA (GQ122376) **Original No.** FC-69
- 1006 Sampling** 2001-03-01, Wando/Jeonnam (34°18'33" N, 126°51'18" E), hatchery, substratum **Isolator** Lee, GA (2002-08-06) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (μm)** 1-4 (\emptyset) **Gene data** 18S rRNA (GQ122360) **Original No.** C-235
- 1007 Sampling** 2001-02-01, Asan Bay/Chungnam (36°54'51" N, 126°54'16" E), coast, surface water, 9°C **Isolator** Lee, GA (2002-08-06) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (μm)** 4-6 (\emptyset) **Gene data** 18S rRNA (HQ702303) **Original No.** C-236
- 1008 Sampling** 2001-03-01, Wando/Jeonnam (34°18'33" N, 126°51'18" E), hatchery, substratum **Isolator** Lee, GA (2002-08-06) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (μm)** 2-6 (\emptyset) **Gene data** 18S rRNA (HQ702305) **Original No.** C-237
- 1009 Sampling** 2001-03-01, Uljin/Gangwon (36°57'28" N, 129°25'00" E), hatchery, substratum **Isolator** Lee, GA (2002-08-06) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (μm)** 3-4 (\emptyset) **Gene data** 18S rRNA (GQ122361) **Original No.** C-239
- 1050 Sampling** 2001-12-01, Nakdong River/Busan (35°06'17" N, 128°53'42" E), surface water, 13°C **Isolator** Lee, GA (2003-01-04) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (μm)** 8-13 (L), 3-5 (W) **Original No.** FC-83
- 1058 Sampling** 2000-05-01, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 18°C **Isolator** Lee, GA (2000-08-07) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (μm)** 2-6 (\emptyset) **Gene data** 18S rRNA (HQ702314) **Original No.** C-243
- 1205 Sampling** 2004-12-15, Upo/Gyeongnam (35°32'53" N, 128°24'25" E), swamp, surface water **Isolator** Park, SJ (2005-03-10) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (μm)** 2-3 (\emptyset) **Gene data** 18S rRNA (GQ122378) **Original No.** FC-91
- 1226 Sampling** 2005-06-29, Nakdong River/Busan (35°06'17" N, 128°53'42" E), estuary, surface water, 18°C, 16 psu **Isolator** Jeong, EH (2005-09-01) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2-E, 23°C, 15 psu, 60 PPF, 4 M **Size (μm)** 3-8 (\emptyset) **Gene data** 18S rRNA (HQ702282) **Original No.** EC-35
- 1468 Sampling** 2008-10-22, Gyeongju/Gyeongbuk (35°47'47" N, 129°14'33" E), reservoir, surface water, 18°C **Isolator** Jeong, EH (2008-12-04) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (μm)** 5-6 (L), 2-3 (W) **Original No.** FC-134
- 1838 Sampling** 2011-06-07, Seogwipo/Jeju (33°22'8" N, 126°41'36" E), swamp, surface water, 24°C **Isolator** Jo, MJ (2011-08-31) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 20°C, 0 psu, 60 PPF, 1 M **Size (μm)** 4-5 (L), 2-3 (W) **Original No.** FC-192
- 1919 Sampling** 2012-02-26, Mangyeong River/Jeonbuk (35°53'53" N, 127°3'40" E), surface water, 8°C **Isolator** Jo, MJ (2012-05-31) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 18°C, 0 psu, 60 PPF, 1 M **Size (μm)** 9-14 (\emptyset) **Original No.** FC-214
- 1938 Sampling** 2012-02-26, Mankyeong River/Jeonbuk (35°53'53" N, 127°03'40" E), surface water, 8°C **Isolator** Jo, MJ (2012-07-17) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** JM-agar, JM, 18°C, 0 psu, 1 M **Size (μm)** 6-9 (\emptyset) **Original No.** FC-221
- 1940 Sampling** 2012-05-16, Haenam/Jeonnam (34°35'37" N, 126°25'59" E), reservoir, surface water, 21°C, 3 psu **Isolator** Jo, MJ (2012-07-17) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 18°C, 0 psu, 60 PPF, 1 M **Size (μm)** 7-10 (L), 3-4 (W) **Original**

No. FC-219

- 2136 Sampling** 2013-05-10, Nakdong River/Busan (35°06'17" N, 128°53'42" E), surface water, 18°C **Isolator** Jo, MJ (2013-08-28) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 18°C, 0 psu, 60 PPF, 1 M **Size (µm)** 7-11 (L), 4-6 (W) **Original No.** FC-248
- 2147 Sampling** 2013-08-19, Kyungju/Gyeongbuk (35°46'04" N, 129°13'25" E), stream, surface water **Isolator** Jo, MJ (2013-09-25) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 18°C, 0 psu, 60 PPF, 1 M **Size (µm)** 8-10 (L), 4-5 (W) **Original No.** FC-252
- 2198 Sampling** 2013-12-11, Gunsan/Jeonbuk (35°56'40" N, 129°37'57" E), reservoir, 5°C, surface water **Isolator** Jo, MJ (2014-02-17) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 18°C, 0 psu, 20 PPF, 1 M **Size (µm)** 5-8 (Ø) **Original No.** FC-262

CHLOROCOCCUM: Chlorophyceae**Chlorococcum minutum** R. C. Starr

- 0205 Sampling** 1995-07-02, Hwajinpo/Gangwon (38°28'59" N, 128°25'54" E), lagoon, surface water **Isolator** Hur, SB (1997-08-06) **Identifier** Jeon, SR **States** axenic, agar, liquid, cryopreserved **Culture** LDM-E, f/2-E, 23°C, 15 psu, 60 PPF, 4 M **Size (µm)** 5-12 (L), 4-6 (W) **Gene data** 18S rRNA (GQ122365) **Original No.** EC-2

Chlorococcum sp.

- 0082 Sampling** 1995-07-07, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 26°C, 33 psu **Isolator** Hur, SB (1996-02-06) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 1-3 (Ø) **Gene data** 18S rRNA (JQ315520) **Original No.** C-71
- 0136 Sampling** 1995-07-01, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 26°C, 33 psu **Isolator** Hur, SB (1996-07-26) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 5-15 (L), 5-10 (W) **Gene data** 18S rRNA (JQ315521) **Original No.** C-60
- 0165 Sampling** 1995-06-29, Gunsan/Jeonbuk (35°53'43" N, 126°40'57" E), salt farm, surface water **Isolator** Hur, SB (1997-02-06) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 3-13 (Ø) **Gene data** 18S rRNA (JQ315522) **Original No.** C-91

0170 Sampling 1995-01-**, Gunsan/Jeonbuk (35°53'47" N, 126°41'51" E), salt farm, surface water **Isolator** Hur, SB (1997-02-07) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 3-13 **Gene data** 18S rRNA (JQ315523) **Original No.** C-52

0194 Sampling 1996-07-17, Ulsan/Gyeongbuk (35°31'01" N, 129°22'44" E), coast, surface water, 17°C **Isolator** Hur, SB (1997-08-02) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 3-10 (Ø) **Gene data** 18S rRNA (JQ315524) **Original No.** C-118

0547 Sampling 2000-04-30, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 18°C **Isolator** Lee, GA (2001-08-30) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 60 PPF, 4 M **Size (µm)** 5-8 (L), 3-5 (W) **Gene data** 18S rRNA (FJ559386) **Original No.** C-273

1167 Sampling 2004-07-11, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Park, SJ (2004-12-01) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 23°C, 15 psu, 60 PPF, 4 M **Size (µm)** 12.5-19 (L), 9-14 (W) **Original No.** C-260

CHROMULINA: Chrysophyceae**Chromulina** sp.

- 2191 Source KIOST Sampling** 2013-10-23, Kosrae, Micronesia (05°19'06" N, 162°00'20" E), reservoir, surface water, 28°C **Isolator** Jo, MJ **Identifier** Hur, SB (2014-02-17) **States** non-axenic, liquid **Culture** f/2, 18°C, 0 psu, 20 PPF, 1 M **Size (µm)** 6-8 (Ø) **Original No.** FCh-3 **Remarks** high °C sp.

CHROOCOCCUS: Cyanophyceae**Chroococcus dispersus** (Keissler) LemmermannSyn. *Chroococcus minor* var. *dispersus* Keissler

0884 Sampling 2000-08-15, Junam/Gyeongnam (35°18'49" N, 128°40'25" E), reservoir, mud, 30°C **Isolator** Lee, GA (2001-12-12) **Identifier** Lee, OM **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 20°C, 0 psu, 40 PPF, 1 M **Size (µm)** 5-8 (Ø) **Original No.** FCy-14 **References** 121

2152 Sampling 2013-08-14, Yongho Bay/Busan (35°08'02" N, 129°07'15" E), coast, surface water, 21°C, 31 psu, **Isolator** Jo, MJ (2013-09-25) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 5-6 (L), 2-4 (W) **Original No.** Cy-74

Chroococcus endophyticus Copeland

2182 Sampling 2013-10-10, Sangju/Gyeongbuk (36°29'34" N, 128°07'49" E), reservoir, surface water, 21°C **Isolator** Jo, MJ (2013-12-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 18°C, 0 psu, 20 PPF, 1 M **Size (µm)** 1-2 (Ø) **Original No.** FCy-60

Chroococcus minutus (Kützing) Nägeli

Syn. *Protococcus minutus* Kützing

0090 Sampling 1995-08-18, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Hur, SB (1996-03-27) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 5-10 (Ø) **Original No.** Cy-42 **References** 111

Chroococcus pallidus Nägeli

1960 Sampling 2012-07-25, Upo/Gyeongnam (35°32'53" N, 128°24'25" E), swamp, surface water, 30°C **Isolator** Jo, MJ (2012-10-23) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 20°C, 0 psu, 40 PPF, 1 M **Size (µm)** 7-11 (Ø) **Original No.** FCy-55

Chroococcus turgidus (Kützing) Nägeli

Syn. *Protococcus turgidus* Kützing

1427 Sampling 2008-08-13, Taean/Chungnam (36°40'39" N, 126°08'09" E), coast, surface water, 33°C, 38 psu **Isolator** Jeong, EH (2008-10-13) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 18-21 (Ø) **Original No.** Cy-60

Chroococcus varius Braun

1916 Sampling 2012-02-26, Gunsan/Jeonbuk (35°56'39" N, 126°37'17" E), reservoir, surface water, 8°C **Isolator** Jo, MJ (2012-05-31) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 18°C, 0 psu, 40 PPF, 1 M **Size (µm)** 3-4 (L), 1-2 (W) **Original No.** FCy-44

CHROOMONAS: Cryptophyceae

Chroomonas marina (Büttner) Butcher

Syn. *Cryptomonas marina* Büttner

2148 Sampling 2013-08-20, Nakdong River/Busan (35°06'17" N, 128°53'42" E), reservoir, surface water, 32°C, 25 psu **Isolator** Jo, MJ (2013-09-25) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 40 PPF, 1 M **Size (µm)** 18-22 (L), 9-14 (W) **Original No.** Cr-49

Chroomonas salina (Wislough) Butcher

0556 Sampling 1997-05-01, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 18°C **Isolator** Hur, SB (1997-08-04) **Identifier** Lee, SG **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 15-20 (L), 10-15 (W) **Original No.** Cr-2 **References** 111 **Remarks** aquaculture, high protein and lipid

Chroomonas sp.

0010 Source UTEX LB 2000 (1985-12-03) **States** axenic, agar, liquid **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 8-18 (L), 2-3 (W) **Original No.** Cr-4 **References** 7, 11, 13, 64, 76

CHRYSANTHEMODISCUS: Bacillariophyceae

Chrysanthemodiscus foriatus A. Mann

1472 Sampling 2008-11-11, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 17°C, 32 psu **Isolator** Jeong, EH (2009-01-07) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 77-93 (L), 69-71 (W) **Original No.** B-884

1545 Sampling 2009-10-14, Namcheon Bay/Busan (35°08'14" N, 129°06'49" E), coast, surface water, 21°C, 32 psu **Isolator** Jo, MJ (2009-10-26) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 97-113 (L), 65-80 (W) **Original No.** B-932

2119 Source KIOST **Sampling** 2012-11-19, Chuuk, Micronesia (07°27'02" N, 151°53'20" E), coast, surface water, 30°C, 24 psu **Isolator** Jo, MJ (2013-04-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 45-53 (Ø) **Original No.** B-1158 **Remarks** high °C sp.

Chrysanthemodiscus sp.

1572 Sampling 2009-10-27, Yeosu/Jeonnam (34°25'47" N, 127°47'53" E), coast, surface water, 19°C **Isolator** Jo, MJ (2010-01-12) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 35-39 (L), 22-27 (W) **Original No.** B-938

1717 Sampling 2010-10-19, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 19°C, 31 psu **Isolator** Jo, MJ (2010-11-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 39-43 (L), 24-37 (W) **Original No.** B-1017

CHRYSOCHROMULINA: Haptophyceae**Chrysochromulina** sp.

1832 Sampling 2011-07-18, Yokjido/Gyeongnam (34°38'30" N, 128°16'22" E), coast, surface water, 24°C **Isolator** Jo, MJ (2011-08-31) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 13-18 (Ø) **Original No.** H-36

CLIMACOSPHENIA: Bacillariophyceae**Climacosphenia monilifera** Ehrenberg

1723 Sampling 2010-10-19, Namcheon Bay/Busan (35°08'14" N, 129°06'49" E), coast, surface water, 19°C, 32 psu **Isolator** Jo, MJ (2010-11-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 358-388 (L), 52-72 (W) **Original No.** B-1023

CLOSTERIUM: Chlorophyceae**Closterium acerosum** (Schrank) Ehrenberg

1824 Sampling 2011-06-08, Hangyeong/Jeju (33°20'34" N, 126°10'30" E), reservoir, surface water, 29°C **Isolator** Jo, MJ (2011-07-28) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** JM-agar, JM, 20°C, 33 psu, 60 PPF, 1 M **Size (µm)** 329-492 (L), 43-49 (W) **Original No.** FC-188

Closterium actum Brébisson

1250 Sampling 2005-10-10, Upo/Gyeongnam (35°32'53" N, 128°24'25" E), swamp, surface water, 17°C **Isolator** Jeong, EH (2006-01-17) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 101-165 (L), 8-9 (W) **Original No.** FC-115

1974 Sampling 2012-07-25, Upo/Gyeongnam (35°32'53" N, 128°24'25" E), swamp, surface water, 30°C **Isolator** Jo, MJ (2012-10-23) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 1 M **Size (µm)** 141-247 (L), 6-8 (W) **Original No.** FC-233

Closterium leibleinii Kützing

1943 Sampling 2012-05-16, Yeongam Lake/Jeonnam (34°41'32" N, 126°27'43" E), reservoir, surface water, 24°C, 3 psu **Isolator** Jo, MJ (2012-07-17) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** JM-agar, JM, 18°C, 0 psu, 60 PPF, 1 M **Size (µm)** 127-138 (L), 15-17 (W) **Original No.** FC-222

2165 Source KIOST Sampling 2013-10-23, Kosrae, Micronesia (05°19'06" N, 163°00'20" E), reservoir, surface water, 28°C **Isolator** Jo, MJ (2013-12-24) **Identifier**

Hur, SB **States** non-axenic, liquid **Culture** JM, 18°C, 0 psu, 40 PPF, 1 M **Size (µm)** 168-219 (L), 31-35 (W) **Original No.** FC-259 **Remarks** high °C sp.

Closterium moniliferum (Bory) Ehrenberg

1713 Sampling 2010-09-09, Nakdong River/Busan (35°06'17" N, 128°53'42" E), estuary, surface water, 24°C, 1 psu **Isolator** Jo, MJ (2010-10-15) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 23°C, 0 psu, 60 PPF, 1 M **Size (µm)** 496-510 (L), 70-75 (W) **Original No.** FC-172

2206 Source KIOST Sampling 2013-10-23, Kosrae, Micronesia (05°17'06" N, 162°57'25" E), reservoir, surface water, 26°C **Isolator** Jo, MJ (2014-04-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 23°C, 0 psu, 60 PPF, 1 M **Size (µm)** 180-197 (L), 32-35 (W) **Original No.** FC-264

Closterium striolatum Ehrenberg ex Ralfs

1320 Sampling 2006-06-01, Nakdong River/Busan (35°06'17" N, 128°53'42" E), surface water, 26°C **Isolator** Bae, JH (2006-11-22) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 270-350 (L), 29-33 (W) **Gene data** 18S rRNA (JQ315526) **Original No.** FC-119

Closterium turgidum Ehrenberg ex Ralfs

1771 Sampling 2011-02-22, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 24°C, 1 psu **Isolator** Jo, MJ (2011-03-31) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** JM, 20°C, 33 psu, 60 PPF, 1 M **Size (µm)** 743-1,000 (L), 81-87 (W) **Original No.** FC-179

COCCOLITHUS: Haptophyceae**Coccolithus** sp.

0316 Sampling 1999-10-23, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 28°C, 28 psu **Isolator** Lee, GA (2000-01-27) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 5-10 (L), 4-7 (W) **Original No.** H-28

0324 Sampling 1999-09-01, Haeundae/Busan (35°09'06" N, 129°09'07" E), estuary, surface water **Isolator** Lee, GA (2000-01-30) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 3-15 (Ø) **Original No.** H-30

0649 Sampling 1999-04-15, Yokjido/Gyeongnam

(34°38'30" N, 128°16'22" E), coast, surface water, 13°C **Isolator** Lee, GA (1999-07-21) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 3-4 (L), 2-3 (W) **Original No.** H-27

0785 Sampling 1998-02-18, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 11°C **Isolator** Hur, SB (1998-09-10) **Identifier** Lee, JH **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 3-10 (Ø) **Original No.** H-25

0828 Sampling 1998-07-22, Geojedo/Gyeongnam (34°51'40" N, 128°43'48" E), coast, surface water **Isolator** Hur, SB (1998-11-30) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 8-15 (Ø) **Original No.** H-26

1025 Sampling 2001-04-01, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Lee, GA (2002-12-20) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 4-13 (Ø) **Original No.** H-29

COCCONEIS: Bacillariophyceae

Cocconeis californica Grunow

0317 Sampling 1999-11-02, Jindong/Gyeongnam (35°06'09" N, 128°29'40" E), coast, surface water **Isolator** Lee, GA (2000-01-27) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 8-10 (L), 2-3 (W) **Original No.** B-441 **Remarks** aquaculture

0344 Sampling 1999-11-25, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 14°C **Isolator** Lee, GA (2000-05-31) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 4-5 (L), 2-3 (W) **Original No.** B-466 **Remarks** aquaculture

0429 Sampling 2000-01-20, Incheon Pier/Incheon (37°23'11" N, 126°36'53" E), coast, surface water, 9°C **Isolator** Lee, GA (2000-05-31) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 3-5 (L), 2-3 (W) **Original No.** B-482 **References** 110 **Remarks** aquaculture

0436 Sampling 1999-10-13, Ulrungdo (37°29'35" N, 130°46'09" E), open sea, surface water, 23°C **Isolator** Lee, GA (2000-07-01) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 4-5 (L), 2-3 (W) **Original No.** B-415 **References** 110 **Remarks** aquaculture

1227 Sampling 2005-04-24, Nakdong River/Busan (35°06'17" N, 128°53'42" E), estuary, surface water, 14°C, 17 psu **Isolator** Jeong, EH (2005-09-01) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2-E, 15°C, 15 psu, 20 PPF, 2 M **Size (µm)** 20-25 (L), 9-13 (W) **Original No.** EB-37 **Remarks** aquaculture

Cocconeis molesta Kützing

2177 Source KIOST Sampling 2013-10-24, Kosrae, Micronesia (05°18'22" N, 162°58'33" E), coast, surface water, 26°C, 30 psu **Isolator** Jo, MJ (2013-12-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 15-17 (L), 8-10 (W) **Original No.** B-1176 **Remarks** high °C sp.

Cocconeis placentula Ehrenberg

Syn. *Cocconeis scutellum* Ehrenberg

1484 Sampling 2008-11-01, Bosung Bay (34°49'42" N, 127°23'21" E), coast, surface water, 16°C, 34 psu **Isolator** Jeong, EH (2009-02-19) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 12-15 (L), 9-11 (W) **Original No.** B-908 **Remarks** aquaculture

1881 Sampling 2011-10-27, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 18°C, 33 psu **Isolator** Jo, MJ (2011-12-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 1 M **Size (µm)** 14-17 (L), 8-10 (W) **Original No.** B-1090

1982 Sampling 2012-10-19, Udo/Jeju (33°30'13" N, 126°58'7" E), coast, surface water, 20°C, 33 psu **Isolator** Jo, MJ (2012-12-27) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 1 M **Size (µm)** 22-23 (L), 13-15 (W) **Original No.** B-1121

Cocconeis pseudomarginata Gregory

2140 Sampling 2013-03-06, Namcheon Bay/Busan (35°08'14" N, 129°06'49" E), coast, surface water, 12°C, 34 psu **Isolator** Jo, MJ (2013-08-28) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 23-33 (L), 15-23 (W) **Original No.** B-1167

Cocconeis sp.

1366 Sampling 2006-10-01, Buan/Jeonbuk (35°35'27" N, 126°37'11" E), salt farm, 19°C, 6 psu **Isolator** Jeong, EH (2006-03-13) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2-E, 20°C,

15 psu, 20 PPF, 2 M Size (μm) 38-40 (L), 20-22 (W)
Original No. EB-43

1406 Sampling 2008-07-01, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 22°C, 33 psu
Isolator Jeong, EH (2008-09-01) **Identifier** Hur, SB
States non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M Size (μm) 11-19 (L), 6-10 (W) **Original No.** B-863

1498 Sampling 2009-04-09, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 15°C, 34 psu
Isolator Jo, MJ (2009-05-26) **Identifier** Hur, SB
States non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M Size (μm) 38-41 (L), 22-28 (W) **Original No.** B-914 **Remarks** aquaculture

1775 Sampling 2011-02-22, Sunyudo/Jeonbuk (35°48'43" N, 126°25'10" E), coast, surface water, 4°C, 31 psu
Isolator Jo, MJ (2011-05-11) **Identifier** Hur, SB
States non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 20 PPF, 33 psu, 1 M Size (μm) 7-9 (L), 6-7 (W) **Original No.** B-1052

1955 Source Hanyang Univ. (HYZM-1006-C10) **Sampling** 2010-06-17, Geojedo/Gyeongnam (34°59'41" N, 128°42'02" E), coast, surface water (2012-07-17)
States non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M Size (μm) 46-52 (L), 22-29 (W) **Original No.** B-1115

2105 Source KIOST **Sampling** 2012-11-19, Chuuk, Micronesia (07°27'02" N, 151°53'20" E), coast, surface water, 30°C, 24 psu
Isolator Jo, MJ (2013-04-24) **Identifier** Hur, SB
States non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M Size (μm) 4-5 (L), 2-3 (W) **Original No.** B-1146 **Remarks** high °C sp.

COCHLODINIUM: Dinophyceae

Cochlodinium polykrikoides Margalef

2035 Source Kunsan Univ. (KNUTP CP-101001) **Sampling** 2010-10-02, Tongyeong (34°46'42" N, 128°23'47" E), coast, surface water, 22°C, 30 psu (2013-01-02)
States non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M Size (μm) 20-35 (L), 16-24 (W) **Original No.** D-246 **Remarks** toxic

2036 Source Kunsan Univ. (KNUTP CP-101002) **Sampling** 2010-10-02, Tongyeong (34°46'42" N, 128°23'47" E), coast, surface water, 22°C, 30 psu (2013-01-02)
States non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M Size (μm) 22-37 (L), 15-27 (W) **Original No.** D-247 **Remarks** toxic

2037 Source Kunsan Univ. (KNUTP CP-101003) **Sampling** 2010-10-02, Tongyeong (34°46'42" N, 128°23'47"

E), coast, surface water, 22°C, 30 psu (2013-01-02)
States non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M Size (μm) 23-36 (L), 15-26 (W) **Original No.** D-248 **Remarks** toxic

2038 Source Kunsan Univ. (KNUTP CP-101004) **Sampling** 2010-10-02, Tongyeong (34°46'42" N, 128°23'47" E), coast, surface water, 22°C, 30 psu (2013-01-02)
States non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M Size (μm) 24-34 (L), 16-30 (W) **Original No.** D-249 **Remarks** toxic

COELASPHAERIUM: Cyanophyceae

Coelasphaerium kuetzingianum Nägeli

1939 Sampling 2012-02-27, Gunsan/Jeonbuk (35°55'45" N, 126°38'47" E), reservoir, surface water, 8°C
Isolator Jo, MJ (2012-07-17) **Identifier** Hur, SB
States axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 18°C, 0 psu, 40 PPF, 1 M Size (μm) 10-14 (Ø) **Original No.** FCy-48

Coelastrum microporum Naegeli

1509 Source Kunsan Univ. (MANK 1-1) **Sampling** Mangyeong River/Jeonbuk, surface water, 2 psu (2009-07-30)
States axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 40 PPF, 4 M Size (μm) 6-12 (Ø) **Original No.** FC-139

1546 Sampling 2009-07-17, Namgu/Busan (35°07'56" N, 129°06'06" E), pond, surface water
Isolator Jo, MJ (2009-10-26) **Identifier** Hur, SB
States axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 40 PPF, 4 M Size (μm) 25-31 (Ø) **Original No.** FC-162

Coelastrum oreticulatum (Dangeard) Senn

1448 Sampling 2008-09-26, Nakdong River/Busan (35°06'17" N, 128°53'42" E), estuary, surface water, 23°C
Isolator Jeong, EH (2008-11-05) **Identifier** Hur, SB
States axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 40 PPF, 4 M Size (μm) 16-28 (Ø) **Original No.** FC-129

Coelastrum sp.

1251 Sampling 2005-10-06, Upo/Gyeongnam (35°32'53" N, 128°24'25" E), swamp, surface water, 14°C
Isolator Jeong, EH (2006-01-17) **Identifier** Hur, SB
States axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 40 PPF, 4 M Size (μm) 5-7 (Ø) **Original No.** FC-114

COELOSPHAERIUM: Cyanophyceae

Coelosphaerium dubium Grunow

1763 Sampling 2011-01-12, Gijang/Busan (35°16'55" N, 129°15'30" E), coast, surface water, 12°C, 33 psu
Isolator Jo, MJ (2011-03-31) **Identifier** Hur, SB
States non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (µm) 6-7 (Ø) **Original No.** Cy-66

COLACIUM: Euglenophyceae

Colacium sp.

0262 Sampling 1999-08-14, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 27°C, 29 psu
Isolator Lee, GA (1999-12-15) **Identifier** Hur, SB
States axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (µm) 8-18 (L), 6-10 (W) **Original No.** Eu-2

0442 Sampling 1998-05-19, Yeosu/Jeonnam (34°45'07" N, 127°39'33" E), coast, surface water, 19°C
Isolator Hur, SB (2000-09-20) **Identifier** Jeon, SR **States** axenic, agar, liquid **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (µm) 10-20 (L), 6-8 (W) **Original No.** Eu-4

1767 Sampling 2011-01-12, Gijang/Busan (35°16'55" N, 129°15'30" E), coast, surface water, 12°C, 33 psu
Isolator Jo, MJ (2011-03-31) **Identifier** Hur, SB
States non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (µm) 13-17 (L), 8-10 (W) **Original No.** Eu-15

1871 Sampling 2011-10-17, Nackdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 21°C, 33 psu
Isolator Jo, MJ (2011-12-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (µm) 18-24 (L), 8-10 (W) **Original No.** Eu-18

COOLIA: Dinophyceae

Coolia monotis Meunier

Syn. *Ostreopsis monotis* (Meunier) Lindemann

1884 Source NFRDI **Sampling** 2011-08-06, Sacheon/Gyeongnam (35°01'00" N, 128°02'37" E), coast, surface water, 20°C, 33 psu (2011-12-30) **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 40 PPF, 1 M **Size** (µm) 22-35 (Ø) **Original No.** D-209

2142 Sampling 2013-07-23, Geojedo/Gyeongnam (34°46'00" N, 128°41'00" E), coast, surface water, 26°C, 33 psu
Isolator Jo, MJ (2013-08-28) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 40 PPF, 1 M **Size** (µm) 24-30 (Ø) **Original No.** D-285

Coolia sp.

Syn. *Ostreopsis* sp.

2005 Source Kunsan Univ. (KNUTP CL-090202) **Sampling** 2009-02-07, Aewol/Jeju (33°28'04" N, 126°19'23" E), coast, surface water, 13°C, 30 psu (2013-01-02) **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size** (µm) 69-75 (L), 65-79 (W) **Original No.** D-216

2006 Source Kunsan Univ. (KNUTP CL-091005) **Sampling** 2009-10-31, Sagye/Jeju (33°13'43" N, 126°18'35" E), coast, surface water, 21°C, 32 psu (2013-01-02) **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size** (µm) 68-72 (L), 65-75 (W) **Original No.** D-217

2007 Source Kunsan Univ. (KNUTP CL-110201) **Sampling** 2011-02-25, Seongsan/Jeju (33°27'38" N, 126°56'03" E), coast, surface water, 14°C, 33 psu (2013-01-02) **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size** (µm) 66-73 (L), 61-76 (W) **Original No.** D-218

2008 Source Kunsan Univ. (KNUTP CL-111004) **Sampling** 2011-10-30, Seogwipo/Jeju (33°13'01" N, 126°30'87" E), coast, surface water, 23°C, 34 psu (2013-01-02) **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size** (µm) 66-76 (L), 63-81 (W) **Original No.** D-219

2009 Source Kunsan Univ. (KNUTP CL-111202) **Sampling** 2011-12-25, Seogwipo/Jeju (33°16'46" N, 126°10'09" E), coast, surface water, 14°C, 34 psu (2013-01-02) **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size** (µm) 70-77 (L), 69-79 (W) **Original No.** D-220

CORETHRON: Bacillariophyceae

Corethron criophilum Castracane

Syn. *Corethron pennatum* (Grunow) Ostenfeld

1592 Sampling 2010-01-05, Jeju/Jeju (33°31'51" N, 126°34'20" E), coast, surface water, 17°C
Isolator Jo, MJ (2010-02-08) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (µm) 78-140 (L), 53-59 (W) **Original No.** B-965

Corethron hystrix Hensen

1367 Sampling 2006-12-**, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 18°C
Isolator Jeong, EH (2007-03-22) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (µm) 50-138 (L), 6-9 (W) **Original No.** B-820

1398 Sampling 2007-10-11, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 20°C, 31 psu **Isolator** Jeong, EH (2008-06-23) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 50-60 (L), 15-20 (W) **Original No.** B-847

1458 Sampling 2008-11-13, Maemuldo/Gyeongnam (34°46'10" N, 128°38'51" E), coast, surface water, 20°C, 34 psu **Isolator** Jeong, EH (2008-12-04) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 54-65 (L), 28-30 (W) **Original No.** B-887

Corethron inerme Karsten

Syn. *Corethron criophilum* f. *inerme* (Karsten) G. R. Hasle

1573 Sampling 2009-12-02, Namcheon Bay/Busan (35°08'14" N, 129°06'49" E), coast **Isolator** Jo, MJ (2010-01-12) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 53-59 (L), 29-33 (W) **Original No.** B-935

Corethron pelagicum Brun

Syn. *Corethron pennatum* (Grunow) Ostenfeld

1368 Sampling 2006-12-**, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 18°C **Isolator** Jeong, EH (2007-03-22) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 70-98 (L), 30-40 (W) **Original No.** B-816

1399 Sampling 2007-12-21, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 13°C, 33 psu **Isolator** Jeong, EH (2008-06-23) **Identifier** Hur, SB **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 65-110 (L), 40-50 (W) **Original No.** B-846

1665 Sampling 2010-07-13, Uljin/Gyeongbuk (36°57'28" N, 129°25'00" E), coast, surface water, 23°C **Isolator** Jo, MJ (2010-08-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 143-211 (L), 121-142 (W) **Original No.** B-1008

1870 Sampling 2011-12-08, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 15°C, 33 psu **Isolator** Jo, MJ (2011-12-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 54-57 **Original No.** B-1083

CORONASTRUM: Chlorophyceae

Coronastrum sp.

1843 Sampling 2011-06-07, Seogwipo/Jeju (33°22'08" N, 126°41'36" E), swamp, surface water, 24°C **Isolator**

Jo, MJ (2011-08-31) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 20°C, 0 psu, 60 PPF, 1 M **Size (µm)** 5-8 (Ø) **Original No.** FC-196

COSCINODISCUS: Bacillariophyceae

Coscinodiscus angstii Gran

Syn. *Thalassiosira punctigera* (Castracane) Hasle

1321 Sampling 2006-07-02, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), surface water, 22°C, 28 psu **Isolator** Jeong, EH (2006-11-22) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 65-69 (Ø) **Original No.** B-787 **References** 165

Coscinodiscus asteromphalus Ehrenberg

Syn. *Coscinodiscus asteromphalus* var. *conspicua* Grunow ex Van Heurck

0485 Sampling 2001-03-01, Hansan Bay/Gyeongnam (34°46'07" N, 128°30'47" E), coast, surface water, 11°C **Isolator** Lee, GA (2001-06-27) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 80-125 (Ø) **Original No.** B-606

0497 Sampling 2001-03-01, Buan/Jeonbuk (35°35'31" N, 126°37'30" E), coast, mud, 8°C, 31 psu **Isolator** Lee, GA (2001-07-214) **Identifier** Lee, JH **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 70-85 (Ø) **Original No.** B-566

0726 Sampling 1996-07-03, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 24°C, 33 psu **Isolator** Hur, SB (1996-10-30) **Identifier** Lee, JH **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 78-143 (Ø) **Original No.** B-178

0727 Sampling 1996-07-03, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 25°C, 33 psu **Isolator** Hur, SB (1996-10-30) **Identifier** Lee, JH **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 83-180 (Ø) **Original No.** B-180

Coscinodiscus granii Gough

0498 Sampling 2001-03-01, Buan/Jeonbuk (35°35'31" N, 126°37'30" E), coast, mud, 8°C, 31 psu **Isolator** Lee, GA (2001-07-24) **Identifier** Lee, JH **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 115-170 (Ø) **Original No.** B-571

1616 Sampling 2010-04-20, Namcheon Bay/Busan (35°08'14" N, 129°06'49" E), coast, surface water,

14°C, 34 psu **Isolator** Jo, MJ (2010-04-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (μm) 159-167, 143-152 (W) **Original No.** B-973

1798 Sampling 2011-05-20, Uljin/Gyeongbuk (36°57'28" N, 129°25'00" E), open sea, surface water **Isolator** Jo, MJ (2011-06-28) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (μm) 164-171 (Ø) **Original No.** B-1060

Coscinodiscus oculoides Karsten

0650 Sampling 1999-02-08, Yokjido/Gyeongnam (34°38'30" N, 128°16'22" E), coast, surface water, 9°C **Isolator** Lee, GA (1999-05-22) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 2 M **Size** (μm) 85-195 (Ø) **Original No.** B-306

0651 Sampling 1999-02-08, East Sea (34°59' N, 129°27' E), open sea, surface water, 15°C **Isolator** Lee, GA (1999-05-22) **Identifier** Lee, JH **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 2 M **Size** (μm) 73-170 (Ø) **Original No.** B-310

0652 Sampling 1999-02-24, Hwajinpo/Gangwon (38°28'59" N, 128°25'54" E), coast, surface water, 12°C **Isolator** Lee, GA (1999-05-22) **Identifier** Lee, JH **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 2 M **Size** (μm) 70-130 (Ø) **Original No.** B-331

0829 Sampling 1998-12-31, Jindong/Gyeongnam (35°06'09" N, 128°29'40" E), coast, surface water **Isolator** Lee, GA (1999-02-10) **Identifier** Lee, JH **States** axenic, liquid **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size** (μm) 100-165 (Ø) **Original No.** B-259

0830 Sampling 1999-02-22, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 8°C, 31 psu **Isolator** Lee, GA (1999-05-22) **Identifier** Hur, SB **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 2 M **Size** (μm) 146-195 (Ø) **Original No.** B-261

1267 Sampling 2005-11-01, Bogildo/Jeonnam (34°08'17" N, 126°33'54" E), coast, surface water, 15°C, 32 psu **Isolator** Jeong, EH (2006-03-13) **Identifier** Lee, JH **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 2 M **Size** (μm) 250 (Ø) **Original No.** B-756

Coscinodiscus oculus-iridis (Ehrenberg) Ehrenberg

1720 Sampling 2010-11-04, Namcheon Bay/Busan (35°08'14" N, 129°06'49" E), coast, surface water, 18°C, 33 psu **Isolator** Jo, MJ (2010-11-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (μm) 269-281 (Ø) **Original No.** B-1020

nal No. B-1020

Coscinodiscus perforatus Ehrenberg

0831 Sampling 1999-02-24, Jeju/Jeju (33°31'35" N, 126°31'53" E), coast, surface water, 12°C **Isolator** Lee, GA (1999-05-22) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 2 M **Size** (μm) 73-110 (Ø) **Original No.** B-267

1666 Sampling 2010-05-13, Pohang/Gyeongbuk (36°07'00" N, 129°32'10" E), open sea, deep sea, deep water, 1°C **Isolator** Jo, MJ (2010-08-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (μm) 117-138 (L), 50-65 (W) **Original No.** B-1004 **Remarks** low °C sp.

1796 Sampling 2011-06-03, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 17°C, 32 psu **Isolator** Jo, MJ (2011-06-28) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (μm) 107-115 (Ø) **Original No.** B-1058

Coscinodiscus radiatus Ehrenberg

1927 Sampling 2012-04-24, Yeosu/Jeonnam (34°45'07" N, 127°39'33" E), coast, surface water, 14°C, 33 psu **Isolator** Jo, MJ (2012-05-31) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 40 PPF, 1 M **Size** (μm) 44-45 (Ø) **Original No.** B-1104

Coscinodiscus rothii (Ehrenberg) Grunow

1322 Sampling 2006-07-01, Ulsan (35°31'01" N, 129°22'44" E), coast, surface water, 21°C **Isolator** Jeong, EH (2006-11-22) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 2 M **Size** (μm) 148-150 (Ø) **Original No.** B-793

Coscinodiscus subconcaus Grunow

1797 Sampling 2011-06-03, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 17°C, 32 psu **Isolator** Jo, MJ (2011-06-28) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (μm) 42-45 (Ø) **Original No.** B-1059

Coscinodiscus walesii Gran & Angst

1575 Sampling 2009-11-26, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 15°C, 33 psu **Isolator** Jo, MJ (2010-01-12) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (μm) 335-344 (L), 195-228 (W) **Original No.** B-945

- 1617 Sampling** 2010-04-06, Namcheon Bay/Busan (35°08'14" N, 129°06'49" E), coast, surface water, 14°C, 33 psu **Isolator** Jo, MJ (2010-04-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 148-158 (L), 81-88 (W) **Original No.** B-969
- 1721 Sampling** 2010-10-19, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 19°C, 31 psu **Isolator** Jo, MJ (2010-11-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 380-420 (L), 140-275 (W) **Original No.** B-1021
- 1799 Sampling** 2011-05-17, Ullengdo/Gyeongbuk (37°27'22" N, 130°44'56" E), open sea, deep sea, deep water, 9°C, 31 psu **Isolator** Jo, MJ (2011-06-28) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 208-24 (Ø) **Original No.** B-1061
- 1877 Sampling** 2011-11-25, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 12°C, 30 psu **Isolator** Jo, MJ (2011-12-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 440-46 (Ø) **Original No.** B-1086
- 1996 Sampling** 2012-10-31, Geojedo/Gyeongnam (34°50'45" N, 128°34'57" E), coast, surface water, 18°C, 33 psu **Isolator** Jo, MJ (2012-12-27) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 454-460 (Ø) **Original No.** B-1127
- Coscinodiscus* sp.
- 0994 Sampling** 2001-04-05, South Sea (35°03' N, 129°16' E), open sea, middle water, 15°C **Isolator** Lee, GA (2002-06-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 94-180 (Ø) **Original No.** B-610
- 1323 Sampling** 2005-09-02, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), surface water, 25°C, 29 psu **Isolator** Jeong, EH (2006-11-22) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 133-141 (Ø) **Original No.** B-804
- 1324 Sampling** 2006-07-01, Ullengdo/Gyeongbuk (37°27'22" N, 130°44'56" E), open sea, surface water, 21°C **Isolator** Jeong, EH (2006-11-22) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 149-151 (Ø) **Original No.** B-807
- 1574 Sampling** 2009-11-19, Namcheon Bay/Busan (35°08'14" N, 129°06'49" E), coast, surface water, 15°C, 32 psu **Isolator** Jo, MJ (2010-01-12) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 72-78 (Ø) **Original No.** B-950
- 1677 Sampling** 2004-08-03, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Jeong, EH (2005-12-23) **Identifier** Hur, SB **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 108-130 (Ø) **Original No.** B-688
- 1828 Sampling** 2008-12-08, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 13°C, 33 psu **Isolator** Jo, MJ (2009-02-19) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 93-98 (Ø) **Original No.** B-905
- 1914 Sampling** 2012-01-30, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 11°C, 34 psu **Isolator** Jo, MJ (2012-03-29) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 337-363 (Ø) **Original No.** B-1100
- COSINOSIRA*: Bacillariophyceae
Cosinosira sp.
- 1228 Sampling** 2005-06-30, Nakdong River/Busan (35°06'17" N, 128°53'42" E), estuary, surface water, 18°C 16 psu **Isolator** Jeong, EH (2005-09-01) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2-E, 20°C, 15 psu, 40 PPF, 2 M **Size (µm)** 13-20 (L), 5-10 (W) **Original No.** EB-36
- COSMARIUM*: Chlorophyceae
Cosmarium contractum Kirchner
Syn. *Cosmarium contractum* f. *jacobsenii* (J. Ray) West & G. S. West
- 1851 Sampling** 2011-06-07, Seogwipo/Jeju (33°22'08" N, 126°41'36" E), swamp, surface water, 24°C **Isolator** Jo, MJ (2011-11-09) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** JM, 20°C, 0 psu, 60 PPF, 1 M **Size (µm)** 34-40 (L), 24-29 (W) **Original No.** FC-199
- Cosmarium galeritum* var. *minus* Wille
- 1538 Sampling** 2009-07-17, Namgu/Busan (35°07'56" N, 129°06'06" E), pond, surface water **Isolator** Jo, MJ (2009-10-16) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 25-26 (L), 5-7 (W) **Original No.** FC-163

Cosmarium humile var. *striatum* (Boldt) Schmidle

Syn. *Cosmarium striatum* Boldt

2001 Sampling 2012-10-17, Seogwipo/Jeju (33°15'29" N, 126°16'41" E), pond, surface water, 20°C **Isolator** Jo, MJ (2012-12-27) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** JM-agar, JM, 20°C, 0 psu, 60 PPF, 1 M **Size (µm)** 33-35 (L), 25-26 (W) **Original No.** FC-241

Cosmarium lundellii var. *circular* (Reinsch) Krieger

2197 Sampling 2013-09-30, Gyeongju/Gyeongbuk (35°46'04" N, 129°13'25" E), swamp, surface water, 21°C **Isolator** Jo, MJ (2014-02-17) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 0 psu, 20 PPF, 1 M **Size (µm)** 68-73 (L), 52-57 (W) **Original No.** FC-261

Cosmarium turgidum Brébisson

2089 Sampling 2012-07-25, Upo/Gyeongnam (35°32'53" N, 128°24'25" E), swamp, surface water, 30°C **Isolator** Jo, MJ (2013-03-12) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** JM-agar, JM, 20°C, 0 psu, 60 PPF, 1 M **Size (µm)** 167-182 (L), 69-76 (W) **Original No.** FC-244

2153 Sampling 2013-03-18, Batangas Taql, Pilippines (14°02'55" N, 120°59'10" E), lake, surface water, 22°C, 1 psu **Isolator** Jo, MJ (2013-09-25) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 20°C, 0 psu, 40 PPF, 1 M **Size (µm)** 158-225 (L), 68-79 (W) **Original No.** FC-253

Cosmarium sp.

1229 Sampling 2005-06-30, Nakdong River/Busan (35°06'17" N, 128°53'42" E), surface water, 20°C **Isolator** Jeong, EH (2005-09-01) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 42-50 (L), 31-38 (W) **Gene data** 18S rRNA (JQ315530) **Original No.** FC-108

1931 Sampling 2012-02-26, Gusan/Jeonbuk (35°57'02" N, 126°41'37" E), reservoir, surface water, 8°C **Isolator** Jo, MJ (2012-05-31) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** JM-agar, JM, 18°C, 0 psu, 60 PPF, 1 M **Size (µm)** 15-17 (L), 11-14 (W) **Original No.** FC-216

CHROOMONAS: Cryptophyceae

Chroomonas sp.

1898 Sampling 2011-12-15, Tongyeong/Gyeongnam (34°50'18" N, 128°25'04" E), coast, surface water,

11°C, 32 psu **Isolator** Jo, MJ (2012-02-08) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 10-11 (L), 4-6 (W) **Original No.** Cr-34

CRUCIGENIA: Chlorophyceae

Crucigenia quadrata Morren

Syn. *Crucigenia quadrata* (Morren) Gaillon

1990 Sampling 2012-10-17, Hallim/Jeju (33°17'39" N, 126°13'59" E), swamp, surface water, 19°C **Isolator** Jo, MJ (2012-12-27) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 20°C, 0 psu, 60 PPF, 1 M **Size (µm)** 9-11 (L), 6-8 (W) **Original No.** FC-238

CRYPTOMONAS: Cryptophyceae

Cryptomonas erosa Ehrenberg

Syn. *Cryptoglena erosa* (Ehrenberg) T. G. Popova

1485 Sampling 2009-01-06, Namgu/Busan (35°07'56" N, 129°06'06" E), pond, surface water, 8°C **Isolator** Jo, MJ (2009-02-19) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 20°C, 0 psu, 40 PPF, 1 M **Size (µm)** 17-22 (L), 9-12 (W) **Original No.** FCr-2

1679 Sampling 2009-07-17, Namgu/Busan (35°07'56" N, 129°06'06" E), pond, surface water **Isolator** Jo, MJ (2009-10-26) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 20°C, 0 psu, 40 PPF, 1 M **Size (µm)** 18-22 (L), 10-14 (W) **Original No.** FCr-4

1908 Sampling 2012-02-27, Gunsan/Jeonbuk (35°57'02" N, 126°41'37" E), reservoir, surface water, 3°C **Isolator** Jo, MJ (2012-03-29) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 20°C, 0 psu, 40 PPF, 1 M **Size (µm)** 13-19 (L), 8-11 (W) **Original No.** FCr-6

Cryptomonas ovata var. *palustris* E. G. Prinsheim

0011 Source UTEX 358 (1985-12-03) **States** axenic, agar, liquid, cryopreserved **Culture** LDM, JM, 20°C, 0 psu, 40 PPF, 1 M **Size (µm)** 5-15 (L), 7-10 (W) **Original No.** FCr-1 **References** 13, 55

Cryptomonas sp.

1302 Sampling 2006-03-16, Jinhae Bay/Gyeongnam (35°08'35" N, 128°40'58" E), coast, surface water, 35 psu **Isolator** Jeong, EH (2006-07-10) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 10-13 (L), 5-7 (W) **Original No.** Cr-6

1303 Sampling 2006-03-16, Jinhae Bay/Gyeongnam (35°08'35" N, 128°40'58" E), coast, surface water,

- 35 psu **Isolator** Jeong, EH (2006-07-10) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 10-12 (L), 6-8 (W) **Original No.** Cr-7
- 1304 Sampling** 2006-04-13, Jinhae Bay/Gyeongnam (35°08'35" N, 128°40'58" E), coast, surface water, 30 psu **Isolator** Jeong, EH (2006-07-10) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 7-13 (L), 5-8 (W) **Original No.** Cr-8
- 1499 Sampling** 2008-07-10, Gwangalli/Busan (35°08'47" N, 129°06'56" E), coast, surface water, 23°C, 26 psu **Isolator** Jo, MJ (2009-05-26) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 9-11 (L), 3-4 (W) **Original No.** Cr-17
- 1762 Sampling** 2011-02-22, Mankyeong River/Jeonbuk (35°53'53" N, 127°3'40" E), coast, surface water, 8°C (2011-03-31) **Isolator** Jo, MJ **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 20°C, 0 psu, 40 PPF, 1 M **Size (µm)** 20-25 (L), 10-14 (W) **Original No.** FCr-5
- CYANOBIUM:** Cyanophyceae
Cyanobium sp.
- 1295 Sampling** 2005-12-01, Yeosu/Jeonnam (34°45'07" N, 127°39'33" E), coast, surface water, 12°C, 32 psu (2006-05-09) **Isolator** Jeong, EH **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 1 (Ø) **Original No.** Cy-48
- CYCLOTELLA:** Bacillariophyceae
Cyclotella choctawhatcheeana Prasad
- 0112 Sampling** 1995-12-26, Hwajinpo/Gangwon (38°28'59" N, 128°25'54" E), lagoon, surface water, 15 psu **Isolator** Hur, SB (1996-04-17) **Identifier** Lee, JH **States** axenic, agar, liquid, cryopreserved **Culture** f/2-E, 20°C, 15 psu, 40 PPF, 2 M **Size (µm)** 5-7 (Ø) **Original No.** EB-1
- 0611 Sampling** 1995-11-01, Hwajinpo/Gangwon (38°28'59" N, 128°25'54" E), lagoon, surface water **Isolator** Hur, SB (1996-03-18) **Identifier** Lee, JH **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 3-5 (Ø) **Original No.** B-97 **References** 115
- 0728 Sampling** 1995-12-04, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 9°C **Isolator** Hur, SB (1996-04-17) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 5-7 (Ø) **Original No.** B-124
- 0729 Sampling** 1995-12-04, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 9°C **Isolator** Hur, SB (1996-04-17) **Identifier** Lee, JH **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 3-5 (Ø) **Original No.** B-133
- Cyclotella littoralis* Lange & Syvertsen
- 0786 Sampling** 1996-10-08, Yokjido/Gyeongnam (34°38'30" N, 128°16'22" E), coast, surface water, 19°C **Isolator** Hur, SB (1997-01-22) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 3-8 (Ø) **Original No.** B-214 **References** 165
- Cyclotella meneghiniana* Kützing
- 0264 Sampling** 1999-10-01, Hansando/Gyeongnam (34°46'07" N, 128°30'47" E), coast, surface water **Isolator** Lee, GA (1999-12-22) **Identifier** Lee, JH **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 3-8 (Ø) **Original No.** B-407 **References** 165
- 0531 Sampling** 2001-03-29, Buan/Jeonbuk (35°35'31" N, 126°37'30" E), coast, mud, 9°C **Isolator** Lee, GA (2001-08-27) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 8-10 (Ø) **Original No.** B-524
- 0680 Sampling** 1999-08-21, Jindong/Gyeongnam (35°06'09" N, 128°29'40" E), coast, surface water **Isolator** Lee, GA (2000-01-20) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 5-10 (Ø) **Original No.** B-387
- 1230 Sampling** 2005-04-08, Nakdong River/Busan (35°06'17" N, 128°53'42" E), estuary, surface water, 14°C, 17 psu **Isolator** Jeong, EH (2005-09-01) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2-E, 20°C, 15 psu, 40 PPF, 2 M **Size (µm)** 6-10 (L), 5-9 (W) **Original No.** EB-38
- Cyclotella striata* (Kützing) Grunow
Syn. *Coscinodiscus striatus* Kützing
- 0450 Sampling** 1999-09-27, Namhae/Gyeongnam (34°42'47" N, 127°59'13" E), coast, surface water, 26°C **Isolator** Lee, GA (2001-02-07) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 5-10 (Ø) **Original No.** B-402
- 0681 Sampling** 1999-08-18, Pohang/Gyeongbuk (35°59'58" N, 129°26'16" E), coast, surface water,

25°C **Isolator** Lee, GA (2000-01-20) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 5-10 (Ø) **Original No.** B-379

- 0682 Sampling** 1999-09-13, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 28°C, 27 psu **Isolator** Lee, GA (2000-01-30) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 5-10 (Ø) **Original No.** B-392
- 0832 Sampling** 1999-03-22, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 8°C, 31 psu **Isolator** Lee, GA (1999-06-30) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 5-13 (Ø) **Original No.** B-260 **References** 161, 165
- 1759 Sampling** 2010-10-04, Nakdong River/Busan (35°06'17" N, 128°53'42" E), estuary, surface water, 20°C, 14 psu **Isolator** Jo, MJ (2011-02-08) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2-E, 20°C, 15 psu, 40 PPF, 1 M **Size (µm)** 32-39 (L), 10-17 (W) **Original No.** EB-50

Cyclotella sp.

- 0181 Sampling** 1996-09-02, Jinhae Bay/Gyeongnam (35°08'35" N, 128°40'58" E), coast, surface water, 23°C **Isolator** Hur, SB (1997-03-07) **Identifier** Lee, SG **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 6-8 (L), 3-4 (W) **Original No.** B-1109
- 0286 Sampling** 1999-10-23, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 20°C, 29 psu **Isolator** Hur, SB (2000-01-15) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 3-8 (Ø) **Original No.** B-421
- 0730 Sampling** 1996-02-08, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 6°C, 33 psu **Isolator** Hur, SB (1996-07-15) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 3-8 (Ø) **Original No.** B-147 **References** 165
- 0787 Sampling** 1995-12-04, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 9°C, 30 psu **Isolator** Hur, SB (1996-04-17) **Identifier** Lee, JH **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 5-10 (Ø) **Original No.** B-196
- 1305 Sampling** 2006-05-02, East Sea (35°51' N, 129°43' E), open sea, surface water, 11°C, 30 psu **Isolator** Jeong, EH (2006-07-10) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 5 (Ø) **Original No.** B-775
- CYLINDROTHECA:** Bacillariophyceae
Cylindrotheca closterium (Ehrenberg) Reimann et Levin
Syn. *Ceratoneis closterium* Ehrenberg
- 0446 Sampling** 2000-08-07, Goseong/Gangwon (38°25'25" N, 128°28'03" E), coast, surface water, 26°C **Isolator** Lee, GA (2000-12-01) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 195-222 (L), 4-5 (W) **Gene data** 18S rRNA (GQ468543) **Original No.** B-522 **References** 110
- 0452 Sampling** 2000-11-06, Yangyang/Gangwon (38°04'34" N, 128°40'40" E), coast, surface water, 16°C **Isolator** Lee, GA (2001-02-26) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 214-239 (L), 3-6 (W) **Gene data** 18S rRNA (GQ468544) **Original No.** B-538
- 0481 Sampling** 2001-02-01, Incheon Pier/Incheon (37°23'11" N, 126°36'53" E), coast, surface water, 10°C **Isolator** Lee, GA (2001-06-26) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 31-35 (L), 3-4 (W) **Gene data** 18S rRNA (GQ468545) **Original No.** B-552
- 0612 Sampling** 1985-12-04, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water **Isolator** Hur, SB (1986-08-02) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 89-121 (L), 3-5 (W) **Gene data** 18S rRNA (GQ468529) **Original No.** B-9 **References** 12, 13, 25, 28, 67, 69, 76, 110
- 0613 Sampling** 1986-11-01, Oido/Incheon (37°20'48" N, 126°40'57" E), salt farm, surface water **Isolator** Hur, SB (1987-04-29) **Identifier** Lee, SG **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 28-30 (L), 2-3, (W) **Gene data** 18S rRNA (GQ468530) **Original No.** B-12 **References** 10, 13, 78, 92, 93
- 0614 Sampling** 1994-08-01, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 28°C **Isolator** Hur, SB (1996-03-27) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 102-116 (L), 4-5 (W) **Gene data** 18S rRNA (GQ468531) **Original No.** B-62 **References** 117
- 0615 Sampling** 1994-08-01, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water,

- 28°C **Isolator** Hur, SB (1996-03-27) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 131-158 (L), 4-5 (W) **Gene data** 18S rRNA (GQ468532) **Original No.** B-63
- 0616 Sampling** 1995-11-01, Gunsan/Jeonbuk (35°53'43" N, 126°40'57" E), salt farm, surface water **Isolator** Hur, SB (1996-03-18) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 109-137 (L), 3-4 (W) **Original No.** B-64
- 0617 Sampling** 1994-05-01, Namhae/Gyeongnam (34°42'47" N, 127°59'13" E), coast, surface water **Isolator** Hur, SB (1996-03-27) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 50-56 (L), 3-5 (W) **Gene data** 18S rRNA (GQ468533) **Original No.** B-72
- 0618 Sampling** 1995-08-01, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 27°C, 31 psu **Isolator** Hur, SB (1996-03-29) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 28-39 (L), 4-5 (W) **Gene data** 18S rRNA (GQ468534) **Original No.** B-68
- 0619 Sampling** 1995-03-21, Hadong/Gyeongnam (35°03'51" N, 127°44'27" E), coast, surface water **Isolator** Hur, SB (1995-10-03) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 27-31 (L), 3-5 (W) **Gene data** 18S rRNA (GQ468535) **Original No.** B-110
- 0620 Sampling** 1995-05-13, Namhae/Gyeongnam (34°42'47" N, 127°59'13" E), coast, surface water, 14°C **Isolator** Hur, SB (1996-03-18) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 61-74 (L), 4-5 (W) **Gene data** 18S rRNA (GQ468536) **Original No.** B-119
- 0653 Sampling** 1999-05-19, Hyungjedo/Jeonnam (34°16'13" N, 127°00'35" E), coast, surface water, 16°C **Isolator** Lee, GA (1999-08-09) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 19-28 (L), 3-5 (W) **Gene data** 18S rRNA (GQ468540) **Original No.** B-346
- 0683 Sampling** 1999-05-19, Hyungjedo/Jeonnam (34°16'13" N, 127°00'35" E), coast, surface water, 16°C **Isolator** Lee, GA (1999-08-09) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 24-27 (L), 3-5 (W) **Gene data** 18S rRNA (GQ468541) **Original No.** B-353
- 0684 Sampling** 1999-07-19, Ulsan (35°31'01" N, 129°22'44" E), coast, surface water, 22°C **Isolator** Lee, GA (1999-11-11) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 30-45 (L), 4-6 (W) **Gene data** 18S rRNA (GQ468542) **Original No.** B-361
- 0731 Sampling** 1996-01-23, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 7°C, 33 psu **Isolator** Hur, SB (1996-10-30) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 15-20 (L), 8-11 (W) **Gene data** 18S rRNA (GQ468537) **Original No.** B-127
- 0732 Sampling** 1996-01-23, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 7°C, 33 psu **Isolator** Hur, SB (1996-10-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 23-25 (L), 3-5 (W) **Gene data** 18S rRNA (GQ468538) **Original No.** B-142
- 0733 Sampling** 1996-02-23, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 6°C, 33 psu **Isolator** Hur, SB (1996-10-30) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 53-64 (L), 5-6 (W) **Original No.** B-148
- 0788 Sampling** 1996-04-20, Namhae/Gyeongnam (34°42'47" N, 127°59'13" E), coast, surface water **Isolator** Hur, SB (1996-10-15) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 50-53 (L), 3-4 (W) **Gene data** 18S rRNA (GQ468546) **Original No.** B-181
- 0789 Sampling** 1996-09-19, Gaduckdo/Gyeongnam (35°01'41" N, 128°48'50" E), coast, surface water **Isolator** Hur, SB (1997-01-22) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 16-25 (L), 3-4 (W) **Original No.** B-209
- 1026 Sampling** 2001-10-31, West Sea (35°02' N, 125°29' E), open sea, middle water, 18°C **Isolator** Lee, GA (2002-12-20) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 20-30 (L), 4-5 (W) **Original No.** B-639
- 1027 Sampling** 2002-05-01, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 19°C **Isolator** Lee, GA (2002-12-20) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 20-35 (L), 4-5 (W) **Gene**

- data** 18S rRNA (GQ468546) **Original No.** B-645
- 1285 Sampling** 2006-02-01, Nakdong River/Busan (35°06'17" N, 128°53'42" E), estuary, surface water, 2°C, 17 psu **Isolator** Jeong, EH (2006-05-09) **Identifier** Lee, JH **States** non-axenic, liquid, cryopreserved **Culture** f/2-E, 15°C, 15 psu, 20 PPF, 2 M **Size (µm)** 45-55 (L), 4-6 (W) **Original No.** EB-41
- 1547 Sampling** 2009-09-25, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 34°C, 32 psu **Isolator** Jo, MJ (2009-10-26) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 155-162 (L), 5-7 (W) **Original No.** B-927
- 2097 Source** KIOST **Sampling** 2012-11-22, Chuuk, Micronesia (07°27'06" N, 151°53'42" E), coast, surface water, 30°C, 27 psu **Isolator** Jo, MJ (2013-03-12) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 1 M **Size (µm)** 39-41 (L), 3-5 (W) **Original No.** B-1139 **Remarks** high °C sp.

Cylindrotheca fusiformis Reimann & J. C. Lewin

- 0022 Source** SERI-S/Phaeo-1 (1986-06-17) **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 18-38 (L), 3-5 (W) **Original No.** B-13 **References** 2, 4, 7, 10, 13, 16, 24, 25, 28, 32, 67, 69, 76, 81, 84, 110
- 0287 Sampling** 1999-10-13, East Sea (37°53' N, 129°45' E), open sea, surface water, 19°C **Isolator** Lee, GA (2000-01-15) **Identifier** Lee, JH **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 53-61 (L), 4-5 (W) **Original No.** B-412
- 0621 Sampling** 1995-07-30, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 26°C, 33 psu **Isolator** Hur, SB (1996-03-29) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 80-100 (L), 3-5 (W) **Original No.** B-111
- 0654 Sampling** 1999-03-22, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 8°C, 30 psu **Isolator** Lee, GA (1999-10-26) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 109-132 (L), 5-7 (W) **Original No.** B-289
- 0655 Sampling** 1998-12-31, Jindong/Gyeongnam (35°06'09" N, 128°29'40" E), coast, surface water **Isolator** Lee, GA (1999-07-16) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 63-175 (L), 4-6 (W) **Original No.** B-303
- 0940 Sampling** 1995-07-01, Anmyundo/Chungnam

(36°34'56" N, 126°22'17" E), salt farm, surface water **Isolator** Hur, SB (1996-03-29) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 79-96 (L), 3-5 (W) **Original No.** B-84 **References** 110

- 1325 Sampling** 2006-07-01, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), estuary, surface water, 27°C, 16 psu **Isolator** Jeong, EH (2006-11-22) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM-E, f/2-E, 15°C, 15 psu, 40 PPF, 2 M **Size (µm)** 55-60 (L), 4-5 (W) **Original No.** EB-42

Cylindrotheca sp.

- 1286 Sampling** 2006-04-01, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 12°C, 30 psu **Isolator** Jeong, EH (2006-05-09) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 115-120 (L), 6-10 (W) **Original No.** B-772

CYMATOSIRA: Bacillariophyceae

Cymatosira lorenziana Grunow

- 0288 Sampling** 1999-10-28, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 17°C **Isolator** Lee, GA (2000-01-15) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 18-25 (L), 5-8 (W) **Original No.** B-432
- 0333 Sampling** 1999-11-04, Incheon (37°23'11" N, 126°36'53" E), coast, surface water, 12°C **Isolator** Lee, GA (2000-02-04) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 18-26 (L), 5-9 (W) **Original No.** B-471
- 0334 Sampling** 1999-11-20, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 13°C, 31 psu **Isolator** Lee, GA (2000-02-07) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 10-15 (L), 5-6 (W) **Original No.** B-453
- 0379 Sampling** 2000-01-04, Ganggu/Gyeongbuk (36°21'32" N, 129°23'23" E), coast, surface water, 9°C **Isolator** Lee, GA (2000-03-20) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 10-20 (L), 5-7 (W) **Original No.** B-474
- 0418 Sampling** 2000-02-07, Uljin/Gyeongbuk (36°57'28" N, 129°25'00" E), coast, substratum, 8°C **Isolator** Lee, GA (2000-05-10) **Identifier** Lee, JH **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 5-13 (L), 3-5 (W) **Original No.** B-483

- 0532 Sampling** 2001-03-29, Buan/Jeonbuk (35°35'31" N, 126°37'30" E), coast, mud, 10°C, 30 psu **Isolator** Lee, GA (2001-08-27) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 4-9 (L), 4-7 (W) **Original No.** B-542
- 0685 Sampling** 1999-09-13, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 27°C, 30 psu **Isolator** Lee, GA (1999-06-30) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 5-10 (L), 4-5 (W) **Original No.** B-395
- 0790 Sampling** 1999-02-24, Yeosu/Jeonnam (34°45'07" N, 127°39'33" E), coast, surface water, 10°C **Isolator** Lee, GA (2001-10-24) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 5-6 (L), 4-5 (W) **Original No.** B-273
- 0995 Sampling** 2001-08-30, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 27°C **Isolator** Lee, GA (2002-06-24) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 3-5 (L), 2-3 (W) **Original No.** B-616

CYMBELLA: Bacillariophyceae*Cymbella tumida* (Brébisson) van Heurck

- 2084 Sampling** 2012-10-17, Aewol/Jeju (33°28'16" N, 126°25'37" E), reservoir, surface water, 20°C **Isolator** Jo, MJ (2013-3-12) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 20°C, 0 psu, 20 PPF, 1 M **Size (µm)** 58-61 (L), 20-23(W) **Original No.** FB-68

Cymbella sp.

- 0901 Sampling** 1986-12-15, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Hur, SB (1987-04-29) **Identifier** Lee, SG **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 13-16 (L), 5-6 (W) **Original No.** B-40 **References** 13
- 1129 Sampling** 2003-05-01, Haeundae/Busan (35°09'55" N, 129°07'34" E), estuary, substratum, 19°C, 17 psu **Isolator** Lee, GA (2004-12-01) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2-E, 20°C, 15 psu, 20 PPF, 2 M **Size (µm)** 5-14 (L), 3-6 (W) **Original No.** EB-32

DACTYLIOSOLEN: Bacillariophyceae*Dactyliosolen blavyanus* (H. Peragallo) HasleSyn. *Guinardia blavyana* H. Peragallo

- 1728 Sampling** 2010-10-04, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 21°C, 28 psu **Isolator** Jo, MJ (2010-11-30) **Identifier**

Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 63-150 (L), 30-31 (W) **Original No.** B-1028**DACTYLOCOCCOPSIS:** Cyanophyceae*Dactylococcopsis raphidioides* HansgirgSyn. *Keratococcus raphidioides* (Hansgirg) Pascher

- 1252 Sampling** 2005-03-30, Upo/Gyeongnam (35°32'53" N, 128°24'25" E), swamp, surface water, 14°C **Isolator** Jeong, EH (2006-01-17) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 20°C, 0 psu, 40 PPF, 1 M **Size (µm)** 22-29 (L), 2-3 (W) **Original No.** FCy-13

Dactylococcopsis rupestris Hansgirg

- 0340 Sampling** 1999-08-12, Namgu/Busan (35°07'56" N, 129°06'06" E), pond, surface water, 27°C **Isolator** Lee, GA (2000-02-11) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 13-18 (L), 2-5 (W) **Original No.** FCy-38

DESMIDIUM: Chlorophyceae*Desmidium swartzii* C. Agardh ex RalfsSyn. *Desmidium swartzii* var. *quadrangulatum* (Ralfs) J. Roy

- 1975 Sampling** 2012-07-25, Changnyeong/Gyeongnam (35°25'49" N, 128°29'29" E), swamp, surface water, 38°C **Isolator** Jo, MJ (2012-10-23) **Identifier** Hur, SB **States** axenic, aga, liquid **Culture** JM-agar, JM, 20°C, 0 psu, 60 PPF, 1 M **Size (µm)** 15-18 (L), 27-29 (W) **Original No.** FC-234

DETONULA: Bacillariophyceae*Detonula pumila* (Castracane) SchüttSyn. *Lauderia pumila* Castracane

- 1407 Sampling** 2008-07-02, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 22°C, 34 psu **Isolator** Jeong, EH (2008-09-01) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 30-32 (L), 14-20 (W) **Original No.** B-851

DIATOMA: Bacillariophyceae*Diatoma hyalina* Kützing

- 1486 Sampling** 2009-01-13, Geomundo/Jeonnam (34°02'42" N, 127°17'49" E), coast, surface water, 15°C, 34 psu **Isolator** Jo, MJ (2009-02-19) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)**

47-49 (L), 14-18 (W) **Original No.** B-910

Diatoma sp.

2167 Source KIOST **Sampling** 2013-10-23, Kosrae, Micronesia (05°19'06" N, 163°00'20" E), reservoir, surface water, 28°C **Isolator** Jo, MJ (2013-12-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 0 psu, 20 PPF, 1 M **Size (µm)** 123-127 (L), 19-23 (W) **Original No.** FB-72 **Remarks** high °C sp.

2175 Source KIOST **Sampling** 2013-10-22, Kosrae, Micronesia (05°19'03" N, 162°56'42" E), coast, surface water, 30°C, 30 psu **Isolator** Jo, MJ (2013-12-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 68-72 (L), 9-15 (W) **Original No.** B-1175 **Remarks** high °C sp.

DICTYOSPHAERIUM: Chlorophyceae

Dictyosphaerium pulchellum Wood

Syn. *Mucidosphaerium pulchellum* (H. C. Wood) C. Bock, Proschold & Krienitz

1604 Sampling 2010-02-19, Nakdong River/Busan (35°06'17" N, 128°53'42" E), surface water, 4°C **Isolator** Jo, MJ (2010-03-17) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 9-12 (Ø) **Original No.** FC-166

1770 Sampling 2011-02-22, Mankyeong River/Jeonbuk (35°53'53" N, 127°3'40" E), surface water, 8°C **Isolator** Jo, MJ (2011-03-31) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 1 M **Size (µm)** 5-7 (Ø) **Original No.** FC-178

Dictyosphaerium sp.

1510 Source Kunsan Univ. (MANK 2-42) **Sampling** Geumgang river/Jeonbuk, surface water (2009-07-30) **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 7-8 (Ø) **Original No.** FC-144

DIMORPHOCOCCUS: Chlorophyceae

Dimorphococcus lunatus Braun

1968 Sampling 2012-07-25, Upo/Gyeongnam (35°32'53" N, 128°24'25" E), swamp, 32°C **Isolator** Jo, MJ (2012-10-23) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 20°C, 0 psu, 60 PPF, 1 M **Size (µm)** 12-17 (L), 6-9 (W) **Original No.** FC-228

2158 Sampling 2013-10-10, Sangju/Gyeongbuk (36°30'46" N, 128°09'49" E), reservoir, surface water, 21°C **Isolator** Jo, MJ (2013-12-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 20°C, 0 psu, 40 PPF, 1 M **Size (µm)** 15-17 (L), 7-10 (W) **Original No.** FC-256

DIPLONEIS: Bacillariophyceae

Diploneis littoralis (Donkin) Cleve

Syn. *Navicula littoralis* Donkin

1953 Source Hanyang Univ. (HYGC-1005-F1) **Sampling** 2010-05-21, Gijang/Busan (35°19'33" N, 129°16'44" E), coast, surface water (2012-07-17) **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 40 PPF, 1 M **Size (µm)** 13-15 (L), 6-7 (W) **Original No.** B-1113

Diploneis sp.

1369 Sampling 2006-10-01, Buan/Jeonbuk (35°35'27" N, 126°37'11" E), salt farm, 19°C, 6 psu **Isolator** Jeong, EH (2007-03-22) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2-E, 20°C, 15 psu, 40 PPF, 2 M **Size (µm)** 49-53 (L), 14-20 (W) **Original No.** EB-45

DISSODINIUM: Dinophyceae

Dissodinium bicorne (Kofoid & Swezy)

Syn. *Gymnodinium bicorne* Kofoid & Swezy

1757 Sampling 2010-12-07, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 12°C, 34 psu **Isolator** Jo, MJ (2011-02-08) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 80-106 (L), 36-47 (W) **Original No.** D-195

Dissodinium lunula (Schütt) Schütt

Syn. *Pyrocystis lunula* (J. Schütt) J. Schütt

1784 Sampling 2010-11-04, Namcheon Bay/Busan (35°08'14" N, 129°06'49" E), coast, surface water, 18°C, 33 psu **Isolator** Jo, MJ (2011-05-11) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 177-200 (L), 51-59 (W) **Original No.** D-199

2204 Sampling 2014-01-18, Udo/Jeju (33°28'07" N, 126°57'08" E), open sea, surface water, 16°C, 33 psu **Isolator** Jo, MJ (2014-04-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 205-274 (L), 70-79 (W) **Original No.** D-287

DITYLUM: Bacillariophyceae*Ditylum brightwellii* (T. West) GrunowSyn. *Triceratium brightwellii* T. West

- 0686 Sampling** 1999-09-13, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 27°C, 29 psu **Isolator** Lee, GA (2000-01-30) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 25-130 (L), 15-40 (W) **Original No.** B-378 **References** 162, 163, 166
- 0833 Sampling** 1999-03-22, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 11°C, 30 psu **Isolator** Lee, GA (1999-06-30) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 15-40 (L), 8-14 (W) **Original No.** B-326 **References** 97, 110, 139
- 1370 Sampling** 2006-12-**, Jinhae Bay/Gyeongnam (35°08'35" N, 128°40'58" E), coast, surface water, 10°C, 33 psu **Isolator** Jeong, EH (2007-03-22) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 77-86 (L), 30-35 (W) **Original No.** B- 823

Ditylum sol Grunow

- 0656 Sampling** 1999-02-09, Jindong/Gyeongnam (35°06'09" N, 128°29'40" E), coast, surface water **Isolator** Lee, GA (1999-05-22) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 93-168 (L), 20-35 (W) **Original No.** B-309
- 0791 Sampling** 1998-12-24, Jindong/Gyeongnam (35°06'09" N, 128°29'40" E), coast, surface water **Isolator** Lee, GA (1999-07-16) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 73-128 (L), 20-35 (W) **Original No.** B-236
- 1268 Sampling** 2005-11-04, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 14°C, 28 psu **Isolator** Jeong, EH (2006-03-13) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 170-190 (L), 90-100 (W) **Original No.** B-759
- 1371 Sampling** 2007-01-**, East Sea (34°30' N, 129°44' E), coast, surface water, 15°C **Isolator** Jeong, EH (2007-03-22) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 85-110 (L), 60-70 (W) **Original No.** B-826
- 1576 Sampling** 2009-12-08, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 14°C, 34 psu **Isolator** Jo, MJ (2010-01-12) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu,

40 PPF, 1 M **Size (µm)** 108-130 (L), 142-154 (W) **Original No.** B-949*Ditylum* sp.

- 0657 Sampling** 1999-03-08, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 8°C, 31 psu **Isolator** Lee, GA (1999-06-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 95-133 (L), 20-40 (W) **Original No.** B-321

DIXONIELLA: Rhodophyceae*Dixonella grisea* (Geitler) J. L. Scott, S. T. Broadwater, B.

D. Saunders, J. P. Thomas & P. W. Gabrielson

Syn. *Porphyridium griseum* Geitler

- 1356 Source** CCMP 1916 (2007-01-23) **States** non-axenic, liquid, cryopreserved **Culture** L1, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 7-12 (Ø) **Original No.** Rh-4

DONKINIA: Bacillariophyceae*Donkinia recta* var. *intermedia* Peragallo

- 0301 Sampling** 1999-10-01, Geojedo/Gyeongnam (34°53'36" N, 128°43'43" E), coast, surface water, 24°C **Isolator** Lee, GA (2000-01-20) **Identifier** Lee, JH **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 15-40 (L), 5-8 (W) **Original No.** B-404

DUNALIELLA: Chlorophyceae*Dunaliella bardawil* Ben-Amotz & AvronSyn. *Dunaliella salina* (Dunal) Teodoresco

- 1346 Source** UTEX 2538 (2006-12-15) **States** non-axenic, liquid, cryopreserved **Culture** 2X-SW, 23°C, 60 psu, 60 PPF, 4 M **Size (µm)** 13-18 (Ø) **Gene data** 18S rRNA (JQ315779), *rbcL* (JQ315489) **Original No.** C-270 **Remarks** salt water, aquaculture, high protein and lipid, β-carotene

Dunaliella salina (Dunal) TeodorescoSyn. *Protococcus salinus* Dunal

- 1064 Source** CCAP 19/18 (2003-03-24) **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 60 PPF, 4 M **Size (µm)** 10-15 (L), 8-10 (W) **Gene data** 18S rRNA (JQ315780), *rbcL* (JQ315490) **Original No.** C-248 **References** 143, 155 **Remarks** salt water, aquaculture, high protein and lipid, β-carotene
- 1428 Sampling** 2008-08-13, Taean/Chungnam (36°45'23" N, 126°11'16" E), salt farm, surface water, 37°C **Isolator** Jeong, EH (2008-10-13) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2 + NaCl, 20°C,

50 psu, 60 PPF, 4 M **Size** (μm) 8-10 (\emptyset) **Gene data** 18S rRNA (JQ315781), *rbcl* (JQ315491) **Original No.** C-271 **Remarks** salt water, aquaculture, high protein and lipid, β -carotene

- 1511 **Sampling** 2009-05-04, Gadeokdo/Gyeongnam (35°1'41" N, 128°48'50" E), coast, surface water **Isolator** Jo, MJ (2009-07-30) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, SW-II, 20°C, 33 psu, 60 PPF, 4 M **Size** (μm) 11-14 (L), 6-8 (W) **Gene data** 18S rRNA (JQ315532) **Original No.** C-276 **Remarks** salt water, aquaculture, high protein and lipid, β -carotene

Dunaliella sp.

- 1074 **Sampling** 2004-02-07, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Park, SJ (2004-11-23) **Identifier** Lee, CG **States** non-axenic, liquid **Culture** f/2, 23°C, 33 psu, 60 PPF, 4 M **Size** (μm) 3-10 (L), 2-5 (W) **Gene data** 18S rRNA (JQ315533) **Original No.** C-265
- 1170 **Sampling** 2004-04-30, Haeundae/Busan (35°09'06" N, 129°09'07" E), intertidal zone, surface water, 16°C, 33 psu **Isolator** Park, SJ (2004-12-01) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 60 PPF, 1 M **Size** (μm) 13-19 (L), 7-13 (W) **Original No.** C-285
- 1384 **Sampling** 2006-07-**, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 28°C, 25 psu **Isolator** Jeong, EH (2007-03-22) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 60 PPF, 1 M **Size** (μm) 6-10 (L), 4-8 (W) **Original No.** C-286
- 1386 **Sampling** 2007-02-**, Jindong/Gyeongnam (35°06'09" N, 128°29'40" E), coast, surface water, 8°C, 33 psu **Isolator** Jeong, EH (2007-03-22) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 60 PPF, 1 M **Size** (μm) 10-13 (L), 2-4 (W) **Original No.** C-284
- 1909 **Sampling** 2012-02-26, Mankyeong River/Jeonbuk (35°53'53" N, 127°03'40" E), surface water, 8°C **Isolator** Jo, MJ (2012-03-29) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 20°C, 0 psu, 60 PPF, 1 M **Size** (μm) 14-19 (L), 12-17 (W) **Original No.** FC-210

ELAKATOTHRIX: Chlorophyceae

Elakatothrix gelatinosa Wille

- 2135 **Sampling** 2013-03-18, Batangas Taql, Pilippines (14°02'55" N, 120°59'10" E), lake, surface water, 22°C, 1 psu **Isolator** Jo, MJ (2013-08-28) **Identifier**

Hur, SB **States** non-axenic, liquid **Culture** JM, 23°C, 0 psu, 40 PPF, 1 M **Size** (μm) 24-32 (L), 7-9 (W) **Original No.** FC-247

EMILIANIA: Haptophyceae

- Emiliania huxleyi* (Lohmann) W. W. Hay & H. P. Mohler
0437 **Source** CCMP 1280 (2000-07-01) **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 2 M **Size** (μm) 2-3 (\emptyset) **Gene data** 18S rRNA (HQ877901) **Original No.** H-18 **References** 66

EUCAMPIA: Bacillariophyceae

Eucampia cornuta (Cleve) Grunow

Syn. *Moelleria cornuta* Cleve

- 1326 **Sampling** 2006-07-01, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 24°C, 30 psu **Isolator** Jeong, EH (2006-11-22) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (μm) 36-53 (L), 24-26 (W) **Original No.** B-786

Eucampia zodiacus Ehrenberg

- 1327 **Sampling** 2006-07-01, Ulsan/Gyeongnam (35°27'48" N, 129°23'45" E), open sea, 21°C **Isolator** Jeong, EH (2006-11-22) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (μm) 40-61 (L), 31-35 (W) **Original No.** B-799
- 1459 **Sampling** 2008-11-04, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 17°C, 34 psu **Isolator** Jeong, EH (2008-12-04) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (μm) 68-70 (L), 9-16 (W) **Original No.** B-890
- 1577 **Sampling** 2009-12-02, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 15°C, 33 psu **Isolator** Jo, MJ (2010-01-12) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (μm) 58-60 (L), 21-30 (W) **Original No.** B-942

EUDORINA: Chlorophyceae

Eudorina elegans Ehrenberg

Syn. *Pandorina elegans* (Ehrenberg) Dujardin

- 1460 **Sampling** 2008-09-26, Nakdong River/Busan (35°06'17" N, 128°53'42" E), estuary, surface water, 23°C **Isolator** Jeong, EH (2008-12-04) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size** (μm) 29-52 (L), 24-39 (W) **Original No.** FC-132
- 1840 **Sampling** 2011-07-06, Nakdong River/Busan

(35°06'17" N, 128°53'42" E), estuary, surface water, 23°C, 3 psu **Isolator** Jo, MJ (2011-08-31) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 20°C, 0 psu, 60 PPF, 1 M **Size (µm)** 36-63 (L), 11-17 (W) **Original No.** FC-193

Eudorina unicocca G. M. Smith

Syn. *Eudorina elegans* Chodat

1253 Sampling 2005-10-04, Nakdong River/Busan (35°06'17" N, 128°53'42" E), surface water, 21°C **Isolator** Jeong, EH (2006-01-17) **Identifier** Hur, SB **State** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 27-43 (L), 6-10 (W) **Original No.** FC-110

Eudorina sp.

1278 Sampling 2005-10-11, Nakdong River/Busan (35°06'17" N, 128°53'42" E), surface water, 21°C **Isolator** Jeong, EH (2006-03-13) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 20°C, 0 psu, 60 PPF, 4 M **Size (µm)** 10-29 (Ø) **Original No.** FC-116

EUGLENA: Euglenophyceae

Euglena gracilis Klebs

1351 Source CCAP 1224/5Z (2007-01-22) **States** axenic, agar, liquid **Culture** JM + EG, EG, 20°C, 0 psu, 60 PPF, 1 M **Size (µm)** 45-55 (L), 6-10 (W) **Original No.** FEu-1

Euglena sp.

1487 Sampling 2008-12-08, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 13°C, 34 psu **Isolator** Jo, MJ (2009-02-19) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 60 PPF, 1 M **Size (µm)** 16-28 (L), 5-9 (W) **Original No.** Eu-12

EUTREPTIELLA: Euglenophyceae

Eutreptiella gymnastica Thronsen

1578 Sampling 2009-12-23, Namcheon Bay/Busan (35°08'14" N, 129°06'49" E), coast, surface water, 13°C, 34 psu **Isolator** Jo, MJ (2010-01-12) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 14-17 (L), 8-11 (W) **Original No.** Eu-17

Eutreptiella sp.

1618 Sampling 2010-04-06, Namcheon Bay/Busan (35°08'14" N, 129°06'49" E), coast, surface water,

14°C, 33 psu **Isolator** Jo, MJ (2010-04-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 17-22 (L), 7-10 (W) **Original No.** Eu-14

EXUVIAELLA: Dinophyceae

Exuviaella marina Cienkowski

Syn. *Prorocentrum lima* (Ehrenberg) F. Stein

1473 Sampling 2008-10-07, Ulleungdo/Gyeongbuk (37°29'44" N, 130°54'58" E), coast, surface water, 22°C, 34 psu **Isolator** Jo, MJ (2009-01-07) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 27-31 (L), 18-22 (W) **Original No.** D-173

FIBROCAPSA: Raphidophyceae

Fibrocapsa japonica S. Toriumi & H. Takano

Syn. *Chattonella japonica* (S. Toriumi & H. Takano) Loeblich III & K. E. Fine

1175 Sampling 1999-06-12, Yeosu/Jeonnam (34°45'07" N, 127°39'33" E), coast, surface water **Isolator** Park, SJ (2000-12-08) **Identifier** Lee, CG **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 10-16 (L), 5-10 (W) **Original No.** Ra-25 **Remarks** toxic

Fibrocapsa sp.

1130 Sampling 2004-05-12, Haeundae/Busan (35°09'06" N, 129°09'07" E), intertidal zone, surface water, 17°C, 33 psu **Isolator** Park, SJ (2004-12-01) **Identifier** Lee, CG **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 11-15 (L), 5-8 (W) **Original No.** Ra-24 **Remarks** toxic

FRAGILARIA: Bacillariophyceae

Fragilaria construens (Ehrenberg) Grunow

Syn. *Staurosira construens* Ehrenberg

2176 Source KIOST **Sampling** 2013-10-22, Kosrae, Micronesia (05°19'06" N, 163°00'20" E), coast, surface water, 28°C **Isolator** Jo, MJ (2013-12-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 18°C, 0 psu, 20 PPF, 1 M **Size (µm)** 25-27 (L), 10-13 (W) **Original No.** FB-74 **Remarks** high °C sp.

Fragilaria crotonensis Kitton

1698 Sampling 2010-02-19, Nakdong River (35°6'17" N, 128°53'42" E), surface water, 4°C, 1 psu **Isolator** Jo, MJ (2013-03-17) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 20°C, 0 psu, 20 PPF, 2 M **Size (µm)** 2-4 (L), 68-71 (W) **Original No.** FB-60

1945 Sampling 2012-05-16, Tamjin River/Jeonnam (34°39'37" N, 126°53'58" E), surface water, 21°C **Isolator** Jo, MJ (2012-07-17) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 18°C, 0 psu, 20 PPF, 1 M **Size (µm)** 39-41 (L), 4-5 (W) **Original No.** FB-66

Fragilaria pinnata Ehrenberg

Syn. *Staurosirella pinnata* (Ehrenberg) D. M. Williams & Round

0792 Sampling 1998-11-03, Jindong/Gyeongnam (35°06'09" N, 128°29'40" E), coast, surface water **Isolator** Lee, GA (1999-07-16) **Identifier** Lee, JH **States** non-axenic, liquid, cryopreserved **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 5-15 (L), 4-5 (W) **Original No.** B-242

0834 Sampling 1999-07-29, West Sea (37°48' N, 123°13' E), coast, surface water, 26°C **Isolator** Lee, GA (1999-11-11) **Identifier** Lee, JH **States** axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 5-10 (L), 3-5 (W) **Original No.** B-382

1206 Sampling 2003-05-01, Nakdong River/Busan (35°06'17" N, 128°53'42" E), estuary, substratum, 19°C, 17 psu **Isolator** Park, SJ (2005-03-10) **Identifier** Lee, JH **States** non-axenic, liquid, cryopreserved **Culture** f/2-E, 15°C, 15 psu, 20 PPF, 2 M **Size (µm)** 6-9 (L), 4-6 (W) **Original No.** EB-33

Fragilaria sp.

0281 Sampling 1999-10-23, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 18°C, 29 psu **Isolator** Lee, GA (2000-01-11) **Identifier** Hur, SB **States** axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 5-8 (L), 3-5 (W) **Original No.** B-420

0318 Sampling 1999-11-02, Jindong/Gyeongnam (35°06'09" N, 128°29'40" E), coast, surface water **Isolator** Lee, GA (2000-01-27) **Identifier** Hur, SB **States** axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 6-10 (L), 4-5 (W) **Original No.** B-439

0409 Sampling 2000-02-10, Hadong/Gyeongnam (35°03'51" N, 127°44'27" E), coast, surface water, 11°C **Isolator** Lee, GA (2000-04-25) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 5-10 (L), 3-6 (W) **Original No.** B-495

0410 Sampling 2000-01-30, Uljin/Gyeongbuk (36°57'28" N, 129°25'00" E), coast, surface water, 8°C **Isolator** Lee, GA (2000-04-30) **Identifier** Hur, SB **States** axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF,

3 M **Size (µm)** 8-13 (L), 4-5 (W) **Original No.** B-487
0430 Sampling 2000-01-11, Sokcho/Gangwon (38°11'39" N, 128°34'55" E), coast, surface water, 7°C **Isolator** Lee, GA (2000-06-02) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 8-10 (L), 2-3 (W) **Original No.** B-481

0432 Sampling 2000-03-11, Ulsan/Gyeongnam (35°31'01" N, 129°22'44" E), coast, surface water, 13°C **Isolator** Lee, GA (2000-06-07) **Identifier** Hur, SB **States** axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 5-8 (L), 3-5 (W) **Original No.** B-496

0453 Sampling 2000-11-06, Yangyang/Gangwon (38°04'34" N, 128°40'40" E), coast, surface water, 16°C **Isolator** Lee, GA (2001-02-26) **Identifier** Hur, SB **States** axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 3-8 (L), 4-5 (W) **Original No.** B-545 **References** 122

0461 Sampling 1999-02-25, Haeundae/Busan (35°09'55" N, 129°07'34" E), estuary, surface water, 12°C **Isolator** Lee, GA (2001-03-26) **Identifier** Hur, SB **States** axenic, liquid, cryopreserved **Culture** f/2-E, 20°C, 15 psu, 20 PPF, 2 M **Size (µm)** 28-38 (L), 5-9 (W) **Original No.** EB-11

1028 Sampling 2001-10-31, West Sea (37°11' N 123°47' E), open sea, middle water, 18°C **Isolator** Lee, GA (2002-12-20) **Identifier** Hur, SB **States** axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 4-8 (L), 3-5 (W) **Original No.** B-649

1029 Sampling 2001-03-01, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 14°C **Isolator** Lee, GA (2002-12-20) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 8-10 (L), 4-5 (W) **Original No.** B-652

1287 Sampling 2006-02-02, Upo/Gyeongnam (35°32'53" N, 128°24'25" E), swamp, surface water, 11°C **Isolator** Jeong, EH (2006-5-09) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** JM, 20°C, 0 psu, 20 PPF, 2 M **Size (µm)** 45 (L), 4-5 (W) **Original No.** FB-53

1400 Sampling 2007-04-04, South sea (34°07'98" N, 128°40'93" E), coast, surface water, 14°C, 33 psu **Isolator** Jeong, EH (2008-06-23) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 35 (L), 8 (W) **Original No.** B-842

1408 Sampling 2008-07-10, Gwangalli/Busan (35°09'03" N, 129°07'11" E), coast, surface water, 25°C, 25 psu **Isolator** Jeong, EH (2008-09-01) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu,

20 PPF, 3 M Size (μm) 7-9 (L), 6-7 (W) **Original No.** B-860

2090 Source KIOST **Sampling** 2012-11-19, Chuuk, Micronesia (07°38'55" N, 151°53'15" E), open sea, surface water, 30°C, 35 psu **Isolator** Jo, MJ (2013-03-12) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size** (μm) 7-9 (L), 6-7 (W) **Original No.** B-1134 **Remarks** high °C sp.

FREMYELLA: Cyanophyceae

Fremyella diplosiphon (Gomont ex Bornet & Flahault) Drouet

1352 Source CCAP 1429/1 (2007-01-22) **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, SES, 20°C, 0 psu, 40 PPF, 1 M **Size** (μm) 9-13 (L), 3-6 (W) **Original No.** FCy-15

GAMBIERDISCUS: Dinophyceae

Gambierdiscus sp.

2010 Source Kunsan Univ. (KNU GS-110201) **Sampling** 2011-02-25, Seongsan/Jeju (33°27'38" N, 126°56'03" E), coast, surface water, 14°C, 34 psu (2013-01-02) **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size** (μm) 75-82 (L), 60-76 (W) **Original No.** D-221

2011 Source Kunsan Univ. (KNUTP GS-111001) **Sampling** 2011-10-29, Seongsan/Jeju (33°27'38" N, 126°56'03" E), coast, surface water, 14°C, 34 psu (2013-01-02) **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size** (μm) 72-80 (L), 57-74 (W) **Original No.** D-222

2012 Source Kunsan Univ. (KNUTP GS-111002) **Sampling** 2011-10-29, Seongsan/Jeju (33°27'38" N, 126°56'03" E), coast, surface water, 14°C, 34 psu (2013-01-02) **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size** (μm) 74-83 (L), 58-76 (W) **Original No.** D-223

GLENODINIUM: Dinophyceae

Glenodinium gymnodium Penard

Syn. *Peridiniopsis polonica* (Woloszynska) Bourrelly

1649 Sampling 2010-05-13, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 18°C, 25 psu **Isolator** Jo, MJ (2010-07-14) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (μm) 19-23 (L), 12-15 (W) **Original No.** D-194

GLOEOCYSTIS: Chlorophyceae

Gloeocystis ampla (Kützing) Lagerheim

Syn. *Sphaerello cystis ampla* (Kützing) Nováková

1825 Sampling 2011-06-07, Seogwipo/Jeju (33°22'08" N, 126°41'36" E), swamp, surface water, 24°C **Isolator** Jo, MJ (2011-07-28) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 20°C, 0 psu, 60 PPF, 1 M **Size** (μm) 15-19 (L), 9-11 (W) **Original No.** FC-189

1962 Sampling 2012-07-25, Upo/Gyeongnam (35°32'53" N, 128°24'25" E), swamp, surface water, 30°C **Isolator** Jo, MJ (2012-10-23) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 20°C, 0 psu, 60 PPF, 1 M **Size** (μm) 12-14 (L), 6-8 (W) **Original No.** FC-224

Gloeocystis versiculosa Wille

1787 Sampling 2011-02-22, Dongjin River/Jeonbuk (35°45'33" N, 126°46'42" E), surface water, 8°C **Isolator** Jo, MJ (2011-05-11) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 20°C, 0 psu, 60 PPF, 1 M **Size** (μm) 4-6 (\emptyset) **Original No.** FC-181

Gloeocystis sp.

1437 Sampling 2008-07-31, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 24°C, 33 psu **Isolator** Jeong, EH (2008-10-13) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 60 PPF, 1 M **Size** (μm) 7-8 (\emptyset) **Original No.** C-287

GLOETRICHIA: Cyanophyceae

Gloeotrichia caldarium (Tilden) Geitler

2215 Source KIOST **Sampling** 2013-10-23, Kosrae, Micronesia (05°16'30" N, 162°59'15" E), reservoir, surface water, 26°C **Isolator** Jo, MJ (2013-04-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 23°C, 0 psu, 20 PPF, 1 M **Size** (μm) 3-4 (\emptyset) **Original No.** FCy-64

GLOETRICHIA: Cyanophyceae

Gloeotrichia sp.

1232 Sampling 2005-06-27, Upo/Gyeongnam (35°32'53" N, 128°24'25" E), swamp, surface water, 26°C **Isolator** Jeong, EH (2005-09-01) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 20°C, 0 psu, 40 PPF, 1 M **Size** (μm) 2-4 (\emptyset) **Original No.** FCy-18

GOLENKINIA: Chlorophyceae

Golenkinia paucispina West et West

Syn. *Golenkinia radiata* var. *paucispina* (West & West) Playfair

1488 Sampling 2009-01-12, Namgu/Busan (35°07'56" N, 129°06'06" E), pond, surface water, 5°C **Isolator** Jo, MJ (2009-02-19) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 12-21 (Ø) **Original No.** FC-138

Golenkinia radiata Chodat

Syn. *Micractinium radiatum* (Chodat) Wille

2086 Sampling 2012-10-19, Seongsan/Jeju (33°27'38" N, 126°56'03" E), reservoir, surface water, 18°C **Isolator** Jo, MJ (2013-03-12) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 20°C, 0 psu, 60 PPF, 1 M **Size (µm)** 11-20 (Ø) **Original No.** FC-243

Golenkinia sp.

0248 Source Kunsan Univ. (PD-MAL18) **Sampling** Pal-dangho, reservoir, surface water (1999-07-30) **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 20-32 (Ø) **Original No.** FC-145

GOMPHONEMA: Bacillariophyceae

Gomphonema angustum Agardh

2188 Source KIOST **Sampling** 2013-10-23, Kosrae, Micronesia (05°19'06" N, 162°00'20" E), reservoir, surface water, 28°C **Isolator** Jo, MJ (2014-02-17) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 0 psu, 20 PPF, 1 M **Size (µm)** 16-19 (L), 6-8 (W) **Original No.** FB-76

GONGROSIRA: Chlorophyceae

Gongrosira sp.

2210 Source KIOST **Sampling** 2013-10-23, Kosrae, Micronesia (05°20'57" N, 162°57'24" E), coast, surface water, 30°C, 30 psu **Isolator** Jo, MJ (2014-04-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 25°C, 33 psu, 60 PPF, 1 M **Size (µm)** 5-7 (Ø) **Original No.** C-291

GONIUM: Chlorophyceae

Gonium pectorale Müller

1714 Sampling 2010-09-09, Nakdong River/Busan (35°06'17" N, 128°53'42" E), estuary, surface water, 24°C, 1 psu **Isolator** Jo, MJ (2010-10-15) **Identifier**

Hur, SB **States** axenic, agar, liquid **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 1 M **Size (µm)** 11-13 (Ø) **Original No.** FC-173

GONYAULAX: Dinophyceae

Gonyaulax polygramma Stein

Syn. *Gonyaulax schuettii* Lemmermann

1688 Sampling 2008-11-11, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 17°C, 32 psu **Isolator** Jeong, EH (2009-01-07) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 37-41 (L), 52-57 (W) **Original No.** D-172

Gonyaulax spinifera (Claparède & Lachmann) Diesing

Syn. *Peridinium spiniferum* Claparède & Lachmann

1579 Sampling 2009-11-19, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 15°C, 33 psu **Isolator** Jo, MJ (2010-01-12) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 27-39 (L), 18-26 (W) **Original No.** D-187

GRAMMATOPHORA: Bacillariophyceae

Grammatophora angulosa Ehrenberg

1254 Sampling 2005-11-08, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 17°C, 30 psu **Isolator** Jeong, EH (2006-01-17) **Identifier** Lee, JH **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 30-35 (L), 2-19 (W) **Original No.** B-754

1461 Sampling 2008-10-24, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 17°C, 33 psu **Isolator** Jeong, EH (2008-02-08) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 38-41 (L), 15-19 (W) **Original No.** B-848

1593 Sampling 2010-01-27, Namcheon Bay/Busan (35°08'14" N, 129°06'49" E), coast, surface water, 12°C, 34 psu **Isolator** Jo, MJ (2010-02-08) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 25-28 (L), 13-15 (W) **Original No.** B-961

1650 Sampling 2010-06-22, Taean/Chungnam (36°40'39" N, 126°08'09" E), coast, surface water, 21°C, 31 psu **Isolator** Jo, MJ (2010-07-14) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 34-35 (L), 13-19 (W) **Original No.** B-994

1651 Sampling 2010-06-22, Taean/Chungnam (36°40'39"

N, 126°08'09" E), coast, surface water, 21°C, 31 psu
Isolator Jo, MJ (2010-07-14) **Identifier** Hur, SB
States non-axenic, liquid **Culture** f/2, 20°C, 33 psu,
 40 PPF, 1 M **Size (µm)** 25 (L), 12-16 (W) **Original**
No. B-996

Grammatophora marina (Lyngbye) Kützing

Syn. *Diatoma marina* Lyngbye

1409 Sampling 2008-07-10, Yongho Bay/Busan (35°08'01"
 N, 129°07'15" E), coast, surface water, 22°C, 33 psu
Isolator Jeong, EH (2008-09-01) **Identifier** Hur, SB
States axenic, agar, liquid **Culture** LDM, f/2, 20°C,
 33 psu, 40 PPF, 1 M **Size (µm)** 48-50 (L), 15-22 (W)
Original No. B-852

1718 Sampling 2010-11-04, Namcheon Bay/Busan
 (35°08'14" N, 129°06'49" E), coast, surface water,
 18°C, 33 psu **Isolator** Jo, MJ (2010-11-30) **Identifier**
 Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C,
 33 psu, 40 PPF, 1 M **Size (µm)** 69-72 (L), 9-11 (W)
Original No. B-1018

Grammatophora sp.

0734 Sampling 1995-07-01, Anmyundo/Chungnam
 (36°34'56" N, 126°22'17" E), salt farm, surface wa-
 ter **Isolator** Hur, SB (1996-03-29) **Identifier** Lee, SG
States axenic, agar, liquid **Culture** LDM, f/2, 20°C,
 33 psu, 40 PPF, 1 M **Size (µm)** 10-33 (L), 6-8 (W)
Original No. B-141

1500 Sampling 2009-04-17, Yongho Bay/Busan (35°08'01"
 N, 129°07'15" E), coast, surface water, 15°C, 33 psu
Isolator Jo, MJ (2009-05-26) **Identifier** Hur, SB
States axenic, agar, liquid **Culture** LDM, f/2, 20°C,
 33 psu, 40 PPF, 1 M **Size (µm)** 13-19 (L), 8-10 (W)
Original No. B-815

GUINARDIA: Bacillariophyceae

Guinardia flaccida (Castracane) Peragallo

Syn. *Rhizosolenia flaccida* Castracane

1410 Sampling 2008-07-01, Yongho Bay/Busan (35°08'01"
 N, 129°07'15" E), coast, surface water, 22°C, 33 psu
Isolator Jeong, EH (2008-09-01) **Identifier** Hur, SB
States non-axenic, liquid **Culture** f/2, 20°C, 33 psu,
 40 PPF, 1 M **Size (µm)** 58-103 (L), 45-47 (W) **Original**
No. B-850

1450 Sampling 2008-10-01, Suncheon Bay/Jeonnam
 (34°50'36" N, 127°29'38" E), coast, surface water,
 22°C, 33 psu **Isolator** Jeong, EH (2008-11-05) **Iden-**
tifier Hur, SB **States** non-axenic, liquid **Culture** f/2,
 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 102-141 (L),
 61-77 (W) **Original No.** B-883

1474 Sampling 2008-12-01, Nakdong River/Busan
 (35°06'17" N, 128°53'42" E), coast, surface water,
 15°C, 33 psu **Isolator** Jeong, EH (2009-01-07) **Iden-**
tifier Hur, SB **States** axenic, agar, liquid **Culture**
 LDM, f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 82-
 122 (L), 34-37 (W) **Original No.** B-899

1548 Sampling 2009-09-21, Gijang/Busan (35°15'36" N,
 129°14'48" E), coast, surface water, 25°C **Isolator** Jo,
 MJ (2010-10-26) **Identifier** Hur, SB **States** axenic,
 liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size**
(µm) 55-91 (L), 24-26 (W) **Original No.** B-920

1549 Sampling 2009-09-25, Haeundae/Busan (35°09'06"
 N, 129°09'07" E), coast, surface water, 24°C, 32
 psu **Isolator** Jo, MJ (2009-10-26) **Identifier** Hur, SB
States axenic, liquid **Culture** f/2, 20°C, 33 psu, 40
 PPF, 1 M **Size (µm)** 76-108 (L), 59-63 (W) **Gene**
data 18S rRNA (JQ315666), *rbcl* (JQ315446) **Original**
No. B-921

2149 Sampling 2013-09-11, Namhae/Gyeongnam
 (34°40'40" N, 128°00'27" E), coast, surface water,
 27°C, 35 psu **Isolator** Jo, MJ (2013-09-25) **Identifier**
 Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C,
 33 psu, 20 PPF, 1 M **Size (µm)** 91-161 (L), 60-62
 (W) **Original No.** B-1168

Guinardia striata (Stolterfoth) Hasle

Syn. *Eucampia striata* Stolterfoth

1475 Sampling 2008-11-26, Yongho Bay/Busan (35°08'01"
 N, 129°07'15" E), coast, surface water, 13°C, 34 psu
Isolator Jeong, EH (2009-01-07) **Identifier** Hur, SB
States non-axenic, liquid **Culture** f/2, 20°C, 33 psu,
 40 PPF, 1 M **Size (µm)** 69-103 (L), 9-11 (W) **Gene**
data 18S rRNA (JQ315664), *rbcl* (JQ315447) **Original**
No. B-894

1678 Sampling 2008-08-27, Yongho Bay/Busan (35°08'01"
 N, 129°07'15" E), coast, surface water, 24°C, 31 psu
Isolator Jeong, EH (2008-12-47) **Identifier** Hur, SB
States non-axenic, liquid **Culture** f/2, 20°C, 33 psu,
 40 PPF, 1 M **Size (µm)** 99-178 (L), 12-13 (W) **Original**
No. B-889

GYMNODINIUM: Dinophyceae

Gymnodinium breve C. C. Davis

Syn. *Karenia brevis* (C. C. Davis) Gert Hansen & Ø. Moes-
 trup

0557 Sampling 1998-03-15, Haeundae/Busan (35°09'06"
 N, 129°09'07" E), coast, surface water **Isolator** Hur,
 SB (1998-09-10) **Identifier** Lee, CG **States** axenic,
 liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size**
(µm) 6-8 (L), 5-6 (W) **Original No.** D-7 **References**
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Gymnodinium mikimotoi Miyake & Kominami ex Oda
Syn. *Karenia mikimotoi* (Miyake & Kominami ex Oda)
Gert Hansen & Ø. Moestrup

1804 Sampling 2011-04-21, Ulsan/Gyeongnam (35°31'01" N, 129°22'44" E), coast, surface water, 14°C **Isolator** Jo, MJ (2011-06-28) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 15-21 (L), 12-16 (W) **Original No.** D-200

Gymnodinium nelsonii Martin

Syn. *Gymnodinium sanguineum* K. Hirasaka

1550 Sampling 2009-07-22, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 15°C, 33 psu **Isolator** Jo, MJ (2009-10-26) **Identifier** Hur, SB **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 66-69 (L), 51-54 (W) **Original No.** D-184

Gymnodinium sanguineum K. Hirasaka

Syn. *Akashiwo sanguinea* (K. Hirasaka) G. Hansen & Ø. Moestrup

0977 Source KORDI **Sampling** 1998-01-**, Geojedo/Gyeongnam (34°50'45" N, 128°34'57" E), coast, surface water (2002-06-02) **States** axenic, liquid **Culture** f/2, f/2-si, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 9-10 (L), 6-8 (W) **Original No.** D-96

1328 Sampling 2006-07-01, Gomso Bay/Jeonnam (35°35'12" N, 126°36'34" E), coast, surface water, 23°C, 25 psu **Isolator** Jeong, EH (2006-11-22) **Identifier** Hur, SB **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 45-54 (L), 34-43 (W) **Original No.** D-155

Gymnodinium simplex (Lohmann) Kofoid & Swezy

Syn. *Protodinium simplex* Lohmann

1858 Sampling 2011-09-26, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 26°C **Isolator** Jo, MJ (2011-11-09) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 11-15 (L), 9-12 (W) **Original No.** D-205

Gymnodinium viridescens Kofoid

1708 Sampling 2010-08-06, Nakdong River/Busan (35°06'17" N, 128°53'42" E), estuary, surface water, 32°C, 21 psu **Isolator** Jo, MJ (2010-10-15) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2-E, 20°C, 15 psu, 40 PPF, 1 M **Size (µm)** 8-11 (L), 11-14 (W) **Original No.** ED-6

Gymnodinium sp.

0577 Sampling 1999-05-01, Gampo/Gyeongbuk (35°48'17" N, 129°30'32" E), coast, surface water, 16°C **Isolator** Lee, GA (1999-08-09) **Identifier** Hur, SB **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 2-8 (L), 2-3 (W) **Original No.** D-41

1076 Sampling 2004-02-01, Geomundo/Jeonnam (34°02'42" N, 127°17'49" E), coast, surface water, 17°C **Isolator** Lee, GA (2004-11-23) **Identifier** Hur, SB **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 5-8 (L), 3-5 (W) **Original No.** D-124

1176 Source NFRDI **Sampling** 1996-08-01, Tongyoung/Gyeongnam, coast, surface water (2004-12-08) **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 20-25 (L), 8-12 (W) **Original No.** D-131

1220 Sampling 2004-12-17, Haeundae/Busan (35°09'06" N, 129°09'07" E), estuary, surface water, 10°C, 15 psu **Isolator** Park, SJ (2005-05-12) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2-E, 20°C, 15 psu, 40 PPF, 1 M **Size (µm)** 10-13 (L), 4-6 (W) **Original No.** ED-2

1387 Sampling 2007-04-**, Geojedo/Gyeongnam (34°50'45" N, 128°34'57" E), coast, surface water **Isolator** Jeong, EH (2007-06-26) **Identifier** Hur, SB **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 25-40 (L), 20-35 (W) **Original No.** D-161

1411 Sampling 2008-07-02, Jeju/Jeju (33°31'51" N, 126°34'20" E), coast, surface water, 15°C, 34 psu **Isolator** Jeong, EH (2008-09-01) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 9-11 (L), 6-8 (W) **Original No.** D-165

1462 Sampling 2008-09-24, Pohang/Gyeongbuk (35°59'58" N, 129°26'16" E), coast, surface water, 25°C, 34 psu **Isolator** Jeong, EH (2008-12-04) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 11-12 (Ø) **Original No.** D-169

1463 Sampling 2008-09-24, Pohang/Gyeongbuk (35°59'58" N, 129°26'16" E), coast, surface water, 26°C, 34 psu **Isolator** Jeong, EH (2008-12-04) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 7-10 (L), 5-6 (W) **Original No.** D-170

1469 Sampling 2008-07-31, Pohang/Gyeongbuk (35°59'58" N, 129°26'16" E), coast, surface water,

- 24°C, 33 psu **Isolator** Jeong, EH (2008-12-15) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 32-50 (L), 24-40 (W) **Original No.** D-171
- 1489 Sampling** 2008-01-14, Geojedo/Gyeongnm (34°50'45" N, 128°34'57" E), coast, surface water, 14°C, 34 psu **Isolator** Jeong, EH (2009-02-19) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 37-49 (L), 27-36 (W) **Original No.** D-174
- 1512 Sampling** 2009-05-20, Yeosu/Jeonnam (34°45'7" N, 127°39'33" E), coast, surface water **Isolator** Jo, MJ (2009-07-30) **Identifier** Hur, SB **States** axenic, liquid **Culture** f/2, F, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 14-17 (L), 8-10 (W) **Original No.** D-179
- 1551 Sampling** 2009-08-06, Geomundo/Jeonnam (34°02'42" N, 127°17'49" E), coast, surface water, 24°C **Isolator** Jo, MJ (2009-10-26) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 10-13 (L), 8-9 (W) **Original No.** D-183
- 1594 Sampling** 2009-12-29, Namcheon Bay/Busan (35°08'14" N, 129°06'49" E), coast, surface water, 12°C, 34 psu **Isolator** Jo, MJ (2010-02-08) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 31-38 (L), 30-32 (W) **Original No.** D-188
- 1605 Sampling** 2010-02-19, Nakdong River/Busan (35°06'17" N, 128°53'42" E), estuary, surface water, 4°C, 22 psu **Isolator** Jo, MJ (2010-03-17) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2-E, 20°C, 15 psu, 40 PPF, 1 M **Size (µm)** 7-10 (L), 4-7 (W) **Original No.** ED-4
- 1758 Sampling** 2010-11-16, Yeosu/Jeonnam (34°45'7" N, 127°39'33" E), open sea, surface water, 15°C **Isolator** Jo, MJ (2011-02-08) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 10-12 (L), 6-8 (W) **Original No.** D-196
- 1766 Sampling** 2011-02-22, Geum River/Jeonbuk (36°0'54" N, 126°45'24" E), coast, surface water, 6°C, 10 psu **Isolator** Jo, MJ (2011-03-31) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 12-15 (L), 10-13 (W) **Original No.** ED-7
- 1782 Sampling** 2011-03-10, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 9°C, 35 psu **Isolator** Jo, MJ (2011-05-11) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 9-10 (L), 5-7 (W) **Original No.** D-197
- 1873 Sampling** 2011-09-27, Pohang/Gyeongbuk (35°59'58" N, 129°26'16" E), coast, surface water, 23°C **Isolator** Jo, MJ (2011-12-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 9-10 (L), 7-8 (W) **Original No.** D-206
- 1979 Sampling** 2012-07-02, Namhae/Gyeongnam (34°05'597" N, 126°42'242" E), coast, surface water, 20°C, 33 psu **Isolator** Jo, MJ (2012-12-27) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 40 PPF, 1 M **Size (µm)** 13-14 (Ø) **Original No.** D-213
- GYRODINIUM:** Dinophyceae
Gyrodinium aureolum E. M. Hulburt
Syn. *Gymnodinium aureolum* (E. M. Hulburt) G. Hansen
0966 Source NFRDI **Sampling** 1999-09-01, Busan (2002-04-08) **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 6-9 (L), 5-8 (W) **Original No.** D-81
- 0978 Source** KORDI **Sampling** 1999-09-01, Geojedo/Gyeongnam (2002-06-02) **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 18-25 (L), 10-13 (W) **Original No.** D-97
- Gyrodinium falcatum* Kofoid & Swezy
1501 Sampling 2009-04-23, Maemuldo/Gyeongnam (34°46'10" N, 128°38'51" E), coast, surface water **Isolator** Jo, MJ (2009-05-26) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 40 PPF, 1 M **Size (µm)** 69-101 (L), 22-32 (W) **Original No.** D-175
- 1950 Sampling** 2012-05-03, Somaemuldo/Gyeongnam (34°38'04" N, 128°32'50" E), coast, surface water, 15°C, 30 psu **Isolator** Jo, MJ (2012-07-17) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 18°C, 33 psu, 40 PPF, 1 M **Size (µm)** 40-93 (L), 18-29 (W) **Original No.** D-212
- 2063 Source** Kunsan Univ. (KNUTP GF-091001) **Sampling** 2009-10-02, Kunsan/Jeonbuk (33°16'34" N, 126°43'10" E), coast, surface water, 25.5°C (2013-01-02) **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 40 PPF, 1 M **Size (µm)** 15-20 (L), 12-15 (W) **Original No.** D-274
- Gyrodinium impudicum* S. Fraga & I. Bravo
Syn. *Gymnodinium impudicum* (S. Fraga & I. Bravo) G. Hansen & Ø. Moestrup
0965 Source NFRDI **Sampling** 1999-06-01, Yeosu/Jeon-

nam (34°45'7" N, 127°39'33" E), coast, surface water (2002-04-08) **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 13-16 (L), 10-13 (W) **Original No.** D-80

0971 Source Inje Univ. **Sampling** Narodo/Jeonnam (2002-05-22) **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 13-18 (L), 9-11 (W) **Original No.** D-85 **References** 111

0979 Source KORDI **Sampling** 1998-01-**, Gunsan/Jeonbuk, coast, surface water (2002-06-02) **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 18-24 (L), 10-14 (W) **Original No.** D-98

Gyrodinium sp.

2064 Source Kunsan Univ. (KNUTP GR-101001) **Sampling** 2010-10-02, Geojedo/Gyeongnam (34°53'36" N, 128°36'59" E), coast, surface water, 19.3°C, 30.7 psu, (2013-01-02) **States** axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 14-16 (Ø) **Original No.** D-275

2065 Source Kunsan Univ. (KNUTP GR-101002) **Sampling** 2010-10-02, Tongyeong/Gyeongnam (34°46'42" N, 128°23'47" E), coast, surface water, 21.9°C, 30 psu (2013-01-02) **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 15-17 (Ø) **Original No.** D-276

2066 Source Kunsan Univ. (KNUTP GR-101003) **Sampling** 2010-10-26, Kunsan/Jeonbuk (36°02'08" N, 126°32'28" E), coast, surface water, 16.1°C, 29.3 psu (2013-01-02) **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 13-15 (Ø) **Original No.** D-277

GYROSIGMA: Bacillariophyceae

Gyrosigma spencerii (W. Smith) Cleve

1749 Sampling 2011-01-05, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 12°C, 33 psu **Isolator** Jo, MJ (2011-02-08) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 71-74 (L), 8-10 (W) **Original No.** B-1045

HAEMATOCOCCUS: Chlorophyceae

Haematococcus capensis Pocock

Syn. *Balticola capensis* (Pocock) Droop

1353 Source CCAP 34/10 (2007-01-22) **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, 3N-BBM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 23-32 (Ø) **Gene data** 18S rRNA (JQ315535) **Original No.** FC-125

Haematococcus lacustris (Girodot) Rostafinski

Syn. *Haematococcus pluvialis* Flotow

1347 Source UTEX 16 (2006-12-15) **States** axenic, agar, liquid **Culture** JM-agar, MB3N, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 37-48 (Ø) **Gene data** 18S rRNA (JQ315536) **Original No.** FC-122

1464 Sampling 2008-10-22, Gyeongju/Gyeongbuk (35°47'47" N, 129°14'33" E), reservoir, surface water, 18°C **Isolator** Jeong, EH (2008-12-04) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 13-21 (Ø) **Original No.** FC-135

1552 Sampling 2009-07-17, Namgu/Busan (35°07'56" N, 129°06'06" E), pond, surface water **Isolator** Jo, MJ (2009-10-26) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 19-29 (Ø) **Original No.** FC-159

Haematococcus pluvialis Flotow

1354 Source CCAP 34/13 (2007-01-22) **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, MB3N, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 20-40 (Ø) **Gene data** 18S rRNA (JQ315539) **Original No.** FC-123 **Remarks** astaxanthin

HALOCHLOROCOCCUM: Chlorophyceae

Halochlorococcum sp.

0151 Sampling 1996-05-09, Namhae/Gyeongnam (34°42'47" N, 127°59'13" E), hatchery, surface water **Isolator** Hur, SB (1997-01-30) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 3-8 (Ø) **Gene data** 18S rRNA (JQ315540) **Original No.** C-96

HANTZSCHIA: Bacillariophyceae

Hantzschia amphioxys (Ehrenberg) Grunow

Syn. *Eunotia amphioxys* Ehrenberg

0265 Sampling 1999-10-01, Geojedo/Gyeongnam (34°53'36" N, 128°43'43" E), coast, surface water, 24°C **Isolator** Lee, GA (1999-12-22) **Identifier** Lee, JH **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 18-30 (L), 5-8 (W) **Original No.** B-406

0658 Sampling 1999-03-22, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 8°C, 31 psu **Isolator** Lee, GA (1999-10-26) **Identifier** Lee, JH **States** axenic, agar, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 60-70 (L), 5-8 (W) **Original No.** B-302

- 0793 Source** NFRDI **Sampling** 1999-01-25, Namhae/Gyeongnam (34°42'47" N, 127°59'13" E), coast, surface water (2001-10-24) **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 19-23 (L), 3-5 (W) **Original No.** B-232
- 0835 Sampling** 1999-07-28, Oedo/Gyeongnam (34°46'14" N, 128°42'27" E), coast, surface water, 15°C **Isolator** Lee, GA (1999-11-11) **Identifier** Lee, JH **States** axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 48-54, 5-8 (W) **Original No.** B-342
- 1030 Sampling** 2001-04-01, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 16°C **Isolator** Lee, GA (2002-12-20) **Identifier** Lee, JH **States** non-axenic, liquid, cryopreserved **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 9-13 (L), 5-6 (W) **Original No.** B-650
- 1031 Sampling** 2001-05-01, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 19°C **Isolator** Lee, GA (2002-12-20) **Identifier** Lee, JH **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 25-33 (L), 5-8 (W) **Original No.** B-663

HASLEA: Bacillariophyceae**Haslea trompii** (Cleve) SimonsenSyn. *Navicula trompii* Cleve

- 1754 Sampling** 2011-01-12, Gijang/Busan (35°16'55" N, 129°15'30" E), coast, surface water, 10°C, 32 psu **Isolator** Jo, MJ (2011-02-08) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 247-250 (L), 27-31 (W) **Original No.** B-1050

Haslea wawrikan (Hustedt) SimonsenSyn. *Navicula wawrikan* Hustedt

- 1580 Sampling** 2009-12-08, Namcheon Bay/Busan (35°08'14" N, 129°06'49" E), coast, surface water, 15°C, 33 psu **Isolator** Jo, MJ (2010-01-12) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 522-563 (L), 62-66 (W) **Original No.** B-953

HEMIAULUS: Bacillariophyceae**Hemiaulus hauckii** Grunow ex Van HeurckSyn. *Hemiaulus delicatulus* Lemmermann

- 1553 Sampling** 2009-09-03, Namcheon Bay/Busan (35°08'14" N, 129°06'49" E), coast, surface water, 24°C, 32 psu **Isolator** Jo, MJ (2009-10-26) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C,

33 psu, 40 PPF, 1 M **Size (µm)** 25-27 (L), 20-22 (W) **Original No.** B-930**Hemiaulus sinensis** Greville

- 1429 Sampling** 2008-09-05, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 25°C, 32 psu **Isolator** Jeong, EH (2008-10-13) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 20-37 (L), 15-19 (W) **Original No.** B-872
- 1619 Sampling** 2010-03-29, Yokjido/Gyeongnam (34°38'30" N, 128°16'22" E), coast, surface water, 11°C **Isolator** Jo, MJ (2010-04-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 15 (L), 27-42 (W) **Original No.** B-976
- 1734 Sampling** 2010-12-07, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 12°C, 34 psu **Isolator** Jo, MJ (2010-12-28) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 15-24 (L), 7-8 (W) **Original No.** B-1030

HEMIDISCUS: Bacillariophyceae**Hemidiscus cuneiformis** WallichSyn. *Euodia cuneiformis* (Wallich) Schütt

- 1686 Sampling** 2008-11-11, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 17°C, 32 psu **Isolator** Jo, MJ (2008-12-04) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 1 M **Size (µm)** 223-268 (L), 459-464 (W) **Original No.** B-892
- 1687 Sampling** 2008-11-12, Yeosu/Jeonnam (34°25'47" N, 127°47'53" E), coast, surface water, 20°C, 34 psu **Isolator** Jeong, EH (2008-12-04) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 1 M **Size (µm)** 97-106 (L), 465-520 (W) **Original No.** B-893
- 1778 Sampling** 2010-11-16, Yokjido/Gyeongnam (34°32'27" N, 128°16'39" E), coast, surface water, 15°C **Isolator** Jo, MJ (2011-05-11) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 1 M **Size (µm)** 109-137 (L), 80-88 (W) **Original No.** B-1055

Hemidiscus sp.

- 1829 Sampling** 2009-01-08, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 12°C, 35 psu **Isolator** Jo, MJ (2009-03-27) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu,

20 PPF, 1 M Size (μm) 57-67 (L), 35-40 (W) **Original No.** B-912

HEMISELMIS: Cryptophyceae

Hemiselmis cyclopea Butcher

1910 Sampling 2012-01-30, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 11°C, 34 psu **Isolator** Jo, MJ (2012-03-29) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 6-7 (L), 3-4 (W) **Original No.** Cr-36

Hemiselmis sp.

2094 Source KIOST **Sampling** 2012-11-19, Chuuk, Micronesia (07°27'05" N, 151°53'31" E), coast, surface water, 30°C, 25 psu **Isolator** Jo, MJ (2013-03-12) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 40 PPF, 1 M Size (μm) 11-13 (L), 5-8 (W) **Original No.** Cr-48 **Remarks** high °C sp.

HETEROCAPSA: Dinophyceae

Heterocapsa circularisquama Horiguchi

0580 Sampling 1999-08-01, Guryongpo/Gyeongbuk (35°59'12" N, 129°33'29" E), coast, surface water, 23°C **Isolator** Lee, GA (2000-01-20) **Identifier** Kim, KY **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 8-18 (\emptyset) **Original No.** D-61 **Remarks** toxic

1131 Sampling 2004-04-30, Haeundae/Busan (35°09'06" N, 129°09'07" E), intertidal zone, surface water, 16°C, 33 psu **Isolator** Park, SJ (2004-12-01) **Identifier** Kim, KY **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 16-21 (L), 5-6 (W) **Original No.** D-119 **Remarks** toxic

Heterocapsa pygmaea Lobelich III, R. J. Schmidt & Sherry

0561 Sampling 1999-03-01, Oedo/Gyeongnam (34°46'14" N, 128°42'27" E), coast, surface water, 13°C **Isolator** Lee, GA (1999-06-30) **Identifier** Kim, KY **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 15-25 (L), 9-12 (W) **Original No.** D-18

Heterocapsa triquetra (Ehrenberg) Stein

Syn. *Glenodinium triquetrum* Ehrenberg

0558 Sampling 1999-05-01, Ulsan/Gyeongnam (35°31'01" N, 129°22'44" E), coast, surface water, 16°C **Isolator** Lee, GA (1999-08-09) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 15-28 (L), 8-13 (W) **Original No.** D-33

0559 Sampling 1999-05-01, Maemuldo/Gyeongnam (34°46'10" N, 128°38'51" E), coast, surface water **Isolator** Lee, GA (1999-08-09) **Identifier** Yu, JS **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 8-25 (L), 8-11 (W) **Original No.** D-36

0560 Sampling 1998-12-01, Yeosu/Jeonnam (34°45'07" N, 127°39'33" E), coast, surface water **Isolator** Lee, GA (1999-02-10) **Identifier** Yu, JS **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 15-25 (L), 8-11 (W) **Original No.** D-9 **References** 107, 111, 113

0582 Sampling 1999-08-01, Jindong/Gyeongnam (35°06'09" N, 128°29'40" E), coast, surface water **Isolator** Lee, GA (2000-01-20) **Identifier** Yu, JS **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 13-18 (L), 8-10 (W) **Original No.** D-56

1177 Source NFRDI **Sampling** 1998-03-06, Masan Bay/Gyeongnam (35°11'20" N, 128°34'00" E), coast, surface water (204-12-08) **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 20-25 (L), 12-23 (W) **Original No.** D-129

1783 Sampling 2011-03-29, Namcheon Bay/Busan (35°08'14" N, 129°06'49" E), coast, surface water, 11°C, 33 psu **Isolator** Jo, MJ (2011-05-11) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 19-26 (L), 13-17 (W) **Original No.** D-198

2067 Source Kunsan Univ. (KNUTP HT-090101) **Sampling** 2009-01-16, Dongjin River/Jeonbuk (35°45'27" N, 126°46'35" E), estuary, surface water, 6.1°C, 25 psu (2013-01-02) **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M Size (μm) 8-21 (L), 8-10 (W) **Original No.** D-278

2068 Source Kunsan Univ. (KNUTP HT-090208) **Sampling** 2009-02-12, Masan Bay/Gyeongnam (35°11'20" N, 128°34'00" E), coast, surface water, 10.5°C, 30 psu (2013-01-02) **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M Size (μm) 9-21 (L), 8-11 (W) **Original No.** D-279

2069 Source Kunsan Univ. (KNUTP HT-110201) **Sampling** 2012-02-23, Sokcho/Gangwon (38°11'39" N, 128°34'55" E), tidal pool, surface water, 7.1°C, 31.9 psu (2013-01-02) **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M Size (μm) 8-20 (L), 7-10 (W) **Original No.** D-280

Heterocapsa sp.

0581 Sampling 1999-04-01, Haeundae/Busan (35°09'06"

- N, 129°09'07" E), coast, surface water, 15°C **Isolator** Lee, GA (1999-07-21) **Identifier** Yu, JS **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 13-30 (L), 11-15 (W) **Original No.** D-43
- 1652 Sampling** 2010-05-12, Ulleungdo/Gyeongbuk (37°27'22" N, 130°44'56" E), open sea, surface water, 1°C **Isolator** Jo, MJ (2010-07-14) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 27-31 (L), 18-23 (W) **Original No.** D-193 **Remarks** low °C sp.
- HETEROSIGMA:** Raphidophyceae
Heterosigma akashiwo (Hada) Hada
Syn. *Entomosigma akashiwo* Y. Hada
- 0562 Sampling** 1998-03-15, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Hur, SB (1998-09-10) **Identifier** Lee, CG **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 5-7 (L), 3-5 (W) **Original No.** Ra-9 **References** 77 **Remarks** toxic
- 0583 Sampling** 2000-09-01, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 27°C **Isolator** Lee, GA (2001-10-08) **Identifier** Han, MS **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 11-15 (L), 10-15 (W) **Original No.** Ra-18 **References** 133 **Remarks** toxic
- 0967 Source** NFRDI **Sampling** 1997-05-01, Jindong/Gyeongnam (2002-04-08) **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 13-15 (L), 10-15 (W) **Original No.** Ra-8 **Remarks** toxic
- 0972 Source** Inje Univ. **Sampling** 1998-05-30, Jinhae Bay/Gyeongnam (2002-05-22) **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 7-9 (L), 4-6 (W) **Original No.** Ra-6 **References** 115
- 0980 Sampling** 1998-01-02 Samcheonpo/Gyeongnam (34°55'29" N, 128°5'2" E), coast, surface water **Isolator** Hur, SB (1998-03-02) **Identifier** Kim, KY **States** axenic, liquid **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 5-8 (L), 4-5 (W) **Original No.** Ra-7 **Remarks** toxic
- 1078 Sampling** 2004-08-01, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Park, SJ (2004-11-24) **Identifier** Lee, CG **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 8-11 (Ø) **Original No.** Ra-19 **Remarks** toxic
- 1097 Sampling** 2004-08-01, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Park, SJ (2004-11-25) **Identifier** Lee, CG **States** axenic, liquid **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 9-11 (Ø) **Original No.** Ra-20 **References** 133 **Remarks** toxic
- 1132 Sampling** 2003-08-01, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Park, SJ (2004-12-01) **Identifier** Kim, KY **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 6-10 (L), 4-6 (W) **Original No.** Ra-21 **Remarks** toxic
- 1133 Sampling** 2004-04-30, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Park, SJ (2004-12-01) **Identifier** Kim, KY **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 14-20 (L), 9-13 (W) **Original No.** Ra-22 **Remarks** toxic
- 1792 Sampling** 2011-02-22, Geum River/Jeonbuk (36°00'54" N, 126°45'24" E), coast, surface water, 6°C, 10 psu **Isolator** Jo, MJ (2011-05-11) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2-E, 20°C, 15 psu, 40 PPF, 1 M **Size (µm)** 20-28 (L), 10-16 (W) **Original No.** ERa-1 **Remarks** toxic
- Heterosigma inlandica** Hada
- 1606 Sampling** 2010-02-24, Seosan/Chungnam (36°49'30" N, 126°19'19" E), coast, surface water, 4°C, 32 psu **Isolator** Jo, MJ (2010-03-17) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 17-20 (L), 12-15 (W) **Original No.** Ra-23
- 1653 Sampling** 2010-06-10, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 20°C, 28 psu **Isolator** Jo, MJ (2010-07-14) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 19-22 (L), 12-15 (W) **Original No.** Ra-26
- 1897 Sampling** 2012-01-10, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 12°C, 34 psu **Isolator** Jo, MJ (2012-02-08) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 16-22 (L), 10-14 (W) **Original No.** Ra-30
- Heterosigma** sp.
- 0563 Sampling** 1998-05-01, Hyungjedo/Jeonnam (34°16'13" N, 127°0'35" E), coast, surface water, 16°C **Isolator** Hur, SB (1998-09-10) **Identifier** Yu, JS **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 3-4 (Ø) **Original No.** Ra-10
- 0564 Sampling** 1999-01-**, Jindong/Gyeongnam (35°06'09" N, 128°29'40" E), coast, surface water **Isolator** Lee, GA (1999-05-22) **Identifier** Yu, JS

- States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (µm) 2-4 (Ø) **Original No.** Ra-11
- 0565 Sampling** 1997-04-23, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Hur, SB (1997-08-04) **Identifier** Hur, SB **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (µm) 5-8 (L), 4-6 (W) **Original No.** Ra-12
- 0566 Sampling** 1999-05-01, South Sea (34°16' N, 128°17' E), open sea, surface water, 16°C **Isolator** Lee, GA (1999-08-09) **Identifier** Hur, SB **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (µm) 5-7 (L), 3-4 (W) **Original No.** Ra-13
- 0584 Sampling** 1999-04-01, Jindong/Gyeongnam (35°06'09" N, 128°29'40" E), coast, surface water **Isolator** Lee, GA (1999-07-21) **Identifier** Hur, SB **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (µm) 4-6 (Ø) **Original No.** Ra-14
- 0585 Sampling** 2000-08-01, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 28°C **Isolator** Lee, GA (2001-10-08) **Identifier** Hur, SB **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (µm) 5-7 (L), 3-5 (W) **Original No.** Ra-15
- 1053 Sampling** 2001-08-23, Gijang/Busan (35°15'36" N, 129°14'48" E), coast, surface water, 27°C **Isolator** Lee, GA (2003-01-20) **Identifier** Hur, SB **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (µm) 4-6 (L), 3-5 (W) **Original No.** Ra-16
- 1054 Sampling** 2001-03-01, Wando/Jeonnam (34°19'34" N, 126°45'09" E), coast, surface water **Isolator** Lee, GA (2003-01-20) **Identifier** Hur, SB **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (µm) 5-8 (L), 3-5 (W) **Original No.** Ra-17
- 2081 Source** Kunsan Univ. (KNUTP HS-111006) **Sampling** 2011-11-06, Ulsan/Gyeongnam (35°31'01" N, 129°22'44" E), coast, surface water, 18.6°C, 32.5 psu (2013-01-02) **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size** (µm) 5-6 (L), 3-5 (W) **Original No.** Ra-32

HEYNIGIA: Chlorophyceae*Heynigia* sp.

- 1451 Sampling** 2008-09-26, Nakdong River/Busan (35°06'17" N, 128°53'42" E), estuary, surface water, 23°C **Isolator** Jeong, EH (2008-11-05) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM, 20°C, 0 psu, 60 PPF, 4 M **Size** (µm) 6-7 (Ø) **Original No.** FC-128

HILLEA: Cryptophyceae*Hillea fusiformis* (Schiller) SchillerSyn. *Chlamydomonas fusiformis* J. Schiller

- 1620 Sampling** 2010-04-14, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 13°C, 33 psu **Isolator** Jo, MJ (2010-04-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (µm) 7-8 (L), 4-5 (W) **Original No.** Cr-25
- 1761 Sampling** 2011-02-22, Geum River/Jeonbuk (36°00'54" N, 126°45'24" E), coast, surface water, 6°C, 10 psu **Isolator** Jo, MJ (2011-03-31) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (µm) 8-9 (L), 3-5 (W) **Original No.** Cr-29

Hillea sp.

- 0586 Sampling** 1999-08-01, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 27°C, 30 psu **Isolator** Lee, GA (2000-01-20) **Identifier** Lee, CG **States** axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (µm) 3-8 (L), 3-4 (W) **Original No.** Cr-22
- 1134 Sampling** 2003-06-01, Haeundae/Busan (35°09'06" N, 129°09'07" E), intertidal zone, substratum, 22°C, 33 psu **Isolator** Park, SJ (2004-12-01) **Identifier** Lee, CG **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (µm) 8-11 (L), 6-8 (W) **Original No.** Cr-23

HORMIDIUM: Chlorophyceae*Hormidium subtile* (Kützing) HeeringSyn. *Klebsormidium subtile* (Kützing) Tracanna ex Tell

- 2000 Sampling** 2012-10-17, Hallim/Jeju (33°17'39" N, 126°13'59" E), swamp, surface water, 19°C **Isolator** Jo, MJ (2012-12-27) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 20°C, 0 psu, 60 PPF, 1 M **Size** (µm) 11-16 (L), 5-8 (W) **Original No.** FC-240

HYALODISCUS: Bacillariophyceae*Hyalodiscus stelliger* BaileySyn. *Podosira stelligera* (Bailey) A. Mann

- 1947 Sampling** 2012-05-03, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 15°C, 33 psu **Isolator** Jo, MJ (2012-07-17) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (µm) 52-54 (L), 36-40 (W) **Original No.** B-1117

2216 Source KIOST **Sampling** 2013-10-24, Kosrae, Micronesia (05°18'22" N, 162°58'33" E), coast, surface water, 26°C, 30 psu **Isolator** Jo, MJ (2014-04-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 23°C, 33 psu, 20 PPF, 1 M **Size (µm)** 36-42 (Ø) **Original No.** B-1189

ISOCHRYSIS: Haptophyceae

Isochrysis galbana Parke

0012 Source Institute, Japan (1985-12-03) **States** axenic, liquid **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 3-8 (L), 3-5 (W) **Gene data** 18S rRNA (HQ877903) **Original No.** H-2 **References** 2, 4, 10, 13, 23, 24, 31, 60, 63, 64, 65, 66, 68, 70, 72, 83, 90, 98, 99, 100, 102, 107, 109, 110, 113, 118, 123, 125, 129, 152, 169 **Remarks** aquaculture, high protein and lipid

0214 Source Qingdao Oceanic Institute, China (1999-01-25) **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 3-8 (L), 3-5 (W) **Gene data** 18S rRNA (HQ877910) **Original No.** H-10 **References** 152 **Remarks** aquaculture, high protein and lipid

Isochrysis aff. *galbana* (T-Iso)

0028 Source Delaware Univ. (DE-5), USA (1986-08-06) **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 3-8 (L), 3-4 (W) **Gene data** 18S rRNA (HQ877902) **Original No.** H-1 **References** 10, 13, 18, 20, 21, 52, 60, 66, 70, 79, 98, 99, 115 **Remarks** aquaculture, high protein and lipid

0213 Source CCMP 463 (1999-01-25) **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 3-8 (L), 3-5 (W) **Gene data** 18S rRNA (HQ877911) **Original No.** H-11 **References** 152 **Remarks** aquaculture, high protein and lipid

Isochrysis sp.

1072 Sampling Thailand (2004-08-16) **States** axenic, liquid, cryopreserved **Culture** f/2, 20°C, 30°C, 33 psu, 40 PPF, 2 M **Size (µm)** 2-5 (Ø) **Original No.** H-22 **References** 152

KARLODINIUM: Dinophyceae

Karlodinium conicum de Salas

2013 Source Kunsan Univ. (KNUTP KC-080902) **Sampling** 2008-09-26, Incheon Pier/Incheon (37°27'32" N, 126°35'53" E), coast, surface water (2013-01-02) **States** axenic, liquid, cryopreserved **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 11-15 (Ø) **Original No.** D-224

Karlodinium sp.

2014 Source Kunsan Univ. (KNUTP KL-080501) **Sampling** 2008-05-30, Aewol/Jeju (33°28'04" N, 126°19'23" E), coast, surface water, 17°C, 30 psu (2013-01-02) **States** axenic, liquid, cryopreserved **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 12-15 (Ø) **Original No.** D-225

2015 Source Kunsan Univ. (KNUTP KL-091016) **Sampling** 2009-10-31, Namwon/Jeju (33°16'34" N, 126°43'10" E), coast, surface water, 22°C, 29 psu (2013-01-02) **States** axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 11-16 (Ø) **Original No.** D-226

2016 Source Kunsan Univ. (KNUTP KL-090501) **Sampling** 2009-05-09, Kunsan/Jeonbuk (36°06'56" N, 125°59'01" E), coast, surface water, 11°C, 30 psu (2013-01-02) **States** axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 13-16 (Ø) **Original No.** D-227

2017 Source Kunsan Univ. (KNUTP KL-110201) **Sampling** 2011-02-25, Seongsan/Jeju (33°27'38" N, 126°56'03" E), coast, surface water, 14°C, 34 psu (2013-01-02) **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 11-15 (Ø) **Original No.** D-228

KATODINIUM: Dinophyceae

Katodinium rotundatum (Lohmann) Loeblich III

Syn. *Heterocapsa rotundata* (Lohmann) G. Hansen

1805 Sampling 2011-04-21, Ulsan/Gyeongnam (35°31'01" N, 129°22'44" E), coast, surface water, 14°C **Isolator** Jo, MJ (2011-06-28) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 11-16 (L), 7-9 (W) **Original No.** D-201

1903 Sampling 2012-02-16, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 11°C, 34 psu **Isolator** Jo, MJ (2012-03-29) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 11-12 (L), 6-8 (W) **Original No.** D-210

2018 Source Kunsan Univ. (KNUTP KR-090102) **Sampling** 2009-01-16, Dongjin River/Jeonbuk (35°45'27" N, 126°46'35" E), tidal pool, surface water, 6°C, 25 psu (2013-01-02) **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 12-17 (L), 8-10 (W) **Original No.** D-229

2019 Source Kunsan Univ. (KNUTP KR-090210) **Sampling** 2009-02-14, Geojedo/Gyeongnam (34°53'36" N, 128°36'59" E), coast, surface water, 8°C, 33 psu (2013-01-02) **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 11-15 (L), 8-10 (W) **Original No.** D-230

Katodinium sp.

- 2020 Source** Kunsan Univ. (KNUTP KS-080802) **Sampling** 2008-08-25, Seogwipo/Jeju (35°56'34" N, 126°32'04" E), coast, surface water (2013-01-02) **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 12-17 (L), 7-11 (W) **Original No.** D-231
- 2021 Source** Kunsan Univ. (KNUTP KS-100801) **Sampling** 2010-08-23, Kunsan/Jeonbuk (35°56'34" N, 126°32'04" E), coast, surface water, 27°C, 29 psu (2013-01-02) **States** axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 11-16 (L), 7-11 (W) **Original No.** D-232
- 2022 Source** Kunsan Univ. (KNUTP KS-100802) **Sampling** 2010-08-23, Boryeong/Chungnam (36°19'42" N, 126°30'20" E), coast, surface water, 27°C, 29 psu (2013-01-02) **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 12-18 (L), 8-12 (W) **Original No.** D-233
- 2023 Source** Kunsan Univ. (KNUTP KS-101201) **Sampling** 2010-12-10, Boryeong/Chungnam (36°19'42" N, 126°30'20" E), coast, surface water, 11°C, 31 psu (2013-01-02) **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 13-18 (L), 7-11 (W) **Original No.** D-234
- 2024 Source** Kunsan Univ. (KNUTP KS-111201) **Sampling** 2010-12-10, Seongsan/Jeju (33°27'38" N, 126°56'03" E), coast, surface water, 16°C, 34 psu (2013-01-02) **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 12-17 (L), 7-11 (W) **Original No.** D-235

KIRCHNERIELLA: Chlorophyceae**Kirchneriella lunaris** var. **irregularis** G. M. SmithSyn. *Kirchneriella irregularis* (G. M. Smith) Korshikov

- 1835 Sampling** 2011-06-08, Hangyeong/Jeju (33°19'08" N, 126°11'18" E), reservoir, surface water, 27°C **Isolator** Jo, MJ (2011-08-31) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 20°C, 0 psu, 60 PPF, 1 M **Size (µm)** 6-7 (Ø) **Original No.** FC-191

Kirchneriella obesa (West) West & G. S. WestSyn. *Selenastrum obesum* W. West

- 1847 Sampling** 2011-06-08, Hangyeong/Jeju (33°19'08" N, 126°11'18" E), reservoir, surface water, 27°C **Isolator** Jo, MJ (2011-08-31) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 20°C, 0 psu, 60 PPF, 1 M **Size (µm)** 5-9 (Ø) **Original No.** FC-198

LAGERHEIMIA: Chlorophyceae**Lagerheimia sp.**

- 1544 Sampling** 2009-07-17, Namgu/Busan (35°07'56" N, 129°06'06" E), pond, surface water **Isolator** Jo, MJ (2009-10-26) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 14-17 (L), 10-14 (W) **Gene data** 18S rRNA **Original No.** FC-165

LAUDERIA: Bacillariophyceae**Lauderia borealis** GranSyn. *Lauderia annulata* Cleve

- 1595 Sampling** 2010-01-14, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 10°C, 33 psu **Isolator** Jo, MJ (2010-02-08) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 52-55 (Ø) **Original No.** B-960
- 1614 Sampling** 2010-04-14, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 13°C, 33 psu **Isolator** Jo, MJ (2010-04-14) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 35-53 (L), 49-53 (W) **Original No.** B-972
- 1621 Sampling** 2010-03-29, Geojedo/Gyeongnam (34°50'45" N, 128°34'57" E), coast, surface water, 12°C **Isolator** Jo, MJ (2010-04-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 32-36 (L), 25-35 (W) **Original No.** B-971
- 1654 Sampling** 2010-05-13, Dokdo/Gyeongbuk (37°14'34" N, 131°36'19" E), open sea, deep sea, deep water, 1°C **Isolator** Jo, MJ (2010-07-14) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 23-30 (L), 12-18 (W) **Original No.** B-1000 **Remarks** low °C sp.

Lauderia glacialis (Grunow) GranSyn. *Porosira glacialis* (Grunow) Jörgensen

- 1854 Sampling** 2011-09-27, Yeongdeok/Gyeongbuk (36°24'50" N, 129°27'00" E), open sea, surface water, 24°C **Isolator** Jo, MJ (2011-11-09) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 38-40 (Ø) **Original No.** B-1077
- 2116 Source** KIOST **Sampling** 2012-11-19, Chuuk, Micronesia (07°27'02" N, 151°53'20" E), coast, surface water, 30°C, 24 psu **Isolator** Jo, MJ (2013-04-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 36-39 (Ø)

Original No. B-1155 Remarks high °C sp.

LEPTOCYLINDRUS: Bacillariophyceae

Leptocylindrus danicus Cleve

1401 Sampling 2007-10-08, Yokjido/Gyeongnam (34°38'30" N, 128°16'22" E), coast, surface water, 24°C, 33 psu **Isolator** Jeong, EH (2008-06-23) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 35-95 (L), 10 (W) **Original No. B-844**

1596 Sampling 2010-01-19, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 11°C, 34 psu **Isolator** Jo, MJ (2010-02-08) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 32-77 (L), 10 (W) **Original No. B-957**

Leptocylindrus minimus Gran

1329 Sampling 2006-07-01, Gomso Bay/Jeonnam (35°35'12" N, 126°36'34" E), surface water, 23°C, 25 psu **Isolator** Jeong, EH (2006-11-22) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 30-65 (L), 10-11 (W) **Original No. B-800**

LEPTOLYNGBYA: Cyanophyceae

Leptolyngbya sp.

0031 Sampling 1986-04-01, Oido/Incheon (37°20'48" N, 126°40'57" E), salt farm, surface water **Isolator** Hur, SB (1986-08-25) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 3-5 (L), 1 (W) **Original No. Cy-5** **References** 13, 78

0595 Sampling 1999-09-01, Upo/Gyeongnam (35°32'53" N, 128°24'25" E), swamp, surface water, 28°C **Isolator** Lee, GA (2000-01-30) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** JM, 20°C, 0 psu, 40 PPF, 1 M **Size (µm)** 4-6 (L), 2-4 (W) **Original No. FCy-3**

1806 Sampling 2011-02-22, Mangyeong River/Jeonbuk (35°53'53" N, 127°03'40" E), surface water, 8°C **Isolator** Jo, MJ (2011-06-28) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** JM, 20°C, 0 psu, 40 PPF, 1 M **Size (µm)** 3-5 (Ø) **Original No. FCy-34**

LICMOPHORA: Bacillariophyceae

Licmophora abbreviata Agardh

1476 Sampling 2008-11-14, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 18°C, 33 psu

Isolator Jeong, EH (2009-01-07) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 76-80 (L), 23-29 (W) **Original No. B-896**

1554 Sampling 2009-09-24, Namcheon Bay/Busan (35°08'14" N, 129°06'49" E), coast, surface water, 24°C, 33 psu **Isolator** Jo, MJ (2009-10-26) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 105-117 (L), 42-56 (W) **Original No. B-924**

Licmophora californica Grunow

1722 Sampling 2010-10-14, Namcheon Bay/Busan (35°08'14" N, 129°06'49" E), coast, surface water, 20°C, 31 psu **Isolator** Jo, MJ (2010-11-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 99-100 (L), 36-42 (W) **Original No. B-1022**

Licmophora dalmatica (Kützinger) Grunow

2098 Source KIOST **Sampling** 2012-11-22, Chuuk, Micronesia (07°27'02" N, 151°54'08" E), coast, surface water, 30°C, 29 psu **Isolator** Jo, MJ (2013-03-12) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 21-28 (L), 7-9 (W) **Original No. B-1140** Remarks high °C sp.

Licmophora flabellata (Greville) Agardh

Syn. *Exilaria flabellata* Greville

1513 Sampling 2009-06-24, Jeju/Jeju (33°31'51" N, 126°34'20" E), coast, surface water, 20°C **Isolator** Jo, MJ (2009-07-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 289-331 (L), 9-13 (W) **Original No. B-916**

Licmophora gracilis (Ehrenberg) Grunow

Syn. *Podosphenia gracilis* Ehrenberg

1430 Sampling 2008-06-18, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 21°C, 34 psu **Isolator** Jeong, EH (2006-03-13) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 145-151 (L), 14-19 (W) **Original No. B-867**

1813 Sampling 2011-06-08, Marado/Jeju (33°10'32" N, 126°15'23" E), open sea, surface water, 17°C, 34 psu **Isolator** Jo, MJ (2011-07-28) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 66-69 (L), 38-53 (W) **Original No. B-1069**

2101 Source KIOST Sampling 2012-11-22, Chuuk, Micronesia (07°27'22" N, 151°53'32" E), coast, surface water, 30°C, 28 psu **Isolator** Jo, MJ (2013-03-12) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 69-73 (L), 11-12 (W) **Original No.** B-1142 **Remarks** high °C sp.

Licmophora paradoxa (Lyngbye) Agardh

1412 Sampling 2008-07-01, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 21°C, 32 psu **Isolator** Jeong, EH (2008-09-01) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 54-57 (L), 28-35 (W) **Original No.** B-861

1490 Sampling 2009-01-12, Geomundo/Jeonnam (34°02'42" N, 127°17'49" E), coast, surface water, 10°C, 34 psu **Isolator** Jo, MJ (2009-02-19) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 101-106 (L), 15-20 (W) **Original No.** B-911

1622 Sampling 2010-04-14, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 13°C, 34 psu **Isolator** Jo, MJ (2010-04-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 48-51 (L), 38-48 (W) **Original No.** B-970

1746 Sampling 2011-01-12, Gijang/Busan (35°16'55" N, 129°15'30" E), coast, surface water, 10°C, 33 psu **Isolator** Jo, MJ (2011-02-08) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 46-48 (L), 33-46 (W) **Original No.** B-1042

1747 Sampling 2011-01-12, Gijang/Busan (35°16'55" N, 129°15'30" E), coast, surface water, 12°C, 33 psu **Isolator** Jo, MJ (2011-02-08) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 80-82 (L), 32-48 (W) **Original No.** B-1043

Licmophora sp.

1477 Sampling 2008-11-26, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 13°C, 34 psu **Isolator** Jeong, EH (2009-01-07) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 48-55 (L), 28-40 (W) **Original No.** B-895

1497 Sampling 2008-12-09, Udo/Gyeongnam (33°29'28" N, 126°56'51" E), coast, surface water, 18°C, 34 psu **Isolator** Jo, MJ (2009-03-27) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu,

20 PPF, 1 M **Size (µm)** 63-69 (L), 35-50 (W) **Original No.** B-913

LIMNOTHRIX: Cyanophyceae

Limnothrix sp.

1715 Sampling 2010-09-09, Nakdong River/Busan (35°06'17" N, 128°53'42" E), surface water, 24°C, 1 psu **Isolator** Jo, MJ (2010-10-15) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** JM, 20°C, 0 psu, 40 PPF, 1 M **Size (µm)** 3-4 (L), 2-3 (W) **Original No.** FCy-32

LITHODESMIUM: Bacillariophyceae

Lithodesmium undulatum Ehrenberg

0735 Sampling 1995-12-04, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 9°C **Isolator** Hur, SB (1996-04-17) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 25-45 (L), 15-20 (W) **Original No.** B-171

1440 Sampling 2008-09-20, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 25°C, 33 psu **Isolator** Jeong, EH (2008-10-14) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 45-51 (L), 38-40 (W) **Original No.** B-877

Lithodesmium variabile Takano

1372 Sampling 2006-12-**, Jindong/Gyeongnam (35°06'09" N, 128°29'40" E), surface water, 11°C **Isolator** Jeong, EH (2007-03-22) **Identifier** Hur, SB **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 25-33 (L), 20-30 (W) **Original No.** B-813

1413 Sampling 2008-06-23, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 22°C, 32 psu **Isolator** Jeong, EH (2008-09-01) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 24-42 (L), 27-37 (W) **Original No.** B-858

1597 Sampling 2010-01-08, Jeju/ejudo (33°31'51" N, 126°34'20" E), coast, surface water, 16°C **Isolator** Jo, MJ (2010-02-08) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 24-30 (L), 20-23 (W) **Original No.** B-962

1744 Sampling 2010-11-24, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 14°C, 32 psu **Isolator** Jo, MJ (2010-12-28) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 65-154 (L), 127-130

(W) **Original No.** B-1040

LYNGBYA: Cyanophyceae

Lyngbya aerugineocaerulea Gomont

Syn. *Phormidium aerugineocaeruleum* (Gomont) Anagnostidis & Komárek

1555 Sampling 2009-07-17, Namgu/Busan (35°07'56" N, 129°06'06" E), pond, surface water, 28°C **Isolator** Jo, MJ (2009-10-26) **Identifier** Lee, OM **States** non-axenic, liquid, cryopreserved **Culture** JM, 20°C, 0 psu, 40 PPF, 1 M **Size (µm)** 6-7 (L), 4-5 (W) **Original No.** FCy-30

Lyngbya aestuarii Liebman ex Gomont

Syn. *Conferva aestuarii* Mertens

1056 Source UTEX 2515 (2003-03-03) **States** axenic, agar, liquid, cryopreserved **Culture** LDM, ES, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 8-9 (L), 4-8 (W) **Original No.** Cy-25

1172 Sampling 2003-03-01, Gyeongju/Gyeongbuk (35°47'47" N, 129°14'33" E), swamp, surface water, 15°C **Isolator** Lee, GA (2004-12-01) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** JM-agar, JM, 20°C, 0 psu, 40 PPF, 1 M **Size (µm)** 5-9 (L), 3-6 (W) **Original No.** FCy-5

1607 Sampling 2010-02-19, Nakdong River/Busan (35°06'17" N, 128°53'42" E), surface water, 4°C **Isolator** Jo, MJ (2010-03-17) **Identifier** Lee, OM **States** non-axenic, liquid, cryopreserved **Culture** JM, 20°C, 0 psu, 40 PPF, 1 M **Size (µm)** 9-10 (L), 4-5 (W) **Original No.** FCy-31

Lyngbya contorta Lemmermann

Syn. *Planktolynghya contorta* (Lemmermann) Anagnostidis & Komárek

1773 Sampling 2011-02-22, Mangyeong River/Jeonbuk (35°53'53" N, 127°03'40" E), surface water, 8°C, 1 psu **Isolator** Jo, MJ (2011-03-31) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 20°C, 0 psu, 40 PPF, 1 M **Size (µm)** 18-20 (L), 4-5 (W) **Original No.** FCy-33

Lyngbya sp.

0275 Sampling 1999-08-12, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 27°C **Isolator** Lee, GA (2000-01-04) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 6-7 (L), 1-2 (W) **Original No.** Cy-21

0310 Sampling 2001-03-01, Namgu/Busan (35°07'56" N,

129°06'06" E), pond, surface water, 1999-09, scoop, 28°C **Isolator** Lee, GA (2000-01-20) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 20°C, 0 psu, 40 PPF, 1 M **Size (µm)** 1-3 (Ø) **Original No.** FCy-20

1431 Sampling 2008-08-13, Taean/Chungnam (36°40'39" N, E126°08'09" E), coast, surface water, 31°C, 30 psu **Isolator** Jeong, EH (2008-10-13) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 4-5 (Ø) **Original No.** Cy-59

1452 Sampling 2008-09-26, Nakdong River/Busan (35°06'17" N, 128°53'42" E), surface water, 4°C **Isolator** Jeong, EH (2008-11-05) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 20°C, 0 psu, 40 PPF, 1 M **Size (µm)** 5-6 (Ø) **Original No.** FCy-21

MALLOMONAS: Chrysophyceae

Mallomonas fastigata Zacharias

1935 Sampling 2012-02-26, Gunsan/Jeonbuk (35°55'45" N, 126°38'47" E), reservoir, surface water, 8°C **Isolator** Jo, MJ (2012-05-31) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 18°C, 0 psu, 40 PPF, 1 M **Size (µm)** 31-41 (L), 15-19 (W) **Original No.** FCh-2

MAMIELLA: Prasinophyceae

Mamiella gilva (Parke & Rayns) Moestrup

Syn. *Nephroselmis gilva* M. Parke & D. G. Rayns

1791 Sampling 2011-03-10, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 9°C, 35 psu **Isolator** Jo, MJ (2011-05-11) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 5-6 (L), 2-4 (W) **Original No.** P-83

MASTOGLLOIA: Bacillariophyceae

Mastogloia sp.

2103 Source KIOST **Sampling** 2012-11-19, Chuuk, Micronesia (07°27'05" N, 151°53'38" E), coast, surface water, 30°C, 26 psu, coast, surface water, 30°C, 26 psu **Isolator** Jo, MJ (2013-04-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 11-12 (L), 3-4 (W) **Original No.** B-1144 **Remarks** high °C sp.

MELOSIRA: Bacillariophyceae

Melosira borrieri Greville

1478 Sampling 2008-11-26, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 14°C, 34 psu

Isolator Jeong, EH (2009-01-07) **Identifier** Hur, SB **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 38-40 (L), 29-31 (W) **Original No.** B-898

Melosira hyperborea Grunow

1655 Sampling 2010-06-22, Taean/Chungnam (36°40'39" N, 126°08'09" E), surface water, 16°C, 32 psu **Isolator** Jo, MJ **Identifier** Hur, SB (2010-07-14) **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 22-25 (L), 15 (W) **Original No.** B-993

1737 Sampling 2010-12-17, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 9°C, 32 psu **Isolator** Jo, MJ (2010-12-28) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 32-45 (L), 27-31 (W) **Original No.** B-1033

2093 Source KIOST Sampling 2012-11-19, Chuuk, Micronesia (07°27'05" N, 151°53'31" E), coast, surface water, 30°C, 25 psu **Isolator** Jo, MJ (2013-03-12) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 25-28 (L), 19-21 (W) **Original No.** B-1137 **Remarks** high °C sp.

Melosira juergensi C. Agardh

1774 Sampling 2011-03-29, Namcheon Bay/Busan (35°08'14" N, 129°06'49" E), coast, surface water, 11°C, 33 psu **Isolator** Jo, MJ (2011-05-11) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 31-38 (L), 25-29 (W) **Original No.** B-1051

Melosira nummuloides C. Agardh

0499 Sampling 2001-03-01, Wando/Jeonnam (34°18'33" N, 126°51'18" E), hatchery, substratum, 9°C **Isolator** Lee, GA (2001-07-24) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 10-15 (L), 7-11 (W) **Original No.** B-559

0500 Sampling 2001-03-01, Uljin/Gyeongbuk (36°57'28" N, 129°25'00" E), hatchery, substratum, 11°C **Isolator** Lee, GA (2001-07-24) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 8-13 (L), 8-10 (W) **Original No.** B-561

0522 Sampling 2001-04-16, Hadong/Gyeongnam (35°03'51" N, 127°44'27" E), coast, surface water, 13°C **Isolator** Lee, GA (2001-08-26) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 8-13 (L), 6-11 (W)

Original No. B-535

1736 Sampling 2010-12-17, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 9°C, 32 psu **Isolator** Jo, MJ (2010-12-28) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 21-24 (L), 15-16 (W) **Original No.** B-1032

1976 Sampling 2012-09-06, Nakdong River/Busan (35°06'17" N, 128°53'42" E), estuary, surface water, 27°C, 17 psu **Isolator** Jo, MJ (2012-10-23) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2-E, 20°C, 15 psu, 40 PPF, 1 M **Size (µm)** 20-22 (Ø) **Original No.** EB-54

2104 Source KIOST Sampling 2012-11-19, Chuuk, Micronesia (07°27'02" N, 151°53'20" E), coast, surface water, 30°C, 24 psu **Isolator** Jo, MJ (2013-04-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 34-37 (Ø) **Original No.** B-1145 **Remarks** high °C sp.

2171 Source KIOST Sampling 2013-10-22, Kosrae, Micronesia (05°20'57" N, 162°57'24" E), coast, surface water, 30°C, 30 psu **Isolator** Jo, MJ (2013-12-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 21-24 (L), 17-18 (W) **Original No.** B-1171 **Remarks** high °C sp.

Melosira sulcata (Ehrenberg) Kützing

Syn. *Paralia sulcata* (Ehrenberg) Cleve

1373 Sampling 2006-12, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 19°C, 33 psu **Isolator** Jeong, EH (2007-03-22) **Identifier** Hur, SB **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 17-20 (L), 8-9 (W) **Original No.** B-828

1432 Sampling 2008-07-02, Jeju/Jeju (33°34'32" N, 126°31'11" E), coast, surface water, 15°C, 34 psu **Isolator** Jeong, EH (2008-10-13) **Identifier** Hur, SB **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 15-19 (L), 8-9 (W) **Original No.** B-871

2181 Source KIOST Sampling 2013-10-25, Kosrae, Micronesia (05°19'55" N, 163°01'15" E), coast, surface water, 30°C, 30 psu **Isolator** Jo, MJ (2013-12-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 9-10 (L), 6-8 (W) **Original No.** B-1180 **Remarks** high °C sp.

Melosira sp.

0233 Sampling 1999-01-14, Gwangalli/Busan (35°08'47" N, 129°06'56" E), estuary, surface water, 11°C, 21

psu **Isolator** Lee, GA (1999-05-29) **Identifier** Hur, SB **States** axenic, liquid **Culture** f/2-E, 20°C, 15 psu, 40 PPF, 2 M **Size** (μm) 13-20 (L), 8-16 (W) **Original No.** EB-4

1269 Sampling 2005-12-01, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 10°C, 33 psu **Isolator** Jeong, EH (2006-03-13) **Identifier** Hur, SB **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (μm) 48-50 (L), 19-21 (W) **Original No.** B-760

MERISMOPEDIA: Cyanophyceae

Merismopedia convoluta Brébisson

Syn. *Pseudoholopedia convoluta* (Brébisson) Elenkin

1949 Sampling 2012-05-16, Tamjin River/Jeonnam (34°39'37" N, 126°53'58" E), surface water, 21°C **Isolator** Jo, MJ (2012-07-17) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 18°C, 0 psu, 40 PPF, 1 M **Size** (μm) 6-7 (L), 4-5 (W) **Original No.** FCy-52

Merismopedia glauca (Ehrenberg) Kützing

Syn. *Gonium glaucum* Ehrenberg

1491 Sampling 2008-08-13, Taean/Chungnam (36°40'39" N, 126°08'09" E), coast, surface water, 31°C, 30 psu **Isolator** Jeong, EH (2009-02-19) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (μm) 3-4 (\emptyset) **Original No.** Cy-62

2134 Sampling 2013-03-18, Batangas Taql, Pilippines (14°02'55" N, 120°59'10" E), lake, surface water, 22°C, 1 psu **Isolator** Jo, MJ (2013-08-28) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 20°C, 0 psu, 40 PPF, 1 M **Size** (μm) 3-4 (L), 2-3 (W) **Original No.** FCy-57

Merismopedia punctata Meten

1850 Sampling 2011-06-08, Hallim/Jeju (33°19'08" N, 126°11'18" E), reservoir, surface water, 27°C **Isolator** Jo, MJ (2011-11-09) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** JM, 20°C, 0 psu, 40 PPF, 1 M **Size** (μm) 1-2 (L), 6-9 (W) **Original No.** FCy-40

MEUNIERA: Bacillariophyceae

Meuniera membranacea (Cleve) P. C. Silva

Syn. *Navicula membranacea* Cleve

1934 Sampling 2012-04-24, Yeosu/Jeonnam (34°45'07" N, 127°39'33" E), coast, surface water, 14°C, 33 psu **Isolator** Jo, MJ (2012-05-31) **Identifier** Hur, SB

States non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 40 PPF, 1 M **Size** (μm) 50-53 (L), 20-25 (W) **Original No.** B-1107

MICRACTINIUM: Chlorophyceae

Micractinium pusillum var. *elegans* G. M. Smith

1710 Sampling 2010-09-09, Nakdong River/Busan (35°06'17" N, 128°53'42" E), estuary, surface water, 24°C, 1 psu **Isolator** Jo, MJ (2010-10-15) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 1 M **Size** (μm) 5-7 (\emptyset) **Original No.** FC-169

1788 Sampling 2010-10-21, reservoir, surface water **Isolator** Jo, MJ (2011-05-11) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 1 M **Size** (μm) 5-7 (\emptyset) **Original No.** FC-182

MICRACTINIUM: Chlorophyceae

Micractinium sp.

1514 Source Kunsan Univ. (PD-MAL13) **Sampling** Pal-dangho/Gyeonggi, reservoir, surface water (2009-07-30) **States** axenic, agar, liquid, cryopreserved **Culture** JM, 23°C, 0 psu, 60 PPF, 4 M **Size** (μm) 5-7 (\emptyset) **Original No.** FC-147

1515 Source Kunsan Univ. (PD-MAL15) **Sampling** Pal-dangho/Gyeonggi, reservoir, surface water (2009-07-30) **States** axenic, agar, liquid, cryopreserved **Culture** JM, 23°C, 0 psu, 60 PPF, 4 M **Size** (μm) 6-8 (\emptyset) **Original No.** FC-148

MICRASTERIAS: Chlorophyceae

Micrasterias crux-melitensis Ralfs

1994 Sampling 2012-05-16, Tamjin River/Jeonnam (34°39'37" N, 126°53'58" E), surface water, 21.9°C **Isolator** Jo, MJ (2012-12-17) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** JM-agar, JM, 20°C, 0 psu, 40 PPF, 1 M **Size** (μm) 108-114 (\emptyset) **Original No.** FC-242

MICROCYSTIS: Cyanophyceae

Microcystis aeruginosa (Kützing) Kützing

Syn. *Micraloa aeruginosa* Kützing

0622 Sampling 1995-01-**, Gunsan/Jeonbuk (35°53'47" N, 126°41'51" E), salt farm, surface water **Isolator** Hur, SB (1995-05-09) **Identifier** Lee, OM **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (μm) 3-8 (\emptyset) **Original No.** Cy-28 **References** 2, 4, 10 **Remarks** toxic

- 0973 Source** Inje Univ. **Sampling** 1995-08-01, Nakdong River/Busan, surface water (2002-05-22) **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 20°C, 0 psu, 40 PPF, 1 M **Size (µm)** 3-6 (Ø) **Original No.** FCy-19 **Remarks** toxic
- 1135 Sampling** 2004-01-28, Geomundo/Jeonnam (34°02'42" N, 127°17'49" E), coast, surface water, 10°C **Isolator** Park, SJ (2004-12-01) **Identifier** Lee, OM **States** axenic, agar, liquid **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 8-10 (L), 4-5 (W) **Original No.** Cy-54 **Remarks** toxic

Microcystis sp.

- 1136 Sampling** 2003-05-01, Haeundae/Busan (35°09'06" N, 129°09'07" E), intertidal zone, surface water, 17°C, 33 psu **Isolator** Park, SJ (2004-12-01) **Identifier** Lee, OM **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 11-13 (L), 5-9 (W) **Original No.** Cy-55 **Remarks** toxic
- 1508 Source** Kunsan Univ. (MAL-CB-071) **Sampling** Mangyeong River/Jeonbuk, surface water (2009-07-30) **States** non-axenic, liquid **Culture** JM, 20°C, 0 psu, 40 PPF, 1 M **Size (µm)** 3-5 (Ø) **Gene data** 18S rRNA (AF139304) **Original No.** FCy-23 **Remarks** toxic
- 1516 Source** Kunsan Univ. (PD-MAL03) **Sampling** Pal-dangho/Gyeonggi, reservoir, surface water (2009-07-30) **States** non-axenic, liquid **Culture** JM, 20°C, 0 psu, 40 PPF, 1 M **Size (µm)** 6-9 (L), 5-7 (W) **Original No.** FCy-25 **Remarks** toxic
- 1517 Source** Kunsan Univ. (PD-MAL04) **Sampling** Pal-dangho/Gyeonggi, reservoir, surface water (2009-07-30) **States** non-axenic, liquid **Culture** JM, 20°C, 0 psu, 40 PPF, 1 M **Size (µm)** 3-6 (Ø) **Original No.** FCy-26 **References** 144 **Remarks** toxic
- 1518 Source** Kunsan Univ. (OJ-01) **Sampling** Okjeongho/Jeonbuk, reservoir, surface water (2009-07-30) **States** non-axenic, liquid **Culture** JM, 20°C, 0 psu, 40 PPF, 1 M **Size (µm)** 3-5 (Ø) **Original No.** FCy-27 **Remarks** toxic
- 1519 Source** Kunsan Univ. (KR) **Sampling** Gem River/Jeonbuk, surface water (2009-07-30) **States** non-axenic, liquid **Culture** JM, 20°C, 0 psu, 40 PPF, 1 M **Size (µm)** 3-5 (Ø) **Original No.** FCy-28 **References** 144 **Remarks** toxic
- 1520 Source** Kunsan Univ. (GH-02) **Sampling** Gyehwado/Jeonbuk, coast, surface water (2009-07-30) **States** non-axenic, liquid **Culture** JM, 20°C, 0 psu, 40 PPF, 1 M **Size (µm)** 2-4 (Ø) **Original No.** FCy-29

Remarks toxic*MINIDISCUS*: Bacillariophyceae*Minidiscus trioculatus* (F. J. R. Taylor) HasleSyn. *Coscinodiscus trioculatus* F. J. R. Taylor

- 0836 Sampling** 1999-01-21, Jindong/Gyeongnam (35°06'09" N, 128°29'40" E), coast, surface water **Isolator** Lee, GA (1999-05-22) **Identifier** Lee, JH **States** axenic, agar, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 3-4 (Ø) **Original No.** B-274

Minidiscus sp.

- 1310 Sampling** 2006-05-26, Jindo/Jeonnam (34°33'44" N, 126°14'55" E), coast, surface water, 16°C, 31 psu **Isolator** Jeong, EH **Identifier** Hur, SB (2006-07-10) **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 3-4 (Ø) **Original No.** B-782
- 1742 Sampling** 2010-11-11, Yeongdeok/Gyeongbuk (36°24'50" N, 129°27'00" E), open sea, deep sea, deep water, 1°C **Isolator** Jo, MJ (2010-12-28) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 4-5 (Ø) **Original No.** B-1038 **Remarks** low °C sp.
- 1887 Sampling** 2012-01-10, Tongyeong/Gyeongnam (34°50'18" N, 128°25'4" E), coast, surface water, 18°C, 33 psu **Isolator** Jo, MJ (2012-02-08) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 2-3 (Ø) **Original No.** B-1092
- 1925 Sampling** 2012-05-02, Yokjido/Gyeongnam (34°38'30" N, 128°16'22" E), coast, surface water, 32°C, 15 psu **Isolator** Jo, MJ (2012-05-31) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 3-4 (Ø) **Original No.** B-1102
- 2199 Sampling** 2014-02-06, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 12°C, 33 psu **Isolator** Jo, MJ (2014-04-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 4-5 (Ø) **Original No.** B-1185

MONODUS: Eustigmatophyceae*Monodus subterraneus* J. B. PetersenSyn. *Monodopsis subterranea* (J. B. Petersen) D. J. Hibberd

- 1348 Source** UTEX 151 (2006-12-15) **States** axenic, agar, liquid, cryopreserved **Culture** proteose, 23°C, 0 psu, 40 PPF, 4 M **Size (µm)** 5-10 (Ø) **Gene data** 18S rRNA (FJ896225) **Original No.** FEus-1 **Remarks** high protein and lipid, EPA

MONORAPHIDIUM: Chlorophyceae

Monoraphidium contortum (Thuret) Komárková-Legnerová

Syn. *Ankistrodesmus contortus* Thuret

0187 Sampling 1996-08-16, Gimhae/Gyeongnam (35°12'38" N, 128°59'47" E), reservoir, surface water **Isolator** Hur, SB (1997-03-17) **Identifier** Kim, YJ **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 14-19 (L), 2-3 (W) **Gene data** 18S rRNA (JQ315547) **Original No.** FC-19

Monoraphidium minutum (Nägeli) Komárková-Legnerová

Syn. *Rhaphidium minutum* Nägeli

1521 Source Kunsan Univ. (PD-MAL56) **Sampling** Pal-dangho, reservoir, surface water (2009-07-30) **States** non-axenic, liquid, cryopreserved **Culture** JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 7-10 (L), 6-10 (W) **Original No.** FC-146

Monoraphidium sp.

0023 Source SERI-S/Monor-2 (1986-06-17) **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 6-8 (L), 3-5 (W) **Gene data** 18S rRNA (JQ315545) **Original No.** C-249 **References** 13

1137 Sampling 2003-05-01, Haeundae/Busan (35°09'06" N, 129°09'07" E), intertidal zone, substratum, 18°C, 32 psu **Isolator** Lee, GA (2004-12-01) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 10-16 (L), 6-9 (W) **Gene data** 18S rRNA (JQ315546) **Original No.** C-283

1138 Sampling 2004-02-21, Nakdong River/Busan (35°06'17" N, 128°53'42" E), surface water, 10°C **Isolator** Park, SJ (2004-12-01) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 5-8 (L), 1-2 (W) **Gene data** 18S rRNA (JQ315549) **Original No.** FC-89

1531 Source Kunsan Univ. (MANK 2-24) **Sampling** Mangyeong River/Jeonbuk, surface water, 1 psu (2009-07-30) **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 50-72 (L), 3-5 (W) **Original No.** FC-157

1535 Source Kunsan Univ. (MANK 2-38) **Sampling** Mangyeong River/Jeonbuk, surface water, 1 psu (2009-07-30) **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF,

4 M **Size (µm)** 6-9 (L), 2-3 (W) **Original No.** FC-140

MYCONASTES: Chlorophyceae

Myconastes sp.

1233 Sampling 2005-06-27, Upo/Gyeongnam (35°33'40" N, 128°25'57" E), swamp, surface water, 30°C **Isolator** Jeong, EH (2005-09-01) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 6-9 (L), 3-4 (W) **Gene data** 18S rRNA (JQ315551) **Original No.** FC-101

NANNOCHLORIS: Chlorophyceae

Nannochloris oculata Droop

0016 Source UTEX 1998 (1985-12-04) **States** axenic, agar, liquid **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 1-3 (Ø) **Gene data** 18S rRNA (GQ122335) **Original No.** C-31 **References** 2, 4, 6, 10, 13, 16, 18, 20, 34, 35, 36, 38, 41, 43, 46, 49, 57, 76, 101, 103, 104, 110, 111, 114, 125, 134, 137, 138, 140, 147, 153 **Remarks** aquaculture

0159 Sampling 1996-05-15, Narodo/Jeonnam (34°28'08" N, 127°28'14" E), coast, surface water **Isolator** Hur, SB (1997-02-03) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 1-4 (Ø) **Gene data** 18S rRNA (GQ122342) **Original No.** C-103 **Remarks** aquaculture

0347 Sampling 1999-10-01, Geojedo/Gyeongnam (34°53'36" N, 128°43'43" E), coast, surface water, 24°C **Isolator** Lee, GA (2000-02-26) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 1-3 (Ø) **Gene data** 18S rRNA (GQ122353) **Original No.** C-179 **Remarks** aquaculture

Nannochloris sp.

0044 Sampling 1986-07-01, Oido/Incheon (37°20'48" N, 126°40'57" E), salt farm, surface water **Isolator** Hur, SB (1986-09-23) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 1-3 (Ø) **Gene data** 18S rRNA (JQ315636) **Original No.** C-17 **References** 2, 4, 10, 13

0058 Sampling 1988-03-01, Nakdong River/Busan (35°04'58" N, 129°00'06" E), coast, surface water **Isolator** Hur, SB (1991-09-17) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 1-5 (Ø) **Gene data** 18S rRNA (GQ122333) **Original No.**

C-23 References 13, 101, 140

- 0091 Sampling** 1995-07-25, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 26°C, 33 psu **Isolator** Hur, SB (1996-03-27) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 1-3 (Ø) **Gene data** 18S rRNA (JQ315637) **Original No.** C-67
- 0092 Sampling** 1995-01-11, Gunsan/Jeonbuk (35°53'47" N, 126°41'51" E), salt farm, surface water **Isolator** Hur, SB (1996-03-27) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 4 M **Size (µm)** 1-3 (Ø) **Gene data** 18S rRNA (GQ122381) **Original No.** C-275 **References** 76
- 0116 Sampling** 1995-09-27, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 25°C, 31 psu **Isolator** Hur, SB (1996-07-01) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 1-3 (Ø) **Gene data** 18S rRNA (GQ122337) **Original No.** C-75
- 0117 Sampling** 1995-11-26, Hwajinpo/Gangwon (38°28'59" N, 128°25'54" E), lagoon, surface water **Isolator** Hur, SB (1996-07-01) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 1-3 (Ø) **Gene data** 18S rRNA (GQ122339) **Original No.** C-79 **References** 101, 140
- 0118 Sampling** 1996-10-26, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 21°C, 31 psu **Isolator** Hur, SB (1996-07-01) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 1-3 (Ø) **Gene data** 18S rRNA (JQ315638) **Original No.** C-85
- 0119 Sampling** 1996-10-26, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 21°C, 31 psu **Isolator** Hur, SB (1996-07-01) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 1-3 (Ø) **Gene data** 18S rRNA (JQ315639) **Original No.** C-87
- 0152 Sampling** 1996-07-17, South China Sea, high sea, 30°C **Isolator** Hur, SB (1997-01-30) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 1-5 (Ø) **Gene data** 18S rRNA (GQ122341) **Original No.** C-93 **Remarks** high °C sp.
- 0153 Sampling** 1996-07-04, South China sea, high sea, 30°C **Isolator** Hur, SB (1997-01-30) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 3-5 (Ø) **Gene data** 18S rRNA (JQ315640) **Original No.** C-98 **Remarks** high °C sp.
- 0160 Sampling** 1996-07-11, South China Sea, high sea, 28°C **Isolator** Hur, SB (1997-02-03) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 1-3 (Ø) **Gene data** 18S rRNA (GQ122344) **Original No.** C-106 **Remarks** high °C sp.
- 0161 Sampling** 1996-07-12, South China Sea, high sea, 29°C **Isolator** Hur, SB (1997-02-03) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 1-5 (Ø) **Gene data** 18S rRNA (JQ315641) **Original No.** C-107 **Remarks** high °C sp.
- 0176 Sampling** 1996-07-23, East China Sea, high sea, 29°C **Isolator** Hur, SB (1997-02-10) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 1-3 (Ø) **Gene data** 18S rRNA (GQ122347) **Original No.** C-113 **Remarks** high °C sp.
- 0184 Sampling** 1996-07-05, South China Sea, high sea, 30°C **Isolator** Hur, SB (1997-03-14) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 2-5 (Ø) **Gene data** 18S rRNA (JQ315642) **Original No.** C-94 **Remarks** high °C sp.
- 0196 Sampling** 1996-07-04, Sulu Sea, high sea, surface water, 31°C **Isolator** Hur, SB (1997-08-02) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 1-4 (Ø) **Gene data** 18S rRNA (GQ122348) **Original No.** C-125 **Remarks** high °C sp.
- 0289 Sampling** 1999-09-27, South Sea (35°07' N, 129°03' E), open sea, surface water, 27°C **Isolator** Lee, GA (2000-01-15) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 1-4 (Ø) **Gene data** 18S rRNA (GQ122356) **Original No.** C-183
- 0311 Sampling** 1999-09-13, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 27°C, 29 psu **Isolator** Lee, GA (2000-01-24) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 1-3 (Ø) **Gene data** 18S rRNA (GQ122350) **Original No.** C-166
- 0312 Sampling** 1999-09-27, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 23°C **Isolator** Lee, GA (2000-01-24) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 1-3 (Ø) **Gene data** 18S rRNA (GQ122350) **Original No.** C-166

- axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size** (µm) 1-4 (Ø) **Gene data** 18S rRNA (JQ315643) **Original No.** C-184
- 0326 Sampling** 1999-08-26, Gwangalli/Busan (35°08'47" N, 129°06'56" E), estuary, surface water, 26°C **Isolator** Lee, GA (2000-01-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2-E, 23°C, 15 psu, 60 PPF, 4 M **Size** (µm) 1-3 (Ø) **Gene data** 18S rRNA (JQ315648) **Original No.** EC-13
- 0357 Sampling** 1999-10-23, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 18°C, 30 psu **Isolator** Lee, GA (2000-02-27) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size** (µm) 1-4 (Ø) **Gene data** 18S rRNA (JQ315644) **Original No.** C-180
- 0395 Sampling** 1999-11-24, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 13°C, 31 psu **Isolator** Lee, GA (2000-04-04) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size** (µm) 1-3 (Ø) **Gene data** 18S rRNA (JQ315645) **Original No.** C-189 **References** 140 **Remarks** patent
- 0396 Sampling** 1999-11-02, Jindong/Gyeongnam (35°06'09" N, 128°29'40" E), coast, surface water **Isolator** Lee, GA (2000-04-04) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size** (µm) 1-4 (Ø) **Gene data** 18S rRNA (GQ122358) **Original No.** C-192
- 0594 Sampling** 1999-05-01, Taehwa River/Ulsan (35°31'01" N, 129°22'44" E), coast, surface water, 16°C **Isolator** Lee, GA (1999-08-09) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (µm) 13-25 (L), 10-15 (W) **Original No.** C-292
- 0861 Sampling** 2001-03-29, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 9°C, 31 psu **Isolator** Lee, GA (2001-10-30) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size** (µm) 3-4 (Ø) **Gene data** 18S rRNA (JQ315646) **Original No.** C-226
- 1059 Sampling** 2002-05-01, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 19°C **Isolator** Lee, GA (2003-03-05) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size** (µm) 2-3 (Ø) **Gene data** 18S rRNA (GQ122362) **Original No.** C-246
- 1168 Sampling** 2004-05-12, Haeundae/Busan (35°09'06" N, 129°09'07" E), intertidal zone, surface water, 17°C, 33 psu **Isolator** Park, SJ (2004-12-01) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (µm) 10-13 (L), 7-10 (W) **Original No.** C-293
- 2126 Source** KIOST **Sampling** 2012-11-19, Chukk, Micronesia (07°27'05" N, 151°53'31" E), coast, surface water, 30°C, 25 psu **Isolator** Jo, MJ (2013-06-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size** (µm) 5-6 (Ø) **Original No.** C-289 **Remarks** high °C sp.
- 2155 Sampling** 2013-08-19, Gyungju/Gyeongbuk (35°46'04" N, 129°13'25" E), reservoir, surface water **Isolator** Jo, MJ (2013-09-25) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 18°C, 0 psu, 40 PPF, 1 M **Size** (µm) 4-5 (Ø) **Original No.** FC-249

NANNOCHLOROPSIS: Eustigmatophyceae*Nannochloropsis oceanica* Suda & Miyashita

- 0013 Source** Institute, Japan (1985-12-03) **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 40 PPF, 4 M **Size** (µm) 1-3 (Ø) **Gene data** 18S rRNA (FJ896228) **Original No.** Eus-7 **References** 2, 4, 6, 7, 8, 9, 10, 11, 13, 15, 16, 18, 20, 23, 26, 27, 29, 30, 31, 40, 47, 48, 56, 58, 59, 61, 64, 65, 66, 71, 73, 77, 78, 80, 82, 89, 90, 94, 99, 101, 103, 104, 105, 106, 110, 114, 115, 140, 141 **Remarks** aquaculture, high protein and lipid, EPA
- 0093 Sampling** 1995-07-25, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 26°C, 33 psu **Isolator** Hur, SB (1996-03-27) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 40 PPF, 4 M **Size** (µm) 1-3 (Ø) **Gene data** 18S rRNA (FJ896231) **Original No.** Eus-10 **Remarks** aquaculture, high protein and lipid, EPA
- 0121 Sampling** 1995-09-01, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 25°C, 31 psu **Isolator** Hur, SB (1996-07-01) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 40 PPF, 4 M **Size** (µm) 1-3 (Ø) **Gene data** 18S rRNA (JQ315722) **Original No.** Eus-23 **Remarks** aquaculture, high protein and lipid, EPA
- 0154 Sampling** 1996-05-31, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 15°C **Isolator** Hur, SB (1997-01-30) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 40 PPF, 4 M **Size** (µm) 1-5 (Ø) **Gene data** 18S rRNA (JQ315723) **Original No.** Eus-43 **Remarks** aquaculture, high protein and lipid, EPA

- 0185 Sampling** 1996-07-04, South China Sea (10°38' N, 121°41' E), high sea, 31°C **Isolator** Hur, SB (1997-03-14) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 40 PPF, 4 M **Size (µm)** 3-5 (Ø) **Gene data** 18S rRNA (JQ315724) **Original No.** Eus-45 **Remarks** high °C sp., aquaculture, high protein and lipid, EPA
- 0348 Sampling** 1999-09-28, Chungmu/Gyeongnam (34°50'22" N, 128°26'19" E), coast, surface water **Isolator** Lee, GA (2000-02-26) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 40 PPF, 4 M **Size (µm)** 2-3 (Ø) **Gene data** 18S rRNA (JQ315725) **Original No.** Eus-60 **Remarks** aquaculture, high protein and lipid, EPA
- 0358 Sampling** 1999-09-16, Nakdong River/Busan (35°06'17" N, 128°53'42" E), estuary, surface water, 25°C **Isolator** Lee, GA (2000-02-27) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM-E, f/2-E, 23°C, 15 psu, 40 PPF, 4 M **Size (µm)** 1-3 (Ø) **Gene data** 18S rRNA (JQ315726) **Original No.** Eus-5 **Remarks** aquaculture, high protein and lipid, EPA
- 0421 Sampling** 1999-11-24, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 13°C, 31 psu **Isolator** Lee, GA (2000-05-14) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 40 PPF, 4 M **Size (µm)** 1-5 (Ø) **Gene data** 18S rRNA (JQ315727) **Original No.** Eus-57 **Remarks** aquaculture, high protein and lipid, EPA

Nannochloropsis salina D. J. Hibberd

- 0024 Source** SERI-S/Nanno-2 (1986-06-17) **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 4 M **Size (µm)** 1-4 (Ø) **Gene data** 18S rRNA (FJ896223) **Original No.** Eus-1 **References** 2, 4, 10, 13, 17, 24

Nannochloropsis sp.

- 0025 Source** SERI/Oocys-1 (1986-06-17) **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 40 PPF, 4 M **Size (µm)** 5-13 (L), 6-7 (W) **Gene data** 18S rRNA (JQ315690) **Original No.** Eus-54 **References** 2, 4, 10, 13
- 0033 Sampling** 1985-12-04, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water **Isolator** Hur, SB (1986-08-27) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 40 PPF, 4 M **Size (µm)** 2-5

- (Ø) **Gene data** 18S rRNA (FJ896226) **Original No.** Eus-5 **References** 13, 95, 101, 140 **Remarks** patent
- 0035 Sampling** 1985-12-04, Masan Bay/Gyeongnam (35°11'20" N, 128°34'00" E), coast, surface water **Isolator** Hur, SB (1986-09-02) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 40 PPF, 4 M **Size (µm)** 2-3 (Ø) **Gene data** 18S rRNA (JQ315691) **Original No.** Eus-34 **References** 13, 66
- 0043 Sampling** 1986-06-01, Chungmu/Gyeongnam (34°50'22" N, 128°26'19" E), salt farm, surface water **Isolator** Hur, SB (1995-11-01) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 40 PPF, 4 M **Size (µm)** 1-3 (Ø) **Gene data** 18S rRNA (FJ896227) **Original No.** Eus-6 **References** 13
- 0054 Source** Institute, Israel (1989-06-07) **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 40 PPF, 4 M **Size (µm)** 1-4 (Ø) **Gene data** 18S rRNA (FJ896224) **Original No.** Eus-2 **References** 13, 22
- 0055 Sampling** 1992-07-29, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Hur, SB (1990-01-30) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 40 PPF, 4 M **Size (µm)** 1-5 (Ø) **Gene data** 18S rRNA (JQ315692) **Original No.** Eus-26
- 0059 Sampling** 1990-02-01, Namhae/Gyeongnam (34°42'47" N, 127°59'13" E), coast, surface water **Isolator** Hur, SB (1991-09-17) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 40 PPF, 4 M **Size (µm)** 3-5 (Ø) **Gene data** 18S rRNA (JQ315693) **Original No.** Eus-25 **References** 10, 13
- 0061 Sampling** 1990-01-**, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Hur, SB (1992-07-27) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 40 PPF, 4 M **Size (µm)** 3-5 (Ø) **Gene data** 18S rRNA (JQ315694) **Original No.** Eus-31 **References** 13
- 0066 Sampling** 1992-07-29, Namhae/Gyeongnam (34°42'47" N, 127°59'13" E), coast, surface water **Isolator** Hur, SB (1992-07-29) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 40 PPF, 4 M **Size (µm)** 3-5 (Ø) **Gene data** 18S rRNA (FJ896229) **Original No.** Eus-8 **References** 13, 96, 98
- 0067 Sampling** 1990-02-01, Namhae/Gyeongnam (34°42'47" N, 127°59'13" E), coast, surface water

- Isolator** Hur, SB (1992-07-29) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 40 PPF, 4 M **Size (µm)** 3-5 (Ø) **Gene data** 18S rRNA (JQ315695) **Original No.** Eus-22 **References** 13
- 0068 Sampling** 1990-01-**, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Hur, SB (1992-07-29) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 40 PPF, 4 M **Size (µm)** 1-3 (Ø) **Gene data** 18S rRNA (JQ315696) **Original No.** Eus-27 **References** 13
- 0069 Sampling** 1990-01-**, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Hur, SB (1992-07-29) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 40 PPF, 4 M **Size (µm)** 2-8 (Ø) **Gene data** 18S rRNA (JQ315697) **Original No.** Eus-32 **References** 13
- 0070 Sampling** 1990-01-**, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Hur, SB (1992-07-29) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 40 PPF, 4 M **Size (µm)** 1-5 (Ø) **Gene data** 18S rRNA (JQ315698) **Original No.** Eus-33 **References** 13
- 0079 Source** Institute, China (1993-08-12) **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 40 PPF, 4 M **Size (µm)** 2-4 (Ø) **Gene data** 18S rRNA (JQ315699) **Original No.** Eus-35 **References** 72, 101, 140
- 0094 Sampling** 1995-05-31, Wando/Jeonnam (34°19'34" N, 126°45'09" E), coast, surface water **Isolator** Hur, SB (1996-03-27) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 40 PPF, 4 M **Size (µm)** 1-5 (Ø) **Gene data** 18S rRNA (FJ896230) **Original No.** Eus-9
- 0095 Sampling** 1995-08-01, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water **Isolator** Hur, SB (1996-03-27) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 40 PPF, 4 M **Size (µm)** 1-3 (Ø) **Gene data** 18S rRNA (JQ315700) **Original No.** Eus-36 **References** 101, 139
- 0096 Sampling** 1994-05-08, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water **Isolator** Hur, SB (1996-03-27) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 40 PPF, 4 M **Size (µm)** 1-3 (Ø) **Gene data** 18S rRNA (JQ315701) **Original No.** Eus-37
- 0097 Sampling** 1995-05-31, Wando/Jeonnam (34°19'34" N, 126°45'09" E), coast, surface water **Isolator** Hur, SB (1996-03-27) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 40 PPF, 4 M **Size (µm)** 1-3 (Ø) **Gene data** 18S rRNA (JQ315702) **Original No.** Eus-38
- 0114 Sampling** 1995-08-16, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water **Isolator** Hur, SB (1996-07-01) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 40 PPF, 4 M **Size (µm)** 1-3 (Ø) **Gene data** 18S rRNA (JQ315703) **Original No.** Eus-28
- 0122 Sampling** Sokcho/Gangwon (38°11'39" N, 128°34'55" E), coast, surface water **Isolator** Hur, SB (1996-07-01) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 40 PPF, 4 M **Size (µm)** 2-5 (Ø) **Gene data** 18S rRNA (FJ896232) **Original No.** Eus-11
- 0123 Sampling** 1995-06-18, Youngkwang/Jeonnam (35°23'11" N, 126°24'11" E), coast, surface water **Isolator** Hur, SB (1996-07-01) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 23°C, 33 psu, 40 PPF, 4 M **Size (µm)** 1-5 (Ø) **Gene data** 18S rRNA (FJ896233) **Original No.** Eus-12 **References** 76
- 0124 Sampling** 1995-10-15, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 27°C, 31 psu **Isolator** Hur, SB (1996-07-01) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 40 PPF, 4 M **Size (µm)** 1-5 (Ø) **Gene data** 18S rRNA (JQ315705) **Original No.** Eus-24
- 0125 Sampling** 1999-09-13, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 25°C, 31 psu **Isolator** Hur, SB (1996-07-01) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 40 PPF, 4 M **Size (µm)** 1-5 (Ø) **Gene data** 18S rRNA (JQ315704) **Original No.** Eus-39
- 0126 Sampling** 1995-10-26, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 21°C, 31 psu **Isolator** Hur, SB (1996-07-01) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 40 PPF, 4 M **Size (µm)** 1-5 (Ø) **Gene data** 18S rRNA (JQ315706) **Original No.** Eus-42
- 0133 Sampling** 1995-12-21, Ansan/Gyeonggi (37°18'32" N, 126°43'06" E), salt farm, surface water **Isola-**

- tor Hur, SB (1996-07-15) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 40 PPF, 4 M **Size (µm)** 3-5 (Ø) **Gene data** 18S rRNA (FJ896234) **Original No.** Eus-13
- 0166 Sampling** 1995-06-29, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water **Isolator** Hur, SB (1997-02-06) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 40 PPF, 4 M **Size (µm)** 1-3 (Ø) **Gene data** 18S rRNA (JQ315707) **Original No.** Eus-29
- 0167 Sampling** 1996-08-12, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water **Isolator** Hur, SB (1997-02-06) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 40 PPF, 4 M **Size (µm)** 1-3 (Ø) **Gene data** 18S rRNA (JQ315708) **Original No.** Eus-40
- 0168 Sampling** 1996-07-21, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 26°C, 33 psu **Isolator** Hur, SB (1997-02-06) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 40 PPF, 4 M **Size (µm)** 1-5 (Ø) **Gene data** 18S rRNA (JQ315709) **Original No.** Eus-41
- 0177 Sampling** 1996-09-18, Namhae/Gyeongnam (34°42'47" N, 127°59'13" E), coast, surface water **Isolator** Hur, SB (1997-02-10) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 40 PPF, 4 M **Size (µm)** 1-5 (Ø) **Gene data** 18S rRNA (JQ315710) **Original No.** Eus-55
- 0197 Sampling** 1996-10-21, Jinhae Bay/Gyeongnam (35°08'35" N, 128°40'58" E), coast, surface water, 18°C **Isolator** Hur, SB (1997-08-02) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 40 PPF, 4 M **Size (µm)** 3-5 (Ø) **Gene data** 18S rRNA (JQ315711) **Original No.** Eus-56
- 0237 Sampling** 1998-01-08, Gwangalli/Busan (35°08'46" N, 129°06'55" E), coast, surface water, 10°C **Isolator** Hur, SB (1999-06-15) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 40 PPF, 4 M **Size (µm)** 1-4 (Ø) **Gene data** 18S rRNA (FJ896235) **Original No.** Eus-14
- 0254 Sampling** 1999-02-24, Yeosu/Jeonnam (34°45'7" N, 127°39'33" E), coast, surface water, 13°C **Isolator** Lee, GA (1999-08-30) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 40 PPF, 4 M **Size (µm)** 3-8 (Ø) **Gene data** 18S rRNA (JQ315712) **Original No.** Eus-44
- 0290 Sampling** 1999-08-18, Pohang/Gyeongbuk (35°59'58" N, 129°26'16" E), coast, surface water, 25°C **Isolator** Lee, GA (2000-01-15) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 40 PPF, 4 M **Size (µm)** 1-4 (Ø) **Gene data** 18S rRNA (FJ896236) **Original No.** Eus-15
- 0327 Sampling** 1999-08-19, Haeundae/Busan (35°09'06" N, 129°09'07" E), estuary, surface water, 27°C **Isolator** Lee, GA (2000-01-30) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM-E, f/2-E, 23°C, 15 psu, 40 PPF, 4 M **Size (µm)** 1-5 (Ø) **Gene data** 18S rRNA (FJ896239) **Original No.** EEus-1 **References** 101, 140
- 0328 Sampling** 1999-08-26, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Lee, GA (2000-01-30) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 15 psu, 40 PPF, 4 M **Size (µm)** 1-4 (Ø) **Gene data** 18S rRNA (JQ315713) **Original No.** EEus-4
- 0329 Sampling** 1999-09-16, Haeundae/Busan (35°09'06" N, 129°09'07" E), estuary, surface water, 25°C **Isolator** Lee, GA (2000-01-30) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM-E, f/2-E, 23°C, 15 psu, 40 PPF, 4 M **Size (µm)** 5-13 (L), 5-6 (W) **Gene data** 18S rRNA (JQ315714) **Original No.** EEus-7 **References** 111
- 0330 Sampling** 1999-09-16, Haeundae/Busan (35°09'06" N, 129°09'07" E), estuary, surface water, 25°C **Isolator** Lee, GA (2000-01-30) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM-E, f/2-E, 23°C, 15 psu, 40 PPF, 4 M **Size (µm)** 1-4 (Ø) **Gene data** 18S rRNA (JQ315715) **Original No.** EEus-8
- 0359 Sampling** 1999-09-14, Gampo/Gyeongbuk (35°48'17" N, 129°30'32" E), coast, surface water, 26°C **Isolator** Lee, GA (2000-02-27) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 40 PPF, 4 M **Size (µm)** 3-8 (Ø) **Gene data** 18S rRNA (GQ122351) **Original No.** Eus-16
- 0360 Sampling** 1999-09-13, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 28°C, 27 psu **Isolator** Lee, GA (2000-02-27) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 40 PPF, 4 M **Size (µm)** 1-5

- (Ø) **Gene data** 18S rRNA (JQ315716) **Original No.** Eus-46
- 0390 Sampling** 1999-10-14, Haeundae/Busan (35°09'06" N, 129°09'07" E), estuary, surface water, 21°C **Isolator** Lee, GA (2000-03-31) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM-E, f/2-E, 23°C, 15 psu, 40 PPF, 4 M **Size (µm)** 1-4 (Ø) **Gene data** 18S rRNA (JQ315717) **Original No.** EEus-6
- 0397 Sampling** 1999-10-13, Ulrungdo/Gyeongbuk (37°29'35" N, 130°46'09" E), coast, surface water, 23°C **Isolator** Lee, GA (2000-04-04) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 40 PPF, 4 M **Size (µm)** 1-5 (Ø) **Gene data** 18S rRNA (FJ896237) **Original No.** Eus-17
- 0398 Sampling** 1999-10-23, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 20°C, 29 psu **Isolator** Lee, GA (2000-04-04) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 40 PPF, 4 M **Size (µm)** 3-5 (Ø) **Gene data** 18S rRNA (GQ122355) **Original No.** Eus-21
- 0399 Sampling** 1999-11-24, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 14°C, 31 psu **Isolator** Lee, GA (2000-04-04) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 40 PPF, 4 M **Size (µm)** 1-3 (Ø) **Gene data** 18S rRNA (JQ315718) **Original No.** Eus-47
- 0400 Sampling** 1999-10-28, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 17°C **Isolator** Lee, GA (2000-04-04) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 40 PPF, 4 M **Size (µm)** 1-5 (Ø) **Gene data** 18S rRNA (JQ315719) **Original No.** Eus-48
- 0412 Sampling** 1999-11-11, Haeundae/Busan (35°09'06" N, 129°09'07" E), estuary, surface water, 15°C **Isolator** Lee, GA (2000-04-30) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM-E, f/2-E, 20°C, 15 psu, 40 PPF, 4 M **Size (µm)** 1-4 (Ø) **Gene data** 18S rRNA (JQ315720) **Original No.** EEus-3
- 0555 Sampling** 1999-04-01, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 15°C **Isolator** Lee, GA (1999-07-21) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 14-21 (L), 10-12 (W) **Original No.** Eus-61
- 0886 Sampling** 2000-06-11, Hadong/Jeonnam (35°50'32" N, 129°17'00" E), estuary, surface water, 21°C **Isolator** Lee, GA (2001-12-12) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM-E, f/2-E, 23°C, 15 psu, 40 PPF, 4 M **Size (µm)** 3-5 (Ø) **Gene data** 18S rRNA (FJ896240) **Original No.** EEus-2
- 1010 Sampling** 2001-03-01, Wando/Jeonnam (34°18'33" N, 126°51'18" E), hatchery, substratum **Isolator** Lee, GA (2002-08-06) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 40 PPF, 4 M **Size (µm)** 2-4 (Ø) **Gene data** 18S rRNA (JQ315721) **Original No.** Eus-49
- 1060 Sampling** 2001-06-06, East Sea (35°32' N, 129°35' E), open sea, middle water, 17°C, 30 psu **Isolator** Lee, GA (2003-03-05) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 40 PPF, 4 M **Size (µm)** 1-3 (Ø) **Gene data** 18S rRNA (FJ896238) **Original No.** Eus-18
- NAVICULA:** Bacillariophyceae
Navicula annexa Hustedt
- 0902 Sampling** 1990-03-01, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Hur, SB (1991-03-02) **Identifier** Lee, JH **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 20-25 (L), 5-6 (W) **Original No.** B-6 **References** 13, 76, 150
- 0903 Sampling** 1995-12-01, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Hur, SB (1996-10-30) **Identifier** Lee, JH **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 20-26 (L), 5-6 (W) **Original No.** B-53
- 0904 Sampling** 1995-05-01, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 17°C, 33 psu **Isolator** Hur, SB (1996-03-18) **Identifier** Lee, JH **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 14-25 (L), 4-6 (W) **Original No.** B-54
- 0941 Sampling** 1995-05-01, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 17°C, 33 psu **Isolator** Hur, SB (1996-10-30) **Identifier** Lee, JH **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 20-25 (L), 4-7 (W) **Original No.** B-81 **References** 97, 139

Navicula cancellata DonkinSyn. *Navicula retusa* var. *cancellata* (Donkin) R. Ross

- 0905 Sampling** 1986-05-01, Oido/Incheon (37°20'48" N, 126°40'57" E), salt farm, surface water **Isolator** Hur, SB (1986-11-19) **Identifier** Lee, SG **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 38-41 (L), 5-8 (W) **Original No.** B-4 **References** 13, 25, 76, 97, 110, 139
- 1296 Sampling** 2006-04-13, Busan Pier/Busan (35°06'17" N, 129°02'36" E), estuary, 12°C, 30 psu **Isolator** Jeong, EH (2006-05-10) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 60-67 (L), 14-19 (W) **Original No.** B-783

Navicula corymbosa (Agardh) Cleve

- 1948 Sampling** 2012-04-26, Tongyeong/Gyeongnam (34°50'18" N, 128°25'04" E), coast, 14°C, 32 psu **Isolator** Jo, MJ (2012-07-17) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 15-17 (L), 9-13 (W) **Original No.** B-1110

Navicula distans (W. Smith) RalfsSyn. *Pinnularia distans* W. Smith

- 1997 Sampling** 2012-10-18, Pyoseon/Jeju (33°19'56" N, 126°50'38" E), coast, 19°C, 33 psu **Isolator** Jo, MJ (2012-12-27) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 116-119 (L), 28-29 (W) **Original No.** B-1128

Navicula elegans W. SmithSyn. *Pinnularia elegans* (W. Smith) K. Krammer

- 0736 Sampling** 1996-12-05, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water **Isolator** Hur, SB (1997-08-05) **Identifier** Lee, SG **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 9-13 (L), 3-4 (W) **Original No.** B-225 **Remarks** aquaculture
- 0942 Sampling** 1994-06-02, Narodo/Jeonnam (34°28'08" N, 127°28'14" E), coast, surface water **Isolator** Hur, SB (1996-03-29) **Identifier** Lee, SG **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 15-25 (L), 6-10 (W) **Original No.** B-78 **Remarks** aquaculture

Navicula incerta GrunowSyn. *Navicula salinicola* Hustedt

- 0017 Source** UTEX 2046 (1985-12-04) **States** axenic, agar,

liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 18-23 (L), 4-5 (W) **Original No.** B-1 **References** 2, 4, 7, 10, 13, 16, 25, 32, 64, 76, 91, 97, 115, 127, 139, 161 **Remarks** aquaculture

Navicula minima Grunow

- 2190 Source** KIOST **Sampling** 2013-10-23, Kosrae, Micronesia (05°19'06" N, 162°00'20" E), reservoir, surface water, 28°C **Isolator** Jo, MJ (2014-02-17) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 0 psu, 20 PPF, 1 M **Size (µm)** 18-10 (L), 4-5 (W) **Original No.** FB-78

Navicula mollis (W. Smith) Cleve

- 2115 Source** KIOST **Sampling** 2012-11-19, Chukk, Micronesia (07°27'05" N, 151°53'38" E), coast, surface water, 30°C, 26 psu **Isolator** Jo, MJ (2013-04-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 23°C, 33 psu, 20 PPF, 1 M **Size (µm)** 10-12 (L), 2-3 (W) **Original No.** B-1154 **Remarks** high °C sp.

Navicula obtusa var. *scalpelliformis* Grun

- 0623 Sampling** 1986-05-01, Oido/Incheon (37°20'48" N, 126°40'57" E), salt farm, surface water **Isolator** Hur, SB (1986-08-25) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 8-11 (L), 3-5 (W) **Original No.** B-10 **References** 13, 76

Navicula parva (Ehrenberg) Ralfs

- 2106 Source** KIOST **Sampling** 2012-11-19, Chukk, Micronesia (07°27'05" N, 151°53'38" E), coast, surface water, 30°C, 26 psu **Isolator** Jo, MJ (2013-04-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 13-15 (L), 4-6 (W) **Original No.** B-1147 **Remarks** high °C sp.
- 2168 Source** KIOST **Sampling** 2013-10-23, Kosrae, Micronesia (05°19'06" N, 163°00'20" E), reservoir, surface water, 28°C **Isolator** Jo, MJ (2013-12-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 0 psu, 20 PPF, 1 M **Size (µm)** 10-12 (L), 4-5 (W) **Original No.** FB-73 **Remarks** high °C sp.

Navicula perminuta GrunowSyn. *Navicula cryptocephala* var. *perminuta* (Grunow) Cleve

- 0943 Sampling** 1995-12-07, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 10°C, 33 psu **Isolator** Hur, SB (1996-10-30) **Identi-**

fier Lee, JH States axenic, agar, liquid Culture LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M Size (μm) 9-11 (L), 3-5 (W) Original No. B-101

Navicula rhynchocephala Kützing

2112 Source KIOST Sampling 2012-11-19, Chuk, Micronesia (07°27'02" N, 151°53'20" E), coast, surface water, 30°C, 24 psu Isolator Jo, MJ (2013-04-24) Identifier Hur, SB States non-axenic, liquid Culture f/2, 18°C, 33 psu, 20 PPF, 1 M Size (μm) 25-28 (L), 8-9 (W) Original No. B-1153 Remarks high °C sp.

Navicula viridis (Nitzsch) Kützing

Syn. *Pinnularia viridis* (Nitzsch) Ehrenberg

0919 Sampling 1986-04-01, Oido/Incheon (37°20'48" N, 126°40'57" E), salt farm, surface water Isolator Hur, SB (1986-08-25) Identifier Lee, SG States axenic, agar, liquid, cryopreserved Culture LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M Size (μm) 15-21 (L), 3-5 (W) Original No. B-5 References 13, 76, 97, 139 Remarks aquaculture

Navicula sp.

0229 Sampling 1999-11-04, Namgu/Busan (35°07'56" N, 129°06'06" E), pond, surface water, 19°C Isolator Lee, GA (2000-04-10) Identifier Hur, SB States axenic, agar, liquid Culture JM, 20°C, 0 psu, 20 PPF, 2 M Size (μm) 18-23 (L), 4-6 (W) Original No. FB-18

0230 Sampling 1999-12-02, Namgu/Busan (35°07'56" N, 129°06'06" E), pond, surface water, 18°C Isolator Lee, GA (2000-04-27) Identifier Hur, SB States non-axenic, liquid Culture JM, 20°C, 0 psu, 20 PPF, 2 M Size (μm) 15-25 (L), 4-5 (W) Original No. FB-24

0235 Sampling 1999-02-04, Gwangalli/Busan (35°08'47" N, 129°06'56" E), estuary, surface water, 11°C Isolator Lee, GA (1999-06-04) Identifier Hur, SB States non-axenic, liquid, cryopreserved Culture f/2-E, 20°C, 15 psu, 20 PPF, 2 M Size (μm) 18-25 (L), 5-6 (W) Original No. EB-17

0238 Sampling 1999-02-25, Gwangalli/Busan (35°08'47" N, 129°06'56" E), estuary, surface water, 12°C Isolator Lee, GA (1999-06-30) Identifier Hur, SB States axenic, agar, liquid, cryopreserved Culture LDM-E, f/2-E, 20°C, 15 psu, 20 PPF, 2 M Size (μm) 18-28 (L), 5-6 (W) Original No. EB-13

0243 Sampling 1999-03-07, Haeundae/Busan (35°09'55" N, 129°07'34" E), estuary, surface water, 12°C Isolator Lee, GA (1999-07-20) Identifier Hur, SB States axenic, agar, liquid Culture LDM-E, f/2-E, 20°C,

15 psu, 20 PPF, 2 M Size (μm) 16-26 (L), 4-6 (W) Original No. EB-16

0270 Sampling 1999-08-26, Gwangalli/Busan (35°08'47" N, 129°06'56" E), estuary, surface water, 26°C Isolator Lee, GA (1999-12-27) Identifier Hur, SB States axenic, agar, liquid, cryopreserved Culture LDM-E, f/2-E, 20°C, 15 psu, 20 PPF, 2 M Size (μm) 10-13 (L), 5-6 (W) Original No. EB-21

0276 Sampling 1999-07-15, Namgu/Busan (35°07'56" N, 129°06'06" E), pond, surface water, 24°C Isolator Lee, GA (2000-01-04) Identifier Hur, SB States axenic, agar, liquid, cryopreserved Culture JM-agar, JM, 20°C, 0 psu, 20 PPF, 2 M Size (μm) 15-24 (L), 3-5 (W) Original No. FB-5

0277 Sampling 1999-08-12, Namgu/Busan (35°07'56" N, 129°06'06" E), pond, surface water, 27°C Isolator Lee, GA (2000-01-04) Identifier Hur, SB States axenic, agar, liquid Culture JM-agar, JM, 20°C, 0 psu, 20 PPF, 2 M Size (μm) 13-18 (L), 4-5 (W) Original No. FB-11

0282 Sampling 1999-10-28, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 17°C Isolator Lee, GA (2000-10-24) Identifier Lee, JH States axenic, agar, liquid Culture LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M Size (μm) 8-10 (L), 3-5 (W) Original No. B-462

0302 Sampling 1999-09-27, Namhae/Gyeongnam (34°42'47" N, 127°59'13" E), coast, surface water, 28°C Isolator Lee, GA (2000-01-20) Identifier Hur, SB States axenic, agar, liquid Culture LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M Size (μm) 30-38 (L), 8-9 (W) Original No. B-401

0303 Sampling 1999-10-01, Hansando/Gyeongnam (34°46'07" N, 128°30'47" E), coast, surface water, 24°C Isolator Lee, GA (2000-01-20) Identifier Hur, SB States non-axenic, liquid Culture f/2, 15°C, 33 psu, 20 PPF, 3 M Size (μm) 8-10 (L), 4-6 (W) Original No. B-409

0304 Sampling 1999-10-13, East Sea (36°34' N 131°50' E), open sea, surface water, 22°C Isolator Lee, GA (2000-01-20) Identifier Lee, JH States axenic, agar, liquid Culture LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M Size (μm) 31-35 (L), 3-4 (W) Original No. B-413

0305 Sampling 1999-10-15, Ulrungdo/Gyeongbuk (37°29'35" N, 130°46'09" E), open sea, surface water, 23°C Isolator Lee, GA (2000-10-24) Identifier Lee, JH States axenic, agar, liquid Culture LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M Size (μm) 13-15 (L), 4-5 (W) Original No. B-418

0306 Sampling 1999-09-09, Namgu/Busan (35°07'56" N,

- 129°06'06" E), pond, surface water, 28°C **Isolator** Lee, GA (2000-01-20) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 20°C, 0 psu, 20 PPF, 2 M **Size** (μm) 18-25 (L), 5-8 (W) **Original No.** FB-15
- 0377 Sampling** 1999-12-24, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 6°C, 31 psu **Isolator** Lee, GA (2000-03-11) **Identifier** Lee, JH **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size** (μm) 15-25 (L), 4-5 (W) **Original No.** B-437
- 0385 Sampling** 1999-11-11, Haeundae/Busan (35°09'55" N, 129°07'34" E), estuary, surface water, 16°C **Isolator** Lee, GA (2000-03-27) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2-E, 20°C, 15 psu, 20 PPF, 2 M **Size** (μm) 19-25, 5-6 (W) **Original No.** EB-26
- 0386 Sampling** 1999-11-11, Haeundae/Busan (35°09'55" N, 129°07'34" E), estuary, surface water, 15°C **Isolator** Lee, GA (2000-03-27) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2-E, 20°C, 15 psu, 20 PPF, 2 M **Size** (μm) 38-55 (L), 7-10 (W) **Original No.** EB-30
- 0426 Sampling** 2000-01-20, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 10°C **Isolator** Lee, GA (2000-05-15) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size** (μm) 8-10 (L), 5-6 (W) **Original No.** B-479
- 0439 Sampling** 2000-04-30, Gampo/Gyeongbuk (35°48'17" N, 129°30'32" E), coast, surface water, 13°C **Isolator** Lee, GA (2000-07-27) **Identifier** Lee, JH **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size** (μm) 10-15 (L), 3-4 (W) **Original No.** B-510
- 0454 Sampling** 2000-11-06, Yangyang/Gangwon (38°04'34" N, 128°40'40" E), coast, surface water, 16°C **Isolator** Lee, GA (2001-02-26) **Identifier** Lee, JH **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size** (μm) 25-31 (L), 6-8 (W) **Original No.** B-537
- 0455 Sampling** 2000-11-06, Yangyang/Gangwon (38°04'34" N, 128°40'40" E), coast, surface water, 16°C **Isolator** Lee, GA (2001-02-26) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size** (μm) 20-24 (L), 3-4 (W) **Original No.** B-546
- 0462 Sampling** 1999-02-11, Gwangalli/Busan (35°08'47" N, 129°06'56" E), estuary, surface water, 12°C, 21 psu **Isolator** Lee, GA (2001-03-26) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM-E, f/2-E, 20°C, 15 psu, 20 PPF, 2 M **Size** (μm) 15-21 (L), 4-5 (W) **Original No.** EB-8
- 0472 Sampling** 2001-02-01, Youngjongdo/Incheon (37°27'13" N, 126°21'59" E), coast, surface water, 8°C **Isolator** Lee, GA (2001-06-01) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size** (μm) 8-15 (L), 3-4 (W) **Original No.** B-601
- 0501 Sampling** 2001-03-01, Buan/Jeonbuk (35°44'44" N, 126°35'27" E), hatchery, substratum **Isolator** Lee, GA (2001-07-24) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size** (μm) 14-23 (L), 5-6 (W) **Original No.** B-581 **References** 110
- 0502 Sampling** 2001-03-01, Buan/Jeonbuk (35°44'44" N, 126°35'27" E), hatchery, substratum **Isolator** Lee, GA (2001-07-24) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size** (μm) 13-20 (L), 5-8 (W) **Original No.** B-582
- 0503 Sampling** 2001-03-01, Wando/Jeonnam (34°18'33" N, 126°51'18" E), hatchery, substratum **Isolator** Lee, GA (2001-07-24) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size** (μm) 5-7 (L), 5-6 (W) **Original No.** B-583
- 0504 Sampling** 2001-03-01, Wando/Jeonnam (34°18'33" N, 126°51'18" E), hatchery, substratum **Isolator** Lee, GA (2001-07-24) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size** (μm) 11-13 (L), 5-6 (W) **Original No.** B-584 **References** 110
- 0508 Sampling** 2001-03-01, Wando/Jeonnam (34°19'34" N, 126°45'09" E), hatchery, substratum, 14°C **Isolator** Lee, GA (2001-07-29) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size** (μm) 10-15 (L), 4-7 (W) **Original No.** B-554
- 0509 Sampling** 2001-03-01, Wando/Jeonnam (34°19'34" N, 126°45'09" E), hatchery, substratum, 16°C **Isolator** Lee, GA (2001-07-29) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size** (μm) 15-20 (L), 3-5 (W) **Original No.** B-555 **Remarks** aquaculture
- 0510 Sampling** 2001-04-01, Asan Bay/Chungnam (36°54'51" N, 126°54'16" E), coast, surface water, 12°C **Isolator** Lee, GA (2001-07-30) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size** (μm) 18-25 (L), 5-6 (W) **Original No.** B-553
- 0514 Sampling** 2001-03-01, Buan/Jeonbuk (35°44'44" N,

- 126°35'27" E), hatchery, substratum **Isolator** Lee, GA (2001-08-01) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 20-25 (L), 3-4 (W) **Original No.** B-588
- 0519 Sampling** 2001-04-01, Buan/Jeonbuk (35°35'31" N, 126°37'30" E), coast, mud, 8°C, 31 psu **Isolator** Lee, GA (2001-08-08) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 7-8 (L), 3-4 (W) **Original No.** B-591
- 0521 Sampling** 2001-03-01, Uljin/Gyeongbuk (36°57'28" N, 129°25'00" E), hatchery, substratum **Isolator** Lee, GA (2001-08-16) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 11-13 (L), 5-8 (W) **Original No.** B-580
- 0533 Sampling** 2001-03-29, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 9°C, 31 psu **Isolator** Lee, GA (2001-08-27) **Identifier** Lee, JH **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 8-23 (L), 4-6 (W) **Original No.** B-516
- 0534 Sampling** 2001-03-29, Buan/Jeonbuk (35°35'31" N, 126°37'30" E), coast, mud, 10°C, 30 psu **Isolator** Lee, GA (2001-08-27) **Identifier** Lee, JH **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 15-25 (L), 4-5 (W) **Original No.** B-534
- 0535 Sampling** 2001-03-29, Buan/Jeonbuk (35°35'31" N, 126°37'30" E), coast, mud, 9°C, 31 psu **Isolator** Lee, GA (2001-08-27) **Identifier** Lee, JH **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 15-18 (L), 3-5 (W) **Original No.** B-528
- 0536 Sampling** 2001-03-29, Buan/Jeonbuk (35°35'31" N, 126°37'30" E), coast, mud, 9°C, 31 psu **Isolator** Lee, GA (2001-08-27) **Identifier** Lee, JH **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 15-23 (L), 4-6 (W) **Original No.** B-532
- 0537 Sampling** 2001-03-29, Buan/Jeonbuk (35°35'31" N, 126°37'30" E), coast, mud, 9°C, 31 psu **Isolator** Lee, GA (2001-08-27) **Identifier** Lee, JH **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 5-13 (L), 4-6 (W) **Original No.** B-543 **Remarks** aquaculture
- 0538 Sampling** 2001-03-29, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, mud, 8°C, 31 psu **Isolator** Lee, GA (2001-08-27) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 18-28 (L), 5-9 (W) **Original No.** B-550
- 0567 Sampling** 1999-03-10, Oedo/Gyeongnam (34°46'14" N, 128°42'27" E), surface water, 16°C, 33 psu **Isolator** Lee, GA (2000-02-07) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 15-20 (L), 5-10 (W) **Original No.** B-681
- 0687 Sampling** 1999-05-18, Jinhae Bay/Gyeongnam (35°8'35" N, 128°40'58" E), coast, surface water, 16°C **Isolator** Lee, GA (1999-08-09) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 20-23 (L), 3-4 (W) **Original No.** B-347
- 0688 Sampling** 1999-09-13, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 28°C, 27 psu **Isolator** Lee, GA (2000-01-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 20-28 (L), 5-6 (W) **Original No.** B-393 **References** 110
- 0737 Sampling** 1996-08-27, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Hur, SB (1997-01-22) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 18-31 (L), 5-8 (W) **Original No.** B-206
- 0738 Sampling** 1998-07-13, Namhae/Gyeongnam (34°42'47" N, 127°59'13" E), coast, surface water, 19°C **Isolator** Hur, SB (1998-11-30) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 21-26 (L), 5-8 (W) **Original No.** B-245 **References** 110
- 0739 Sampling** 1998-07-03, Yeosu/Jeonnam (34°45'7" N, 127°39'33" E), coast, surface water **Isolator** Hur, SB (1998-11-30) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 16-19 (L), 5-6 (W) **Original No.** B-246
- 0740 Sampling** 1998-07-06, Jeju/Jeju (33°31'35" N, 126°31'53" E), coast, surface water **Isolator** Hur, SB (1998-11-30) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 8-10 (L), 4-6 (W) **Original No.** B-247
- 0741 Sampling** 1998-02-18, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 11°C **Isolator** Hur, SB (1998-09-10) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 6-9 (L), 5-6 (W) **Original No.** B-250

- 0794 Sampling** 1998-07-13, Namhae/Gyeongnam (34°42'47" N, 127°59'13" E), coast, surface water, 23°C **Isolator** Hur, SB (1998-11-30) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 14-24 (L), 4-5 (W) **Original No.** B-254
- 0795 Sampling** 1998-12-31, Jindong/Gyeongnam (35°06'09" N, 128°29'40" E), coast, surface water **Isolator** Lee, GA (1999-07-16) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 25-28 (L), 3-5 (W) **Original No.** B-264
- 0796 Sampling** 1999-02-24, Yeosu/Jeonnam (34°45'07" N, 127°39'33" E), coast, surface water, 10°C **Isolator** Lee, GA (1999-06-30) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 21-28 (L), 5-6 (W) **Original No.** B-272
- 0797 Sampling** 1999-01-28, Yeosu/Jeonnam (34°45'06" N, 127°39'29" E), coast, surface water, 13°C **Isolator** Lee, GA (1999-05-22) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 28-43 (L), 8-11 (W) **Original No.** B-281
- 0798 Sampling** 1999-02-08, Jejusi/Jeju (33°31'35" N, 126°31'53" E), coast, surface water, 13°C **Isolator** Lee, GA (1999-06-30) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 15-20 (L), 5-8 (W) **Original No.** B-292
- 0799 Sampling** 1999-02-08, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 14°C **Isolator** Lee, GA (1999-06-30) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 20-36 (L), 6-9 (W) **Original No.** B-293 **References** 110
- 0800 Sampling** 1999-02-09, Samcheonpo/Gyeongnam (34°55'29" N, 128°5'2" E), coast, surface water **Isolator** Lee, GA (1999-06-30) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 9-12 (L), 4-6 (W) **Original No.** B-297
- 0801 Sampling** 1998-12-31, Jindong/Gyeongnam (35°06'09" N, 128°29'40" E), coast, surface water **Isolator** Lee, GA (1999-07-16) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 10-15 (L), 3-5 (W) **Original No.** B-300
- 0837 Sampling** 1999-03-22, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 8°C, 31 psu **Isolator** Lee, GA (1999-10-26) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 10-13 (L), 5-8 (W) **Original No.** B-316
- 0838 Sampling** 1999-0-28, Yeosu/Jeonnam (34°02'28" N, 127°37'14" E), coast, surface water, 13°C **Isolator** Lee, GA (1999-06-30) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 5-9 (L), 3-4 (W) **Original No.** B-319
- 0839 Sampling** 1999-05-24, East Sea (35°36' N, 129°40' E), open sea, surface water, 17°C **Isolator** Lee, GA (1999-08-09) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 9-13 (L), 5-8 (W) **Original No.** B-357
- 0840 Sampling** 1999-08-21, Jindong/Gyeongnam (35°06'09" N, 128°29'40" E), coast, surface water **Isolator** Lee, GA (2000-01-20) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 10-13 (L), 5-8 (W) **Original No.** B-391
- 0841 Sampling** 1999-09-13, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 27°C, 29 psu **Isolator** Lee, GA (2000-01-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 13-17 (L), 4-5 (W) **Original No.** B-394 **References** 93, 107, 110, 113, 139
- 0865 Sampling** 1996-04-20, Namhae/Gyeongnam (34°42'47" N, 127°59'13" E), coast, surface water **Isolator** Hur, SB (1996-10-15) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 8-11 (L), 3-6 (W) **Original No.** B-182
- 0906 Sampling** 1986-04-01, Oido/Incheon (37°20'48" N, 126°40'57" E), salt farm, surface water **Isolator** Hur, SB (1986-11-19) **Identifier** Lee, SG **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 15-28 (L), 4-6 (W) **Original No.** B-3 **References** 13, 25, 67, 69, 76
- 0907 Sampling** 1986-10-01, Nakdong River/Busan (35°6'17" N, 128°53'42" E), coast, surface water **Isolator** Hur, SB (1986-12-15) **Identifier** Lee, SG **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 13-21 (L), 3-5 (W) **Original No.** B-38 **References** 10, 13, 28, 69, 76
- 0908 Sampling** 1995-05-11, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 17°C, 33 psu **Isolator** Hur, SB (1996-03-18) **Identifier** Lee, SG **States** axenic, agar, liquid **Culture** LDM,

- f/2, 15°C, 33 psu, 20 PPF, 3 M Size (μm) 14-18 (L), 6-10 (W) **Original No.** B-49
- 0909 Sampling** 1995-05-11, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 17°C, 33 psu **Isolator** Hur, SB (1996-03-18) **Identifier** Lee, SG **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (μm)** 13-15 (L), 8-9 (W) **Original No.** B-50
- 0910 Sampling** 1995-05-01, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 17°C, 33 psu **Isolator** Hur, SB (1996-03-18) **Identifier** Lee, SG **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (μm)** 15-25 (L), 3-5 (W) **Original No.** B-51 **References** 78
- 0911 Sampling** 1995-05-01, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 17°C, 33 psu **Isolator** Hur, SB (1996-03-18) **Identifier** Lee, SG **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (μm)** 10-13 (L), 6-8 (W) **Original No.** B-56
- 0912 Sampling** 1995-05-01, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 17°C, 33 psu **Isolator** Hur, SB (1996-03-18) **Identifier** Lee, SG **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (μm)** 9-14 (L), 6-8 (W) **Original No.** B-57
- 0913 Sampling** 1995-01-**, Gunsan/Jeonbuk (35°53'47" N, 126°41'51" E), salt farm, surface water **Isolator** Hur, SB (1995-05-09) **Identifier** Lee, SG **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (μm)** 5-6 (L), 3-5 (W) **Original No.** B-67 **References** 110
- 0914 Sampling** 2000-08-15, Junam/Gyeongnam (35°18'49" N, 128°40'25" E), reservoir, surface water, 30°C **Isolator** Lee, GA (2001-12-19) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** JM-agar, JM, 20°C, 0 psu, 20 PPF, 2 M **Size (μm)** 20-25 (L), 4-6 (W) **Original No.** FB-27
- 0915 Sampling** 2000-05-05, Junam/Gyeongnam (35°18'8" N, 128°40'43" E), reservoir, surface water, 21°C **Isolator** Lee, GA (2001-12-19) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 20°C, 0 psu, 20 PPF, 2 M **Size (μm)** 8-10 (L), 3-5 (W) **Original No.** FB-31
- 0916 Sampling** 2001-04-01, Junam/Gyeongnam (35°18'49" N, 128°40'25" E), reservoir, mud, 30°C **Isolator** Lee, GA (2001-12-19) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 20°C, 0 psu, 20 PPF, 2 M **Size (μm)** 15-20 (L), 4-8 (W) **Original No.** FB-38
- 0917 Sampling** 1999-09-01, Namgu/Busan (35°07'56" N, 129°06'06" E), pond, surface water, 28°C **Isolator** Lee, GA (2000-01-30) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** JM, 20°C, 0 psu, 20 PPF, 2 M **Size (μm)** 3-4 (L), 1-3 (W) **Original No.** FB-42
- 0918 Sampling** 1999-09-01, Namgu/Busan (35°07'56" N, 129°06'06" E), pond, surface water, 28°C **Isolator** Lee, GA (2000-01-30) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** JM-agar, JM, 20°C, 0 psu, 20 PPF, 2 M **Size (μm)** 15-25 (L), 3-6 (W) **Original No.** FB-43
- 0944 Sampling** 1995-01-25, Geojedo/Gyeongnam, (33°14'26" N, 126°34'3" E), coast, surface water **Isolator** Hur, SB (1995-05-09) **Identifier** Lee, SG **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (μm)** 21-28 (L), 2-3 (W) **Original No.** B-71
- 0945 Sampling** 1994-05-01, Bogildo/Jeonnam (34°8'17" N, 126°33'54" E), coast, surface water **Isolator** Hur, SB (1996-03-29) **Identifier** Lee, SG **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (μm)** 10-13 (L), 3-4 (W) **Original No.** B-74
- 0946 Sampling** 1994-06-01, Wando/Jeonnam (34°19'34" N, 126°45'9" E), coast, surface water **Isolator** Hur, SB (1996-03-29) **Identifier** Lee, SG **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (μm)** 9-13 (L), 3-4 (W) **Original No.** B-75
- 0947 Sampling** 1994-06-01, Sopdo/Jeonnam (34°18'20" N, 127°7'30" E), coast, surface water **Isolator** Hur, SB (1996-03-29) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (μm)** 8-10 (L), 3-4 (W) **Original No.** B-77
- 0948 Sampling** 1995-08-01, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 27°C, 33 psu **Isolator** Hur, SB (1996-04-17) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (μm)** 15-17 (L), 5-6 (W) **Original No.** B-82
- 0949 Sampling** 1995-08-01, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 27°C, 33 psu **Isolator** Hur, SB (1996-04-17) **Identifier** Lee, SG **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (μm)** 18-20 (L), 3-5 (W) **Original No.** B-83
- 0950 Sampling** 1995-08-01, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 27°C, 33 psu **Isolator** Hur, SB (1996-04-17) **Identifier**

- er Hur, SB States axenic, agar, liquid, cryopreserved Culture LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M Size (μm) 45-48 (L), 7-11 (W) **Original No.** B-92
- 0951 Sampling** 1994-06-02, Narod/Jeonnam (34°28'08" N, 127°28'14" E), coast, surface water **Isolator** Hur, SB (1996-03-29) **Identifier** Hur, SB States axenic, agar, liquid, cryopreserved Culture LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M Size (μm) 10-11 (L), 4-5 (W) **Original No.** B-96
- 0952 Sampling** 1995-09-01, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 25°C, 31 psu **Isolator** Hur, SB (1996-04-17) **Identifier** Lee, SG States axenic, agar, liquid Culture LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M Size (μm) 13-18 (L), 5-8 (W) **Original No.** B-103
- 0953 Sampling** 1995-11-25, Hwajinpo/Gangwon (38°28'59" N, 128°25'54" E), lagoon, surface water **Isolator** Hur, SB (1996-03-18) **Identifier** Lee, SG States axenic, agar, liquid, cryopreserved Culture LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M Size (μm) 10-20 (L), 4-9 (W) **Original No.** B-105
- 0954 Sampling** 1995-09-13, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 25°C, 31 psu **Isolator** Hur, SB (1996-04-17) **Identifier** Hur, SB States axenic, agar, liquid Culture LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M Size (μm) 9-11 (L), 4-6 (W) **Original No.** B-107
- 0955 Sampling** 1995-10-13, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 21°C, 31 psu **Isolator** Hur, SB (1996-04-17) **Identifier** Hur, SB States axenic, agar, liquid, cryopreserved Culture LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M Size (μm) 18-3 (L), 4-6 (W) **Original No.** B-115
- 0956 Sampling** 1994-06-02, Tongyeong/Gyeongnam (34°41'55" N, 128°12'3" E), coast, surface water **Isolator** Hur, SB (1996-03-29) **Identifier** Lee, SGB States axenic, agar, liquid, cryopreserved Culture LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M Size (μm) 13-15 (L), 3-5 (W) **Original No.** B-121
- 0957 Sampling** 1995-10-12, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 21°C, 31 psu **Isolator** Hur, SB (1996-03-29) **Identifier** Lee, SG States axenic, agar, liquid, cryopreserved Culture LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M Size (μm) 10-13 (L), 5-8 (W) **Original No.** B-122 **References** 97, 110, 139
- 0958 Sampling** 1995-09-13, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 25°C, 31 psu **Isolator** Hur, SB (1996-04-17) **Identifier** Lee, SG States axenic, agar, liquid Culture LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M Size (μm) 8-10 (L), 5-8 (W) **Original No.** B-123 **References** 110
- 0959 Sampling** 1995-12-04, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 9°C **Isolator** Hur, SB (1996-10-30) **Identifier** Lee, SG States axenic, agar, liquid, cryopreserved Culture LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M Size (μm) 20-25 (L), 4-6 (W) **Original No.** B-159
- 0960 Sampling** 1996-04-11, Youngil Bay/Gyeongbuk (36°01'09" N, 129°27'02" E), coast, surface water **Isolator** Hur, SB (1996-10-15) **Identifier** Lee, SG States non-axenic, liquid Culture f/2, 15°C, 33 psu, 20 PPF, 3 M Size (μm) 9-10 (L), 4-5 (W) **Original No.** B-161 **References** 110
- 0996 Sampling** 2001-10-31, West Sea (35°26' N 125°26' E), open sea, middle water, 18°C **Isolator** Lee, GA (2002-06-24) **Identifier** Hur, SB States axenic, agar, liquid, cryopreserved Culture LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M Size (μm) 9-15 (L), 3-4 (W) **Original No.** B-622
- 0997 Sampling** 2001-10-31, West Sea (34°40' N, 125°39' E), open sea, middle water, 18°C **Isolator** Lee, GA (2002-06-24) **Identifier** Hur, SB States axenic, agar, liquid Culture LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M Size (μm) 11-14 (L), 3-5 (W) **Original No.** B-626
- 0998 Sampling** 2001-10-16, Haeundae/Busan (35°09'06" N, 129°09'07" E), hatchery, substratum **Isolator** Lee, GA (2002-06-24) **Identifier** Hur, SB States axenic, agar, liquid Culture LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M Size (μm) 8-13 (L), 4-6 (W) **Original No.** B-628
- 0999 Sampling** 2001-11-09, Buan/Jeonbuk (35°44'44" N, 126°35'27" E), hatchery, substratum **Isolator** Lee, GA (2002-06-24) **Identifier** Hur, SB States axenic, agar, liquid Culture LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M Size (μm) 18-25 (L), 4-5 (W) **Original No.** B-630
- 1014 Sampling** 2002-03-01, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 14°C **Isolator** Lee, GA (2002-10-20) **Identifier** Hur, SB States axenic, agar, liquid, cryopreserved Culture LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M Size (μm) 5-8 (L), 4-5 (W) **Original No.** B-643
- 1015 Sampling** 2000-08-01, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 25°C **Isolator** Lee, GA (2002-10-23) **Identifier** Hur, SB States axenic, agar, liquid, cryopreserved Culture LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M Size (μm) 20-23 (L), 5-8 (W) **Original No.** B-636
- 1019 Sampling** 2001-03-01, Wando/Jeonnam (34°18'33"

- N, 126°51'18" E), hatchery, substratum **Isolator** Lee, GA (2002-12-12) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 9-11 (L), 5-8 (W) **Original No.** B-634
- 1032 Sampling** 2002-05-01, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 19°C **Isolator** Lee, GA (2002-12-20) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 6-8 (L), 2-3 (W) **Original No.** B-644
- 1073 Sampling** 2004-04-29, East Sea (34°36' N, 128°57' E), open sea, surface water **Isolator** Lee, GA (2004-08-16) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 32-45 (L), 5-10 (W) **Original No.** B-693
- 1098 Sampling** 2004-08-25, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Lee, GA (2004-11-25) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 10-13 (L), 2-4 (W) **Original No.** B-692
- 1115 Sampling** 2004-08-06, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Lee, GA (2004-11-30) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 7-15 (L), 2-5 (W) **Original No.** B-703
- 1191 Sampling** 2004-04-07, Ulrungdo/Gyeongbuk (37°29'35" N, 130°46'9" E), open sea, bottom water, 0°C, 34 psu **Isolator** Lee, GA (2004-12-11) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 20-28 (L), 6-10 (W) **Original No.** B-677 **Remarks** low °C sp.
- 1139 Sampling** 2004-08-11, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Lee, GA (2004-12-01) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 9-10 (L), 3-5 (W) **Original No.** B-708
- 1140 Sampling** 2004-08-04, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Lee, GA (2004-12-01) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 43-75 (L), 5-10 (W) **Original No.** B-710
- 1200 Sampling** 2004-08-11, South Sea (34°34' N, 128°30' E) **Isolator** Lee, GA (2005-02-28) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 10-23 (L), 5-13 (W) **Original No.** B-740
- 1207 Sampling** 2005-01-20, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water **Isolator** Park, SJ (2005-03-10) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 10-30 (L), 5-10 (W) **Original No.** B-743
- 1208 Sampling** 2004-12-15, Upo/Gyeongnam (35°32'53" N, 128°24'25" E), swamp, surface water, 5°C **Isolator** Park, SJ (2006-03-13) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** JM-agar, JM, 20°C, 0 psu, 40 PPF, 2 M **Size (µm)** 15-21 (L), 4-6 (W) **Original No.** FB-48
- 1241 Sampling** 2005-05-17, Namhae/Gyeongnam (34°42'47" N, 127°59'13" E), 15°C **Isolator** Jeong, EH (2005-11-07) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 5-15 (L), 2-6 (W) **Original No.** B-745
- 1244 Sampling** 2005-09-08, East China Sea (33°57' N, 123°54' E), high sea, 24°C **Isolator** Jeong, EH (2005-12-13) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 10-13 (L), 2-3 (W) **Original No.** B-747
- 1245 Sampling** 2005-06-27, Upo/Gyeongnam (35°32'53" N, 128°24'25" E), swamp, surface water, 26°C **Isolator** Jeong, EH (2006-01-07) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 20°C, 0 psu, 20 PPF, 2 M **Size (µm)** 3-4 (L), 8-14 (W) **Original No.** FB-49
- 1261 Sampling** 2005-12-01, Yeosu/Jeonnam (34°45'07" N, 127°39'33" E), 12°C, 32 psu **Isolator** Jeong, EH (2006-01-17) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 10-20 (L), 4-6 (W) **Original No.** B-752
- 1270 Sampling** 2005-11-03, Bogildo/Jeonnam (34°08'17" N, 126°33'54" E), coast, surface water, 15°C, 32 psu **Isolator** Jeong, EH (2006-03-13) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 10-12 (L), 3-5 (W) **Original No.** B-758
- 1271 Sampling** 2005-12-01, Yeosu/Jeonnam (34°45'07" N, 127°39'33" E), hatchery, 12°C, 32 psu **Isolator** Jeong, EH (2006-03-13) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 13-20 (L), 3-9 (W) **Original No.** B-766
- 1279 Sampling** 2006-01-17, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 11°C, 33 psu **Isolator** Jeong, EH (2006-03-14) **Identifier** Hur, SB

States axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 10-13 (L), 3-5 (W) **Original No.** B-765

1422 Sampling 2008-07-02, Jejusi/Jeju (33°34'32" N, 126°31'11" E), coast, surface water, 13°C, 34 psu **Isolator** Jeong, EH (2008-09-01) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 25-32 (Ø) **Original No.** B-856

1581 Sampling 2009-11-19, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 15°C, 33 psu **Isolator** Jo, MJ (2010-01-12) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 69-73 (L), 28-35 (W) **Original No.** B-936

1637 Sampling 2010-05-13, Dokdo/Gyeongbuk (37°14'34" N, 131°36'19" E), open sea, deep sea, deep water, 1°C **Isolator** Jo, MJ (2010-06-17) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 7-8 (L), 1 (W) **Original No.** B-989 **Remarks** low °C sp.

1848 Sampling 2011-06-08, Seogwipo/Jeju (33°22'8" N, 126°41'36" E), reservoir, surface water, 24°C **Isolator** Jo, MJ (2011-09-01) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 20°C, 0 psu, 60 PPF, 1 M **Size (µm)** 9-10 (L), 3-5 (W) **Original No.** FB-63

1951 Source Hanyang Univ. (HYGJ-0911-C7) **Sampling** 2012-05-03, Geojedo/Gyeongnam (34°50'45" N, 128°34'57" E), coast, surface water (2012-07-17) **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 19-22 (L), 4-5 (W) **Original No.** B-1111

1956 Source Hanyang Univ. (HYYS-1005-D10) **Sampling** 2010-05-03, Yeosu/Jeonnam (34°45'07" N, 127°39'33" E), coast, surface water (2012-07-17) **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 127-144 (L), 30-41 (W) **Original No.** B-1116

2169 Source KIOST **Sampling** 2013-10-22, Kosrae, Micronesia (05°20'57" N, 162°57'24" E), coast, surface water, 30°C, 30 psu **Isolator** Jo, MJ (2013-12-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 7-8 (L), 3-4 (W) **Original No.** B-1169 **Remarks** high °C sp.

NEOCHLOROSARCINA: Chlorophyceae

Neochlorosarcina sp.

1255 Sampling 2005-10-06, Upo/Gyeongnam (35°32'53" N, 128°24'25" E), swamp, surface water, 15°C **Isolator** Jeong, EH (2006-01-17) **Identifier** Hur, SB **States**

axenic, agar, liquid **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 5-8 (L), 3-5 (W) **Gene data** 18S rRNA (JQ315552) **Original No.** FC-112

NEPHROCYTIUM: Chlorophyceae

Nephrocytium lunatum W. West

1875 Sampling 2011-08-22, Nakdong River/Busan (35°06'17" N, 128°53'42" E), surface water, 25°C, 3 psu **Isolator** Jo, MJ (2011-12-30) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** JM-agar, JM, 20°C, 0 psu, 60 PPF, 1 M **Size (µm)** 12-19 (L), 4-8 (W) **Original No.** FC-206

1928 Sampling 2012-02-26, Gunsan/Jeonbuk (35°57'02" N, 126°41'37" E), reservoir, surface water, 8°C **Isolator** Jo, MJ (2012-05-31) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 20°C, 0 psu, 60 PPF, 1 M **Size (µm)** 11-19 (L), 4-7 (W) **Original No.** FC-215

NETRIUM: Chlorophyceae

Netrium digitus (Ehrenberg) Itzingsohn et Rothe

1946 Sampling 2012-05-16, Tamjin River/Jeonnam (34°39'37" N, 126°53'58" E), surface water, 21°C **Isolator** Jo, MJ (2012-07-17) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 18°C, 0 psu, 60 PPF, 1 M **Size (µm)** 264-308 (L), 61-66 (W) **Original No.** FC-220

NITZSCHIA: Bacillariophyceae

Nitzschia amphibia Grunow

1556 Sampling 2009-07-17, Namgu/Busan (35°07'56" N, 129°06'06" E), pond, surface water **Isolator** Jo, MJ (2009-10-26) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 20°C, 0 psu, 20 PPF, 2 M **Size (µm)** 32-37 (L), 4-6 (W) **Original No.** FB-57

Nitzschia apiculata (Gregory) Grunow

Syn. *Tryblionella apiculata* Gregory

0307 Sampling 1999-10-01, Hansando/Gyeongnam (34°46'07" N, 128°30'47" E), coast, surface water **Isolator** Lee, GA (2000-10-20) **Identifier** Lee, JH **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 5-6 (L), 4-5 (W) **Original No.** B-408

1209 Sampling 2004-12-15, Upo/Gyeongnam (35°32'53" N, 128°24'25" E), swamp, surface water, 5°C **Isolator** Park, SJ (2005-03-10) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 20°C, 0 psu, 20 PPF, 2 M **Size (µm)** 25-38 (L), 5-6 (W) **Original No.** FB-46

Nitzschia brevis Grunow

- 0842 Sampling** 1999-07-15, Gampo/Gyeongbuk (35°48'17" N, 129°30'32" E), coast, surface water, 27°C **Isolator** Lee, GA (1999-11-11) **Identifier** Lee, K **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 28-31 (L), 6-8 (W) **Original No.** B-360
- 1000 Sampling** 2001-04-02, East Sea (35°03' N, 129°07' E), open sea, middle water, 11°C **Isolator** Lee, GA (2002-06-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 20-33 (L), 5-7 (W) **Original No.** B-609

Nitzschia closterium (Ehrenberg) W. Smith

Syn. *Cylindrotheca closterium* (Ehrenberg) Reimann & J. C. Lewin

- 1901 Sampling** 2011-07-06, Nakdong River/Busan (35°06'17" N, 128°53'42" E), surface water, 26°C **Isolator** Jo, MJ (2012-03-29) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 20°C, 0 psu, 20 PPF, 1 M **Size (µm)** 52-75 (L), 3-4 (W) **Original No.** FB-65 **Remarks** aquaculture, high protein and lipid

Nitzschia constricta (Gregory) Grunow

- 0297 Sampling** 1999-10-23, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 18°C, 29 psu **Isolator** Lee, GA (2000-01-16) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 8-13 (L), 4-5 (W) **Original No.** B-449
- 1033 Sampling** 2002-05-22, Namhae/Gyeongnam (34°42'47" N, 127°59'13" E), coast, surface water, 19°C **Isolator** Lee, GA (2002-12-20) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 10-14 (L), 5-8 (W) **Original No.** B-648
- 1034 Sampling** 2001-03-01, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Lee, GA (2002-12-20) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 5-8 (L), 4-8 (W) **Original No.** B-653
- 1141 Sampling** 2004-09-01, Namhae/Gyeongnam (34°42'47" N, 127°59'13" E) **Isolator** Park, SJ (2004-12-01) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 7-13 (L), 7-10 (W) **Original No.** B-711
- 1183 Sampling** 2001-08-31, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 27°C, 33 psu **Isolator** Park, SJ (2001-12-19) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C,

33 psu, 20 PPF, 3 M **Size (µm)** 10-13 (L), 5-8 (W) **Original No.** B-615

- 1306 Sampling** 2006-05-29, Jindo/Jeonnam (34°33'44" N, 126°14'55" E), coast, surface water, 17°C, 31 psu **Isolator** Jeong, EH (2006-07-10) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 25-28 (L), 8-10 (W) **Original No.** B-780
- 1809 Sampling** 2011-06-08, Moseulpo/Jeju (33°12'21" N, 126°15'36" E), coast, surface water, 18°C, 33 psu **Isolator** Jo, MJ (2011-07-28) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 28-29 (L), 10-13 (W) **Original No.** B-1065
- 1983 Sampling** 2012-10-19, Udo/Jeju (33°30'13" N, 126°58'7" E), coast, surface water, 20°C, 33 psu **Isolator** Jo, MJ (2012-12-27) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 30-31 (L), 10-11 (W) **Original No.** B-1122
- 2178 Source** KIOST **Sampling** 2013-10-24, Kosrae, Micronesia (05°18'22" N, 162°58'33" E), coast, surface water, 26°C, 30 psu **Isolator** Jo, MJ (2013-12-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 34-36 (L), 9-11 (W) **Original No.** B-1177 **Remarks** high °C sp.

Nitzschia delicatissima Cleve

- 1833 Sampling** 2011-06-08, Nakdong River/Busan (35°06'17" N, 128°53'42" E), estuary, surface water, 19°C, 21 psu **Isolator** Jo, MJ (2011-08-31) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2-E, 20°C, 15 psu, 20 PPF, 1 M **Size (µm)** 60-62 (L), 2-3 (W) **Original No.** EB-53

Nitzschia denticula Grunow

Syn. *Denticula kuetzingii* Grunow

- 0689 Sampling** 1999-08-20, Ulsan/Gyeongnam (35°31'01" N, 129°22'44" E), coast, surface water, 25°C **Isolator** Jo, MJ (2000-01-20) **Identifier** Lee, JH **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 13-16 (L), 5-6 (W) **Original No.** B-351

Nitzschia dissipata (Kützing) Grunow

Syn. *Synedra dissipata* Kützing

- 0026 Source** SERI-S/Nitzs-2 (2001-10-13) **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 25-28 (L), 5-6 (W) **Original No.** B-8 **References** 13, 76, 97, 139 **Remarks** aquaculture

Nitzschia fasciculata GrunowSyn. *Nitzschia sigma* var. *fasciculata* Grunow

2128 Sampling 2012-11-19, Chukk, Micro-nesia (07°27'05" N, 151°53'31" E), coast, surface water, 30°C, 25 psu **Isolator** Jo, MJ (2013-06-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 83-86 (L), 6-7 (W) **Original No.** B-1162 **Remarks** high °C sp.

Nitzschia fonticola (Grunow) GrunowSyn. *Nitzschia palea* var. *fonticola* Grunow

0843 Sampling 1999-03-22, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 8°C, 31 psu **Isolator** Lee, GA (1999-10-26) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 20-38 (L), 5-8 (W) **Original No.** B-318

Nitzschia frustulum (Kützing) Grunow

0961 Sampling 1995-02-23, Anmyundo/Chungnam (36°35'20" N, 126°18'51" E), coast, surface water, 6°C, 33 psu **Isolator** Hur, SB (1995-05-09) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 5-8 (L), 3-4 (W) **Original No.** B-151 **References** 110

Nitzschia hantzschiana RabenhorstSyn. *Nitzschia frustulum* var. *hantzschiana* (Rabenhorst) Grunow

1142 Sampling 2004-08-03, Haeundae/Busan (35°09'06" N, 129°09'07" E), surface water **Isolator** Park, SJ (2004-12-01) **Identifier** Lee, JH **States** non-axenic, liquid, cryopreserved **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 2-5 (L), 2-4 (W) **Original No.** B-722

Nitzschia hybrida Grunow

0742 Sampling 1996-02-23, Jeju/Jeju (33°31'35" N, 126°31'53" E), coast, surface water **Isolator** Hur, SB (1996-10-30) **Identifier** Lee, K **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 13-15 (L), 5-6 (W) **Original No.** B-154

0920 Sampling 1995-01-25, Geojedo/Gyeongnam (33°14'26" N, 126°34'03" E), coast, surface water **Isolator** Hur, SB (1995-05-09) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 28-35 (L), 5-9 (W) **Original No.** B-68

Nitzschia inconspicua GrunowSyn. *Nitzschia frustulum* var. *inconspicua* (Grunow) Grunow

0515 Sampling 2001-03-01, Uljin/Gyeongbuk (36°57'28" N, 129°25'00" E), hatchery, substratum **Isolator** Lee, GA (2001-08-01) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 5-8 (L), 2-3 (W) **Original No.** B-587

0516 Sampling 2001-03-01, Buan/Jeonbuk (35°44'44" N, 126°35'27" E), hatchery, substratum **Isolator** Lee, GA (2001-08-01) **Identifier** Lee, K **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 3-5 (L), 2-3 (W) **Original No.** B-590 **References** 110

0517 Sampling 2001-03-01, Wando/Jeonnam (34°19'34" N, 126°45'09" E), hatchery, substratum **Isolator** Lee, GA (2001-08-01) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 4-6 (L), 2-3 (W) **Original No.** B-594

0802 Sampling 1998-07-17, Geomundo/Jeonnam (34°02'49" N, 127°17'48" E), coast, surface water **Isolator** Hur, SB (1998-11-30) **Identifier** Lee, K **States** non-axenic, liquid, cryopreserved **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 3-4 (L), 2-3 (W) **Original No.** B-244

0844 Sampling 1999-10-11, East Sea (37°53' N 129°45' E), open sea, surface water, 19°C **Isolator** Lee, GA (2000-03-30) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 3-4 (L), 2-3 (W) **Original No.** B-359

0921 Sampling 1995-11-01, Gunsan/Jeonbuk (35°53'43" N, 126°40'57" E), salt farm, surface water **Isolator** Hur, SB (1996-03-189) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 3-5 (L), 2-4 (W) **Original No.** B-66

1035 Sampling 2002-04-01, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 17°C **Isolator** Lee, GA (2002-12-20) **Identifier** Lee, K **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 8-10 (L), 4-5 (W) **Original No.** B-646

Nitzschia intermedia Hantzsch ex Cleve & GrunowSyn. *Nitzschia subtilis* var. *intermedia* (Hantzsch) Schonfeldt

0419 Sampling 2000-02-07, Gijang/Busan (35°15'36" N, 129°14'48" E), intertidal zone, surface water, 11°C

- Isolator** Lee, GA (2000-05-10) **Identifier** Lee, K
States axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 25-40 (L), 3-6 (W)
Original No. B-494
- 0435 Sampling** 2000-04-02, Taejongdae/Busan (35°03'20" N, 129°04'50" E), coast, surface water, 14°C **Isolator** Lee, GA (2000-06-30) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 35-40 (L), 5-8 (W) **Original No.** B-500
- 1017 Sampling** 2000-05-01, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 18°C **Isolator** Lee, GA (2000-08-07) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 23-28 (L), 5-6 (W) **Original No.** B-614
- Nitzschia longissima* (Brébisson) Ralfs
- 1741 Sampling** 2010-12-07, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 12°C, 34 psu **Isolator** Jo, MJ (2010-12-28) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 204-207 (L), 5-6 (W) **Original No.** B-1037
- 1818 Sampling** 2011-06-07, Gimnyeong/Jeju (33°33'32" N, 126°45'41" E), coast, surface water, 21°C, 30 psu **Isolator** Jo, MJ (2011-07-28) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 221-225 (L), 5-10 (W) **Original No.** B-1074
- 1952 Source** Hanyang Univ. (HYBJ-0911-A10) **Sampling** 2009-11-05, Yeosu (34°45'07" N, 127°39'33" E), coast, surface water, substratum (2012-07-17) **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 23-42 (L), 4-5 (W) **Original No.** B-1112
- 2129 Source** KIOST **Sampling** 2012-11-19, Chuk, Micronesia (07°27'05" N, 151°53'38" E), coast, surface water, 30°C, 26 psu **Isolator** Jo, MJ (2013-06-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 199-252 (L), 7-12 (W) **Original No.** B-1163 **Remarks** high °C sp.
- 1374 Sampling** 2006-12-**, Jinhae Bay/Gyeongnam (35°08'35" N, 128°40'58" E), coast, surface water, mud, 10°C **Isolator** Jeong, EH (2007-03-22) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 20°C, 33 psu, 20 PPF, 3 M **Size (µm)** 301-320 (L), 12-10 (W) **Original No.** B-815
- Nitzschia obtusa* var. *scalpelliformis* Grunow
- 1375 Sampling** 2006-10-**, Buan/Jeonbuk (35°35'27" N, 126°37'11" E), salt farm, mud, 18°C **Isolator** Jeong, EH (2007-03-22) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 210-240 (L), 8-10 (W) **Original No.** B-830
- 1656 Sampling** 2010-06-22, Anmyeondo/Chungnam (36°34'56" N, 126°22'17" E), hatchery, 25°C, 32 psu **Isolator** Jo, MJ (2010-07-14) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 55-62 (L), 5 (W) **Original No.** B-999
- Nitzschia obtusa* W. Smith
Syn. *Bacillaria obtusa* (W. Smith) Elmore
- 1815 Sampling** 2011-06-20, Namcheon Bay/Busan (35°08'14" N, 129°06'49" E), coast, surface water, 16°C, 33 psu **Isolator** Jo, MJ (2011-07-28) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 212-216 (L), 11-13 (W) **Original No.** B-1071
- 1985 Sampling** 2012-10-19, Seongsan/Jeju (33°27'57" N, 126°56'51" E), coast, surface water, 19°C, 17 psu **Isolator** Jo, MJ (2012-12-27) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2-E, 18°C, 15 psu, , 20 PPF, 1 M **Size (µm)** 115-119 (L), 17-23 (W) **Original No.** EB-57
- Nitzschia ovalis* H. J. Arnott
- 0413 Sampling** 2000-01-10, Hadong/Gyeongnam (35°03'51" N, 127°44'27" E), coast, surface water, 7°C **Isolator** Lee, GA (2000-04-30) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 8-10 (L), 4-5 (W) **Original No.** B-477
- Nitzschia palea* (Kützing) W. Smith
Syn. *Synedra palea* Kützing
- 2185 Source** KIOST **Sampling** 2013-10-23, Kosrae, Micronesia (05°17'37" N, 163°00'55" E), reservoir, surface water, 26°C **Isolator** Jo, MJ (2014-02-17) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 0 psu, 20 PPF, 1 M **Size (µm)** 27-30 (L), 2-4 (W) **Original No.** FB-75
- Nitzschia panduriformis* W. Gregory
- 1808 Sampling** 2011-06-08, Hangyeong/Jeju (33°20'36" N, 126°10'28" E), coast, bottom water, 29°C, 28 psu **Isolator** Jo, MJ (2011-07-28) **Identifier** Hur, SB

States non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 56-61 (L), 13-19 (W) **Original No.** B-1064

2180 Source KIOST **Sampling** 2013-10-24, Kosrae, Micronesia (05°21'22" N, 162°57'47" E), coast, surface water, 26°C, 25 psu **Isolator** Jo, MJ (2013-12-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 89-95 (L), 24-28 (W) **Original No.** B-1179 **Remarks** high °C sp.

Nitzschia panduriformis var. *minor* Grunow

2170 Source KIOST **Sampling** 2013-10-22, Kosrae, Micronesia (05°19'36" N, 162°55'57" E), coast, surface water, 30°C, 30 psu **Isolator** Jo, MJ (2013-12-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 13-14 (L), 6-9 (W) **Original No.** B-1170 **Remarks** high °C sp.

Nitzschia pseudohybrida Hustedt

0414 Sampling 2000-01-11, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 10°C **Isolator** Lee, GA (2000-04-30) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 13-38 (L), 6-9 (W) **Original No.** B-499

Nitzschia pseudonana Hasle

0624 Sampling 1991-09-17, Suncheon Bay/Jeonnam (34°53'08" N, 127°30'52" E), salt farm, surface water **Isolator** Hur, SB (1992-07-29) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 10-13 (L), 5-9 (W) **Original No.** B-42 **References** 13

Nitzschia punctata (W. Smith) Grunow

0291 Sampling 1999-10-23, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 17°C, 29 psu **Isolator** Lee, GA (2000-01-15) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 4-10 (L), 2-3 (W) **Original No.** B-427

0539 Sampling 2001-03-29, Buan/Jeonbuk (35°35'31" N, 126°37'30" E), coast, mud, core, 9°C, 31 psu **Isolator** Lee, GA (2001-08-27) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 6-9 (L), 3-4 (W) **Original No.** B-534 **References** 11

Nitzschia pungens Grunow

Syn. *Pseudo-nitzschia pungens* (Grunow ex Cleve) G. R. Hasle

0625 Sampling 1986-06-01, Oido/Incheon (37°20'48" N, 126°40'57" E), salt farm, surface water **Isolator** Hur, SB (1986-09-23) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 58-60 (L), 4-6 (W) **Original No.** B-37 **References** 2, 4, 13, 28, 67, 69, 75, 76 **Remarks** toxic

0803 Sampling 1996-10-18, Namhae/Gyeongnam (34°42'47" N, 127°59'13" E), coast, surface water, 19°C **Isolator** Hur, SB (1997-01-22) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 55-75 (L), 4-11 (W) **Original No.** B-222 **Remarks** toxic

1307 Sampling 2006-02-03, Upo/Gyeongnam (35°32'53" N, 128°24'25" E), swamp, surface water, 11°C **Isolator** Jeong, EH (2006-07-10) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** JM, 20°C, 0 psu, 20 PPF, 2 M **Size (µm)** 40-43 (L), 5-7 (W) **Original No.** FB-54

1638 Sampling 2010-05-13, Dokdo/Gyeongbuk (37°14'34" N, 131°36'19" E), open sea, deep sea, deep water, 1°C **Isolator** Jo, MJ (2010-06-17) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 89-92 (L), 4-5 (W) **Original No.** B-938 **Remarks** low °C sp., toxic

Nitzschia rectilonga Takano

1414 Sampling 2008-06-25, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 20°C, 31 psu **Isolator** Jeong, EH (2008-09-01) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 317-330 (L), 10-15 (W) **Original No.** B-859

Nitzschia seriata Cleve

Syn. *Pseudo-nitzschia seriata* (Cleve) H. Peragallo

1639 Sampling 2010-05-12, Ulleungdo/Gyeongbuk (37°27'22" N, 130°44'56" E), open sea, deep sea, deep water, 1°C **Isolator** Jo, MJ (2010-06-17) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 95-100 (L), 5-6 (W) **Original No.** B-981 **Remarks** low °C sp.

Nitzschia sigma (Kützing) W. Smith

Syn. *Synedra sigma* Kützing

1099 Sampling 2004-07-06, Haeundae/Busan (35°09'06"

N, 129°09'07" E), coast, surface water **Isolator** Park, SJ (2004-11-25) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 18°C, 33 psu, 20 PPF, 3 M **Size (µm)** 88-100 (L), 7-10 (W) **Original No.** B-697

1954 Source Hanyang Univ. (HYYS-1005-D8) **Sampling** 2010-05-03, Yeosu/Jeonnam (34°45'7" N, 127°39'33" E), coast, surface water, substratum (2012-07-17) **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 184-202 (L), 14-20 (W) **Original No.** B-1114

1894 Sampling 2011-12-15, Jinhae Bay/Gyeongnam (35°08'35" N, 128°40'58" E), coast, surface water, 11°C, 32 psu **Isolator** Jo, MJ (2012-02-08) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 204-207 (L), 11-14 (W) **Original No.** B-1096

2163 Source KIOST **Sampling** 2013-10-23, Kosrae, Micronesia (05°17'06" N, 162°57'25" E), reservoir, surface water, 26°C **Isolator** Jo, MJ (2013-12-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 0 psu, 20 PPF, 3 M **Size (µm)** 73-74 (L), 5-6 (W) **Original No.** FB-70 **Remarks** high °C sp.

2213 Source KIOST **Sampling** 2013-10-23, Kosrae, Micronesia (05°16'30" N, 162°59'15" E), reservoir, surface water, 26°C **Isolator** Jo, MJ (2014-04-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 18°C, 0 psu, 20 PPF, 1 M **Size (µm)** 99-106 (L), 3-6 (W) **Original No.** FB-82 **Remarks** high °C sp.

Nitzschia sigma var. *intercedens* Grunow

1667 Sampling 2010-06-22, Taean/Chungnam (36°40'39" N, 126°08'09" E), coast, surface water, 21°C, 31 psu **Isolator** Jo, MJ (2010-08-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 214-223 (L), 15-19 (W) **Original No.** B-1009

Nitzschia sigma var. *intermedia* W. Smith

1402 Sampling 2008-04-11, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 17°C, 33 psu **Isolator** Jeong, EH (2008-06-23) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 120-125 (L), 10-15 (W) **Original No.** B-849

1433 Sampling 2008-08-13, Taean/Chungnam (36°40'39" N, 126°08'09" E), coast, surface water, 32°C, 34 psu **Isolator** Jeong, EH (2008-10-13) **Identifier** Hur, SB **States** axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 194-211 (L), 9-11 (W) **Original**

No. B-865

1977 Sampling 2012-09-06, Nakdong River/Busan (35°06'17" N, 128°53'42" E), estuary, surface water, 27°C, 17 psu **Isolator** Jo, MJ (2012-10-23) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2-E, 18°C, 15 psu, 20 PPF, 1 M **Size (µm)** 309-355 (L), 8-9 (W) **Original No.** EB-55

1657 Sampling 2010-06-22, Anmyeondo/Chungnam (36°34'56" N, 126°22'17" E), salt farm, surface water, 25°C, 32 psu **Isolator** Jo, MJ (2010-07-14) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 304-313 (L), 10 (W) **Original No.** B-997

Nitzschia subpacific Hasle

Syn. *Pseudo-nitzschia subpacific* (Hasle) Hasle

0744 Sampling 1996-02-23, Wimi/Jeju (33°15'52" N, 126°39'50" E), coast, surface water **Isolator** Hur, SB (1996-10-30) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 25-36 (L), 6-9 (W) **Original No.** B-200

0804 Sampling 1999-02-09, Samcheonpo/Gyeongnam (34°55'29" N, 128°05'02" E), coast, surface water, 12°C **Isolator** Lee, GA (1999-06-30) **Identifier** Lee, JH **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 15-25 (L), 2-3 (W) **Original No.** B-294

Nitzschia vermicularis (Kützing) Grunow

Syn. *Frustulia vermicularis* Kützing

2139 Sampling 2013-07-26, Nakdong River/Busan (35°06'17" N, 128°53'42" E), surface water, 31°C, 25 psu **Isolator** Jo, MJ (2013-08-28) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 18°C, 0 psu, 40 PPF, 1 M **Size (µm)** 175-180 (L), 11-13 (W) **Original No.** FB-69

Nitzschia sp.

0308 Sampling 1999-09-09, Haeundae/Busan (35°09'06" N, 129°09'07" E), hatchery, surface water, 28°C **Isolator** Lee, GA (2000-01-20) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** JM, 20°C, 0 psu, 20 PPF, 2 M **Size (µm)** 15-19 (L), 3-5 (W) **Original No.** FB-16

0471 Sampling 2001-02-01, Ulsan/Gyeongnam (35°31'01" N, 129°22'44" E), coast, surface water, 11°C **Isolator** Lee, GA (2001-05-31) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 16-20 (L), 3-4 (W) **Original No.** B-595

0473 Sampling 2001-02-01, Wolmido/Incheon (37°28'06"

- N, 126°35'45" E), coast, surface water, 8°C **Isolator** Lee, GA (2001-06-05) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 25-38 (L), 4-6 (W) **Original No.** B-575
- 0487 Sampling** 2001-03-29, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 9°C, 31 psu **Isolator** Lee, GA (2001-06-28) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 45-63 (L), 5-6 (W) **Original No.** B-512
- 0490 Sampling** 2001-03-01, Wolmido/Incheon (37°28'06" N, 126°35'45" E), coast, surface water, 11°C **Isolator** Lee, GA (2001-07-02) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 25-43, 5-8 (W) **Original No.** B-586 **References** 110 **Remarks** aquaculture
- 0743 Sampling** 1996-02-08, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 6°C, 33 psu **Isolator** Hur, SB (1996-10-30) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 30-33 (L), 4-5 (W) **Original No.** B-149
- 0922 Sampling** 1995-01-**, Gunsan/Jeonbuk (35°53'47" N, 126°41'51" E), salt farm, surface water **Isolator** Hur, SB (1995-05-09) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 23-26 (L), 3-5 (W) **Original No.** B-65
- 0923 Sampling** 2000-08-15, Junam/Gyeongnam (35°18'49" N, 128°40'25" E), reservoir, surface water, 30°C **Isolator** Lee, GA (2001-12-19) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** JM-agar, JM, 20°C, 0 psu, 20 PPF, 2 M **Size (µm)** 20-26 (L), 3-4 (W) **Original No.** FB-28
- 1001 Sampling** 2001-11-08, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 15°C **Isolator** Lee, GA (2002-06-24) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 30-38 (L), 6-9 (W) **Original No.** B-621
- 1016 Sampling** 2001-04-02, Namhae/Gyeongnam (34°42'47" N, 127°59'13" E), coast, surface water, 13°C **Isolator** Lee, GA (2002-10-23) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 58-75 (L), 4-5 (W) **Original No.** B-635 **Remarks** aquaculture
- 1100 Sampling** 2004-08-25, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Park, SJ (2004-11-25) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 7-13 (L), 5-8 (W) **Original No.** B-689
- 1192 Sampling** 2004-04-07, Ullungdo/Gyeongbuk (37°29'35" N, 130°46'09" E), open sea, bottom water, 6°C, 34 psu **Isolator** Park, SJ (2004-12-11) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 15-35 (L), 3-5 (W) **Original No.** B-672 **Remarks** low °C sp.
- 1256 Sampling** 2005-10-04, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 22°C, 29 psu **Isolator** Jeong, EH (2006-01-17) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 285-300 (L), 9-10 (W) **Original No.** B-749
- 1288 Sampling** 2006-03-01, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 10°C, 34 psu **Isolator** Jeong, EH (2006-05-09) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 60-75 (L), 5-9 (W) **Original No.** B-771
- 1330 Sampling** 2006-10-01, Jindong/Gyeongnam (35°06'09" N, 128°29'40" E), coast, surface water, 22°C **Isolator** Jeong, EH (2006-11-22) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 36-38 (L), 1-2 (W) **Original No.** B-801
- 1382 Sampling** 2006-10-**, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), 22°C **Isolator** Jeong, EH (2007-03-22) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 8-11 (L), 2-3 (W) **Original No.** B-832
- 2102 Source KIOST Sampling** 2012-11-22, Chukk, Micro-nesia (07°27'05" N, 151°53'38" E), coast, surface water, 30°C, 26 psu **Isolator** Jo, MJ (2013-03-12) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 8-11 (Ø) **Original No.** B-1143 **Remarks** high °C sp.
- 2209 Source Sampling** KIOST 2013-10-23, Kosrae, Micro-nesia (05°17'06" N, 162°57'25" E), reservoir, surface water, 26°C **Isolator** Jo, MJ (2014-04-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 23°C, 0 psu, 20 PPF, 1 M **Size (µm)** 57-59 (L), 6-8 (W) **Original No.** FB-81

NODULARIA: Cyanophyceae

Nodularia sp.

- 1503 Source** Kunsan Univ. (MK) **Sampling** Mangyeong River/Jeonbuk, surface water (2009-07-01) **States** non-axenic, liquid **Culture** JM, 20°C, 0 psu, 40

PPFD, 1 M Size (μm) 24-26 (\emptyset) **Original No.** FCy-24
1690 Sampling 2008-12-09, Namgu/Busan (35°07'56" N, 129°06'06" E), hatchery, surface water, 8°C, 1 psu **Isolator** Jo, MJ (2009-02-19) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** JM, 20°C, 0 psu, 40 PPFD, 1 M Size (μm) 6-9 (L), 5-6 (W) **Original No.** FCy-22

NOSTOC: Cyanophyceae

Nostoc commune Vaucher

1069 Source CCAP 1453/24 (2003-03-28) **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 20°C, 0 psu, 40 PPFD, 1 M Size (μm) 4-5 (L), 3-5 (W) **Original No.** FCy-7

1184 Sampling 2003-03-01, Gyeongju/Gyeongbuk (35°47'47" N, 129°14'33" E), swamp, surface water, 15°C **Isolator** Lee, GA (2004-12-01) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** JM, 20°C, 0 psu, 40 PPFD, 1 M Size (μm) 2-5 (L), 3-5 (W) **Original No.** FCy-6

1682 Source CCAP 1453/29 (2007-01-22) **States** non-axenic, liquid **Culture** BG11, 20°C, 0 psu, 40 PPFD, 1 M Size (μm) 4-5 (L), 3-5 (W) **Original No.** FCy-16

1944 Sampling 2012-05-15, Sinan/Jeonnam (34°49'22" N, 126°04'32" E), reservoir, surface water, 22°C, 4 psu **Isolator** Jo, MJ (2012-07-17) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** JM, 20°C, 0 psu, 40 PPFD, 1 M Size (μm) 5-7 (L), 3-4 (W) **Original No.** FCy-51

OCHROMONAS: Chrysophyceae

Ochromonas cosmopoliticus Ruinen

1730 Sampling 2010-09-30, Geojedo/Gyeongnam (34°50'45" N, 128°34'57" E), coast, surface water, 22°C **Isolator** Jo, MJ (2010-11-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPFD, 1 M Size (μm) 13-15 (L), 10-14 (W) **Original No.** Ch-5

Ochromonas minima Throndsen

1924 Sampling 2011-12-08, Nakdong River/Busan (35°06'17" N, 128°53'42" E), surface water, 11°C, 30 psu **Isolator** Jo, MJ (2012-05-31) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 40 PPFD, 1 M Size (μm) 9-12 (L), 6-8 (W) **Original No.** Ch-9

Ochromonas sp.

0588 Sampling 1999-05-01, Hongdo/Jeonnam (34°40'49" N, 125°12'9" E), coast, surface water, 15°C **Isolator**

Lee, GA (1999-08-09) **Identifier** Lee, CG **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPFD, 1 M Size (μm) 13-28 (L), 4-6 (W) **Original No.** Ch-2

1055 Sampling 2001-08-30, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 27°C **Isolator** Lee, GA (2003-01-20) **Identifier** Lee, CG **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPFD, 1 M Size (μm) 5-10 (L), 4-5 (W) **Original No.** Ch-3

1143 Sampling 2004-05-14, East China Sea, high sea, 21 psu **Isolator** Park, SJ (2004-12-01) **Identifier** Lee, CG **States** non-axenic, liquid **Culture** f/2, 20°C, 40 PPFD, 33 psu, 1 M Size (μm) 8-13 (L), 5-8 (W) **Original No.** Ch-4

1216 Sampling 2005-01-06, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water **Isolator** Park, SJ (2005-03-10) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPFD, 1 M Size (μm) 7-13 (L), 7-10 (W) **Original No.** Ch-11

ODONTELLA: Bacillariophyceae

Odontella aurita (Lyngbye) C. Agardh

Syn. *Diatoma aurita* Lyngbye

0273 Sampling 1999-10-13, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 17°C **Isolator** Lee, GA (1999-12-30) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPFD, 1 M Size (μm) 18-23 (L), 5-11 (W) **Original No.** B-457

0298 Sampling 1999-10-23, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 17°C, 29 psu **Isolator** Lee, GA (2000-01-16) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPFD, 1 M Size (μm) 10-25 (L), 8-15 (W) **Original No.** B-448

0299 Sampling 1999-10-23, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 18°C, 29 psu **Isolator** Lee, GA (2000-01-16) **Identifier** Lee, JH **States** axenic, agar, liquid **Culture** f/2, 20°C, 33 psu, 40 PPFD, 1 M Size (μm) 8-20 (L), 7-15 (W) **Original No.** B-450

0361 Sampling 1999-11-01, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 15°C **Isolator** Lee, GA (2000-02-27) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPFD, 1 M Size (μm) 15-25 (L), 8-15 (W) **Original No.** B-456

0375 Sampling 1999-12-23, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 13°C **Isolator** Lee, GA (2000-03-10) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPFD, 1 M Size (μm) 6-10 (L), 4-5 (W) **Gene data** 18S rRNA

(JQ315668) **Original No.** B-445

0376 Sampling 1999-12-23, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 13°C **Isolator** Lee, GA (2000-03-10) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (µm) 15-18 (L), 13-15 (W) **Gene data** 18S rRNA (JQ315448) **Original No.** B-447

0388 Sampling 2000-01-11, Geojedo/Gyeongnam (34°50'45" N, 128°34'57" E), coast, surface water **Isolator** Lee, GA (2000-03-30) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (µm) 20-33 (L), 9-15 (W) **Original No.** B-467

0407 Sampling 2000-01-20, Hadong/Gyeongnam (35°03'51" N, 127°44'27" E), coast, surface water, 7°C **Isolator** Lee, GA (2000-04-15) **Identifier** Lee, JH **States** axenic, agar, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (µm) 10-25, 8-13 (W) **Original No.** B-491

0408 Sampling 2000-01-29, Incheon Pier/Incheon (37°23'11" N, 126°36'53" E), coast, surface water, 10°C **Isolator** Lee, GA (2000-04-21) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (µm) 20-30 (L), 6-13 (W) **Original No.** B-469

1668 Sampling 2010-06-30, Sinan/Jeonnam (35°01'06" N, 126°05'07" E), coast, surface water, 16°C **Isolator** Jo, MJ (2010-08-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (µm) 38-47 (L), 31-40 (W) **Gene data** 18S rRNA (JQ315449) **Original No.** B-1012

Odontella obtusa (Kützting) Rales in Prichard

1623 Sampling 2010-03-24, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 12°C, 33 psu **Isolator** Jo, MJ (2010-04-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (µm) 84-90 (L), 55-60 (W) **Gene data** 18S rRNA (JQ315450) **Original No.** B-974

Odontella sp.

0420 Sampling 2000-02-20, Ganggu/Gyeongbuk (36°21'32" N, 129°23'23" E), coast, surface water, 9°C **Isolator** Lee, GA (2000-05-10) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (µm) 14-20 (L), 8-10 (W) **Original No.** B-488

0540 Sampling 2001-03-29, Buan/Jeonbuk (35°35'31" N, 126°37'30" E), coast, mud, 9°C, 31 psu **Isolator** Lee, GA (2001-08-27) **Identifier** Hur, SB **States** axenic,

liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (µm) 5-20 (L), 6-13 (W) **Original No.** B-544

OEDOGONIUM: Chlorophyceae*Oedogonium pachyandrium* Wittrock

2200 Sampling 2013-10-10, Jinhae/Gyeongnam (35°09'47" N, 128°39'35" E), reservoir, surface water, 22°C **Isolator** Jo, MJ (2014-04-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 18°C, 0 psu, 20 PPF, 1 M **Size** (µm) 13-18 (L), 8-10 (W) **Original No.** FC-263

Oedogonium sp.

2207 Source KIOST Sampling 2013-10-23, Kosrae, Micronesia (05°17'06" N, 162°57'25" E), reservoir, surface water, 26°C **Isolator** Jo, MJ (2014-04-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 22°C, 0 psu, 20 PPF, 1 M **Size** (µm) 39-47 (L), 11-13 (W) **Original No.** FC-265

OLISTHODISCUS: Raphidophyceae*Olisthodiscus luteus* N. Carter

1640 Sampling 2010-06-10, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 20°C, 33 psu **Isolator** Jo, MJ (2010-06-17) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (µm) 19-22 (L), 10-13 (W) **Original No.** Ra-29

2143 Sampling 2013-05-13, Somaemuldo/Gyeongnam (34°37'40" N, 128°32'46" E), coast, surface water, 15°C, 31 psu **Isolator** Jo, MJ (2013-08-28) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (µm) 13-15 (Ø) **Original No.** Ra-31

OOCYSTIS: Chlorophyceae*Oocystis lacustris* ChodatSyn. *Oocystella lacustris* (Chodat) Hindák

2145 Sampling 2013-08-19, Kyungju/Gyeongbuk (35°46'04" N, 129°13'25" E), swamp, surface water, 0 psu, **Isolator** Jo, MJ (2013-09-25) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 18°C, 0 psu, 40 PPF, 1 M **Size** (µm) 9-14 (L), 6-10 (W) **Original No.** FC-250

Oocystis parva West et G. S. WestSyn. *Oocystella parva* (West & G. S. West) Hindák

0443 Sampling 2000-04-30, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 18°C **Isolator** Lee, GA (2000-11-20) **Identifier** Hur,

SB States axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 60 PPF, 4 M **Size (µm)** 8-20 (L), 5-7 (W) **Gene data** 18S rRNA (JQ315649) **Original No.** C-220

1917 Sampling 2012-02-26, Gunsan/Jeonbuk (35°56'39" N, 126°37'17" E), reservoir, surface water, 8°C **Isolator** Jo, MJ (2012-05-31) **Identifier** Hur, SB States non-axenic, liquid, cryopreserved **Culture** JM, 20°C, 0 psu, 60 PPF, 1 M **Size (µm)** 10-13 (L), 8-10 (W) **Original No.** FC-212

1966 Sampling 2012-07-25, Upo/Gyeongnam (35°32'47" N, 128°23'59" E), swamp, surface water, 32°C **Isolator** Jo, MJ (2012-10-23) **Identifier** Hur, SB States axenic, agar, liquid **Culture** JM-agar, JM, 20°C, 0 psu, 60 PPF, M **Size (µm)** 9-11 (L), 6-8 (W) **Original No.** FC-226

Oocystis sp.

0251 Sampling 1999-02-24, Maemuldo/Gyeongnam (34°46'10" N, 128°38'51" E), coast, surface water **Isolator** Lee, GA (1999-08-30) **Identifier** Hur, SB States non-axenic, liquid, cryopreserved **Culture** f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 1-5 (Ø) **Original No.** C-147

0356 Sampling 1999-09-13, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 28°C, 30 psu **Isolator** Lee, GA (2000-02-27) **Identifier** Hur, SB States axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 5-10 (L), 5-9 (W) **Original No.** C-170

0549 Sampling 2000-10-28, West Sea (35°03' N, 125°22' E), open sea, surface water, 16°C **Isolator** Lee, GA (2001-09-30) **Identifier** Hur, SB States axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 1-5 (Ø) **Gene data** 18S rRNA (JQ315650) **Original No.** C-223

1299 Sampling 1999-10-13, Ulleungdo/Gyeongbuk (37°29'35" N, 130°46'9" E), coast, surface water **Isolator** Lee, GA (2000-03-30) **Identifier** Hur, SB States axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 8-15 (L), 5-15 (W) **Gene data** 18S rRNA (JQ315651) **Original No.** C-269

OSCILLATORIA: Cyanophyceae

Oscillatoria angustissima West & G. S. West

Syn. *Jaaginema angustissimum* (West & G. S. West) Anagnostidis & Komárek

0039 Sampling 1986-04-01, Oido/Incheon (37°20'48" N,

126°40'57" E), salt farm, surface water **Isolator** Hur, SB (1986-09-03) **Identifier** Kim, YJ States axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 2-3 (L), 1 (W) **Original No.** Cy-3 **References** 13, 76, 130

2218 Source KIOST **Sampling** 2013-10-23, Kosrae, Micronesia (05°19'06" N, 162°00'20" E), reservoir, surface water, 28°C **Isolator** Jo, MJ (2014-04-24) **Identifier** Hur, SB States non-axenic, liquid **Culture** JM, 23°C, 0 psu, 20 PPF, 1 M **Size (µm)** 2-3 (Ø) **Original No.** FCy-65

Oscillatoria curviceps C. A. Agardh

2201 Sampling 2013-10-11, Hoamho/Chungbuk (36°57'34" N, 127°55'24" E), reservoir, surface water, 21°C **Isolator** Jo, MJ (2014-04-24) **Identifier** Hur, SB States non-axenic, liquid **Culture** JM, 18°C, 0 psu, 20 PPF, 1 M **Size (µm)** 10-11 (Ø) **Original No.** FCy-63

Oscillatoria geminata Meneghini

1863 Sampling 2011-08-22, Nakdong River/Busan (35°06'17" N, 128°53'42" E), surface water, 24°C, 4 psu **Isolator** Jo, MJ (2011-11-09) **Identifier** Hur, SB States non-axenic, liquid **Culture** JM, 20°C, 0 psu, 40 PPF, 1 M **Size (µm)** 6-9 (L), 2-3 (W) **Original No.** FCy-41

1959 Sampling 2012-07-25, Upo/Gyeongnam (35°32'47" N, 128°23'59" E), swamp, surface water, 32°C **Isolator** Jo, MJ (2012-10-23) **Identifier** Hur, SB States non-axenic, liquid **Culture** JM, 20°C, 0 psu, 40 PPF, 1 M **Size (µm)** 2-4 (L), 1-2 (W) **Original No.** FCy-54

Oscillatoria limnetica Lemmermann

0596 Sampling 1999-09-01, Upo/Gyeongnam (35°32'53" N, 128°24'25" E), swamp, surface water, 28°C **Isolator** Lee, GA (2000-01-30) **Identifier** Lee, OM States non-axenic, liquid, cryopreserved **Culture** JM, 20°C, 0 psu, 40 PPF, 1 M **Size (µm)** 2-3 (L), 1-2 (W) **Original No.** FCy-2

1904 Sampling 2012-02-27, Gunsan/Jeonbuk (35°57'02" N, 126°41'37" E), reservoir, surface water, 9°C **Isolator** Jo, MJ (2012-03-29) **Identifier** Hur, SB States non-axenic, liquid, cryopreserved **Culture** JM, 20°C, 0 psu, 40 PPF, 1 M **Size (µm)** 4-5 (L), 1-2 (W) **Original No.** FCy-43

Oscillatoria nigra Vaucher

Syn. *Phormidium nigrum* (Vaucher ex Gomont) Anagnostidis & Komárek

2159 Sampling 2013-10-10, Sangju/Gyeongbuk (36°30'46" N, 128°09'39" E), reservoir, surface water, 21°C **Isolator** Jo, MJ (2013-12-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 18°C, 0 psu, 20 PPF, 1 M **Size (µm)** 7-8 (L), 4-7 (W) **Original No.** FCy-58

Oscillatoria princeps Vaucher

Syn. *Trichophorus princeps* (Vaucher) Desvaux

1995 Sampling 2012-09-06, Nakdong River/Busan (35°06'17" N, 128°53'42" E), estuary, surface water, 27°C, 17 psu **Isolator** Jo, MJ (2012-12-27) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2-E, 18°C, 15 psu, 40 PPF, 1 M **Size (µm)** 13-14 (Ø) **Original No.** ECy-6

Oscillatoria splendida Greville

Syn. *Geitlerinema splendidum* (Greville ex Gomont) Anagnostidis

0032 Sampling 1986-06-01, Chungmu/Gyeongnam (34°50'22" N, 128°26'19" E), salt farm, surface water **Isolator** Hur, SB (1986-08-25) **Identifier** Kim, YJ **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 3-4 (L), 1-2 (W) **Original No.** Cy-32 **References** 13, 78

0098 Sampling Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water **Isolator** Hur, SB (1996-03-27) **Identifier** Kim, YJ **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 3-4 (L), 1-2 (W) **Original No.** Cy-8 **References** 78, 97, 110, 139

0099 Sampling 1996-03-01, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water **Isolator** Hur, SB (1996-03-27) **Identifier** Kim, YJ **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 3-4 (L), 1-2 (W) **Original No.** Cy-9 **References** 76

0127 Sampling 1996-03-02, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water **Isolator** Hur, SB (1996-07-03) **Identifier** Kim, YJ **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 2-3 (L), 1-2 (W) **Original No.** Cy-11 **References** 76, 131

0204 Sampling 1997-09-17, Namhae/Gyeongnam (34°42'47" N, 127°59'13" E), coast, surface water **Isolator** Hur, SB (1997-08-05) **Identifier** Kim, YJ

States non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 3-5 (L), 1-2 (W) **Original No.** Cy-13 **References** 62, 76

Oscillatoria splendida var. *truncata* Emoto et Hirose

1941 Sampling 2012-05-16, Tamjin River/Jeonnam (34°39'37" N, 126°53'58" E), surface water, 21°C **Isolator** Jo, MJ (2012-07-17) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** JM, 18°C, 0 psu, 40 PPF, 1 M **Size (µm)** 3-6 (L), 1-2 (W) **Original No.** FCy-49

Oscillatoria sp.

0030 Sampling 1986-06-01, Mokpo/Jeonnam (34°49'13" N, 126°21'12" E), salt farm, surface water **Isolator** Hur, SB (1986-08-25) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 4-5 (L), 3-5 (W) **Original No.** Cy-4 **References** 13, 76, 97, 139

0422 Sampling 1999-11-22, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 14°C **Isolator** Lee, GA (2000-05-14) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 3-4 (L), 1-2 (W) **Original No.** Cy-20

0597 Sampling 2000-10-01, Gampo/Gyeongbuk (35°48'17" N, 129°30'32" E), coast, surface water, 27°C **Isolator** Lee, GA (2001-10-10) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 2-3 (L), 1-2 (W) **Original No.** Cy-19

1624 Sampling 2010-04-06, Namcheon Bay/Busan (35°08'14" N, 129°06'49" E), coast, surface water, 14°C, 33 psu **Isolator** Jo, MJ (2010-04-30) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 7-14 (L), 8-11 (W) **Original No.** Cy-65

1803 Sampling 2011-04-13, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 16°C, 28 psu, **Isolator** Jo, MJ (2011-06-28) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 1 (L), 1-2 (W) **Original No.** Cy-69

1911 Sampling 2008-08-13, Taean/Chungnam (36°45'23" N, 126°11'16" E), salt farm, surface water, 33°C **Isolator** Jo, MJ (2012-03-29) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 4-7 (L), 4-5 (W) **Original No.** Cy-71

OSTREOPSIS: Dinophyceae***Ostreopsis siamensis*** Schmidt

1883 Source NFRDI **Sampling** 2011-07-02, Jeju/Jeju (33°32'03" N, 126°32'57" E), coast, surface water (2011-12-30) **States** axenic, agar + liquid, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 37-59 (L), 25-42 (W) **Original No.** D-208

***Ostreopsis* sp.**

2028 Source Kunsan Univ. (KNUTP OS-080502) **Sampling** 2008-05-30, Gosanpo/Jeju (33°18'04" N, 126°08'13" E), coast, surface water, 18°C, 33 psu (2013-01-02) **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 37-59 (L), 24-40 (W) **Original No.** D-239

2029 Source Kunsan Univ. (KNUTP OS-090203) **Sampling** 2009-02-07, Aewol/Jeju (33°28'04" N, 126°19'23" E), coast, surface water, 13°C, 30 psu (2013-01-02) **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 35-60 (L), 25-41 (W) **Original No.** D-240

2030 Source Kunsan Univ. (KNUTP OS-091001) **Sampling** 2009-10-31, Gosanpo/Jeju (33°18'00" N, 126°10'01" E), coast, surface water, 22°C, 31 psu (2013-01-02) **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 34-59 (L), 25-40 (W) **Original No.** D-241

2031 Source Kunsan Univ. (KNUTP OS-091024) **Sampling** 2009-10-31, Seongsan/Jeju (33°27'38" N, 126°56'03" E), coast, surface water, 21°C, 32 psu (2013-01-02) **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 36-62 (L), 23-43 (W) **Original No.** D-242

2032 Source Kunsan Univ. (KNUTP OS-110201) **Sampling** 2011-02-26, Daejeong/Jeju (33°14'23" N, 126°13'39" E), coast, surface water, 16°C, 30 psu (2013-01-02) **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 34-59 (L), 23-42 (W) **Original No.** D-243

2033 Source Kunsan Univ. (KNUTP OS-110401) **Sampling** 2011-02-26, Seongsan/Jeju (33°27'38"N, 126°56'03"E), coast, surface water, 15°C, 32 psu (2013-01-02) **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 35-59 (L), 25-44 (W) **Original No.** D-244

2034 Source Kunsan Univ. (KNUTP OS-111201) **Sampling** 2011-12-25, Sindo/Jeju (33°16'46" N, 126°10'09" E), coast, surface water, 14°C, 34 psu (2013-01-02) **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 36-63 (L), 26-42 (W) **Original No.** D-245

nal No. D-245**OXYRRHIS:** Dinophyceae***Oxyrrhis marina*** Dujardin

1144 Sampling 2003-05-01, Haeundae/Busan (35°09'06" N, 129°09'07" E), intertidal zone, surface water, 19°C, 33 psu **Isolator** Lee, GA (2004-12-01) **Identifier** Kim, KY **States** axenic, agar + liquid, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 4-7 (Ø) **Original No.** D-109

PALMERIA: Bacillariophyceae***Palmeria hardmaniana*** Greville

Syn. *Palmerina hardmaniana* (Greville) G. R. Hasle

1915 Sampling 2012-02-08, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 11°C, 34 psu **Isolator** Jo, MJ (2012-03-29) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 60 PPF, 1 M **Size (µm)** 352-392 (L), 184-241(W) **Original No.** B-1101

PANDORINA: Chlorophyceae***Pandorina morum*** (Müller) Bory

Syn. *Volvox morum* O. F Müller

1201 Sampling 2004-12-17, Nakdong River/Busan (35°06'17" N, 128°53'42" E), surface water, 9°C **Isolator** Park, SJ (2005-03-02) **Identifier** Lee, OM **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 25-35 (L), 20-30 (W) **Gene data** 18S rRNA (JQ315480) **Original No.** FC-96 **References** 121

1257 Sampling 2005-10-04, Nakdong River/Busan (35°06'17" N, 128°53'42" E), surface water, 21°C **Isolator** Jeong, EH (2006-01-17) **Identifier** Lee, OM **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 15-50 (L), 5-10 (W) **Gene data** 18S rRNA (JQ315555) **Original No.** FC-111

1522 Sampling 2009-05-28, Namgu/Busan (35°07'56" N, 129°06'06" E), pond, surface water **Isolator** Jo, MJ (2009-07-30) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 19-29 (Ø) **Gene data** 18S rRNA (JQ315553) **Original No.** FC-158

1712 Sampling 2010-09-09, Nakdong River/Busan (35°06'17" N, 128°53'42" E), estuary, surface water, 24°C, 1 psu **Isolator** Jo, MJ (2010-10-15) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 23°C, 0 psu, 60 PPF, 1 M **Size (µm)** 33-38 (L), 24-29 (W) **Gene data** 18S rRNA (JQ315554) **Original No.** FC-171

1841 Sampling 2011-07-06, Nakdong River/Busan (35°06'17" N, 128°53'42" E), estuary, surface water, 23°C, 3 psu **Isolator** Jo, MJ (2011-08-31) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 23°C, 0 psu, 60 PPF, 1 M **Size (µm)** 29-46 (L), 12-17 (W) **Original No.** FC-194

PARALIA: Bacillariophyceae

Paralia sulcata (Ehrenberg) Cleve

0659 Sampling 1999-03-08, Yokjido/Gyeongnam (34°38'30" N, 128°16'22" E), coast, surface water, 9°C **Isolator** Lee, GA (1999-10-26) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 9-11 (L), 6-9 (W) **Original No.** B-308

1492 Sampling 2008-11-14, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 18°C, 33 psu **Isolator** Jo, MJ (2009-02-19) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 10-11 (L), 7-8 (W) **Original No.** B-904

1557 Sampling 2009-06-24, Jejusi/Jeju (33°31'51" N, 126°34'20" E), coast, surface water, 20°C **Isolator** Jo, MJ (2009-10-26) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 7-8 (L), 9-12 (W) **Original No.** B-928

1658 Sampling 2010-06-22, Taean/Chungnam (36°40'39" N, 126°08'09" E), coast, surface water, 16°C, 32 psu **Isolator** Jo, MJ (2010-07-14) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 7-9 (L), 19-20 (W) **Original No.** B-1002

1659 Sampling 2010-06-22, Taean/Chungnam (36°40'39" N, 126°08'09" E), coast, surface water, 16°C, 32 psu **Isolator** Jo, MJ (2010-07-14) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 7-9 (L), 7 (W) **Original No.** B-1003

PAVLOVA: Haptophyceae

Pavlova gyrans Butcher

0215 Source CCMP 607 (1999-01-25) **States** axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 3-10 (L), 3-5 (W) **Gene data** 18S rRNA (HQ877912) **Original No.** H-12 **References** 152

0216 Source CCMP 1279 (1999-01-25) **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 6-9 (L), 3-5 (W) **Gene data** 18S rRNA (HQ877917) **Original No.** H-17

1699 Sampling 2010-02-23, Malripo Beach/Chungnam

(36°46'38" N, 126°07'49" E), coast, surface water, 4°C, 32 psu **Isolator** Jo, MJ (2010-03-17) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** SW-II, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 7-9 (L), 5 (W) **Original No.** H-32

Pavlova lutheri (Droop) J. C. Green

Syn. *Diacronema lutheri* (Droop) Bendif & Véron

0050 Source Institute, Japan (1987-04-10) **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 5-10 (L), 3-5 (W) **Gene data** 18S rRNA (HQ877905) **Original No.** H-4 **References** 13, 18, 20, 21, 23, 24, 38, 60, 70, 73, 98, 102 **Remarks** aquaculture, high protein and lipid

0057 Source Seasalt Ltd., UK (1991-09-02) **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 3-8 (L), 2-5 (W) **Gene data** 18S rRNA (HQ877904) **Original No.** H-3 **References** 13, 68, 71, 107, 113 **Remarks** aquaculture, high protein and lipid

0073 Source Qingdao Oceanic Institute (3011), China (1993-03-04) **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 3-8 (L), 3-5 (W) **Gene data** 18S rRNA (HQ877907) **Original No.** H-7 **Remarks** aquaculture, high protein and lipid

0078 Source Institute, Japan (1993-03-23) **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 4-8 (L), 3-5 (W) **Gene data** 18S rRNA (HQ877906) **Original No.** H-6 **References** 99, 110, 125, 152 **Remarks** aquaculture, high protein and lipid

Pavlova pinguis J. C. Green

0217 Source CCMP 609 (1999-01-25) **States** axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 3-8 (L), 2-5 (W) **Gene data** 18S rRNA (HQ877914) **Original No.** H-14

Pavlova viridis C. K. Tseng, J. Chen & X. Zhang

Syn. *Diacronema viridis* (C. K. Tseng, Chen & Zhang) Bendif & Véron

0220 Source Qingdao Oceanic Institute, China (1999-01-25) **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 3-8 (L), 3-4 (W) **Gene data** 18S rRNA (HQ877913) **Original No.** H-13 **References** 152 **Remarks** aquaculture

Pavlova sp.

0074 Source Qingdao Oceanic Institute, China (1993-03-04) **States** axenic, liquid **Culture** f/2, 20°C, 33 psu,

- 40 PPF, 2 M Size (μm) 5-8 (L), 4-5 (W) Gene data 18S rRNA (HQ877908) Original No. H-8
- 0113 Sampling** 1995-12-21, Ansan/Gyeonggi (37°18'32" N, 126°43'06" E), salt farm, surface water **Isolator** Hur, SB (1996-05-04) **Identifier** Hur, SB **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 2 M Size (μm) 6-9 (L), 3-5 (W) **Gene data** 18S rRNA (HQ877919) **Original No.** H-21
- 0135 Source** Institute, Japan (1996-07-16) **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 2 M Size (μm) 3-8 (L), 3-5 (W) **Gene data** 18S rRNA (HQ877909) **Original No.** H-9 **References** 6, 120
- 0218 Source** CCMP 1390 (1999-01-25) **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 2 M Size (μm) 3-10 (L), 3-5 (W) **Original No.** H-15 **References** 152
- 0219 Source** CCMP 620 (1999-01-25) **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 2 M Size (μm) 3-10 (L), 3-4 (W) **Original No.** H-16

PEDIASTRUM: Chlorophyceae*Pediastrum biwae* Negoro

- 1331 Sampling** 2006-06-02, Nakdong River/Busan (35°06'17" N, 128°53'42" E), surface water, 26°C **Isolator** Jeong, EH (2006-11-22) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M Size (μm) 7-16 (L), 6-12 (W) **Gene data** 18S rRNA (JQ315556), *rbcl* (JQ315481) **Original No.** FC-120
- 1860 Sampling** 2011-08-22, Nakdong River/Busan (35°06'17" N, 128°53'42" E), surface water, 24°C, 4 psu **Isolator** Jo, MJ (2011-11-09) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 1 M Size (μm) 9-11 (L), 32-42 (W) **Original No.** FC-203

Pediastrum boryanum (Turpin) MeneghiniSyn. *Pseudopediastrum boryanum* (Turpin) E. Hegewald

- 1332 Sampling** 2006-06-03, Nakdong River/Busan (35°06'17" N, 128°53'42" E), surface water, 26°C **Isolator** Jeong, EH (2006-11-22) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** JM, 23°C, 0 psu, 60 PPF, 4 M Size (μm) 4-15 (L), 2-10 (W) **Gene data** 18S rRNA (JQ315482) **Original No.** FC-121
- 1523 Source** Kunsan Univ. (PD-MAL07) **Sampling** Paldangho/Gyeonggi, reservoir, surface water (2009-07-30) **States** non-axenic, liquid, cryopreserved **Culture** JM, 23°C, 0 psu, 60 PPF, 4 M Size (μm)

40-58 (L), 32-48 (W) **Original No.** FC-150

- 1558 Sampling** 2009-07-17, Namgu/Busan (35°07'56" N, 129°06'06" E), pond, surface water **Isolator** Jo, MJ (2009-10-26) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** JM, 23°C, 0 psu, 60 PPF, 4 M Size (μm) 12-13 (\emptyset) **Original No.** FC-160
- 1823 Sampling** 2011-06-08, Hangyeong/Jeju (33°20'34" N, 126°10'30" E), reservoir, surface water, 29°C **Isolator** Jo, MJ (2011-07-28) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** JM, 23°C, 0 psu, 60 PPF, 1 M Size (μm) 6-9 (\emptyset) **Original No.** FC-187

Pediastrum duplex MeyenSyn. *Pediastrum napoleonis* Ralfs

- 1524 Source** Kunsan Univ. (PD-MAL06) **Sampling** Paldangho/Gyeonggi, reservoir, surface water (2009-07-30) **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M Size (μm) 31-72 (L), 41-87 (W) **Original No.** FC-151
- 1525 Source** Kunsan Univ. (PD-MAL55) **Sampling** Paldangho/Gyeonggi, reservoir, surface water (2009-07-30) **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M Size (μm) 19-34 (L), 22-37 (W) **Original No.** FC-152

Pediastrum tetras (Ehrenberg) RalfsSyn. *Stauridium tetras* (Ehrenberg) E. Hegewald

- 1859 Sampling** 2011-08-22, Nakdong River/Busan (35°06'17" N, 128°53'42" E), surface water, 24°C, 4 psu **Isolator** Jo, MJ (2011-11-09) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 20°C, 0 psu, 60 PPF, 1 M Size (μm) 6-9 (\emptyset) **Original No.** FC-202

Pediastrum sp.

- 1222 Sampling** 2005-04-08, Nakdong River/Busan (35°06'17" N, 128°53'42" E), surface water, 14°C **Isolator** Jeong, EH (2005-08-29) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** JM, 23°C, 0 psu, 60 PPF, 4 M Size (μm) 8-13 (L), 5-8 (W) **Gene data** 18S rRNA (JQ315562) **Original No.** FC-103
- 1526 Source** Kunsan Univ. (PD-MAL52) **Sampling** Paldangho/Gyeonggi, reservoir, surface water (2009-07-30) **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, M, 23°C, 0 psu, 60 PPF, 4 M Size (μm) 19-31 (L), 18-29 (W) **Original No.** FC-419

PERIDINIUM: Dinophyceae**Peridinium sp.**

- 1502 Sampling** 2009-03-10, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 11°C, 34 psu **Isolator** Jo, MJ (2009-05-26) **Identifier** Hur, SB **States** axenic, agar + liquid, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 15-16 (L), 19-22 (W) **Original No.** D-176
- 1694 Sampling** 2009-09-10, Oedo/Gyeongnam (34°46'14" N, 128°42'27" E), coast, surface water **Isolator** Jo, MJ (2009-10-26) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 30-34 (L), 39-46 (W) **Original No.** D-182

PFIESTERIA: Dinophyceae**Pfiesteria sp.**

- 2039 Source** Kunsan Univ. (KNUTP PS-111202) **Sampling** 2011-12-02, Gomso Bay/Jeonbuk (35°35'12" N, 126°36'34" E), coast, surface water, 8°C, 30 psu (2013-01-02) **States** axenic, agar + liquid, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 11-13 (L), 5-7 (W) **Original No.** D-250
- 2040 Source** Kunsan Univ. (KNUTP PS-111202) **Sampling** 2011-12-02, Gomso Bay/Jeonbuk (35°35'12" N, 126°36'34" E), coast, surface water, 8°C, 30 psu (2013-01-02) **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 12-13 (L), 5-7 (W) **Original No.** D-251

PHACUS: Euglenophyceae**Phacus pyrum** (Ehrenberg) Stein

Syn. *Monomorphina pyrum* (Ehrenberg) Mereschkowsky

- 1786 Sampling** 2011-02-22, Mangyeong River/Jeonbuk (35°53'53" N, 127°03'40" E), surface water, 8°C **Isolator** Jo, MJ (2011-05-11) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 20°C, 0 psu, 40 PPF, 1 M **Size (µm)** 31-36 (L), 14-17 (W) **Original No.** FEu-2

Phacus triqueter (Ehrenberg) Perty

- 2154 Sampling** 2013-03-18, Batangas Taql, Pilippines (14°02'56" N, 120°59'11" E), lake, surface water, 22°C, 1 psu **Isolator** Jo, MJ (2013-09-25) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 18°C, 0 psu, 40 PPF, 1 M **Size (µm)** 44-48 (L), 32-35 (W) **Original No.** FEu-3

PHAEODACTYLUM: Bacillariophyceae**Phaeodactylum tricornutum** Bohlin

Syn. *Nitzschia closterium* f. *minutissima* Allen & Nelson

- 0001 Source** UTEX 2089 (1984-04-11) **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 5-15 (L), 2-4 (W) **Original No.** B-14 **References** 2, 4, 10, 13, 18, 20, 21, 23, 25, 44, 64, 76, 98 **Remarks** aquaculture, high protein and lipid, EPA
- 0014 Source** Institute, Japan (1985-12-03) **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 21-25 (L), 4-5 (W) **Gene data** 18S rRNA (GQ421691) **Original No.** B-7 **References** 2, 4, 13, 25, 28, 31, 72, 76 **Remarks** aquaculture, high protein and lipid, EPA
- 0076 Source** Qingdao Oceanic Institute, China (1993-03-14) **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 25-30 (L), 4-6 (W) **Original No.** B-45 **References** 107, 109, 110, 113 **Remarks** aquaculture, high protein and lipid, EPA
- 0077 Source** Institute, Japan (1993-03-18) **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 13-20 (L), 2-3 (W) **Original No.** B-44 **References** 97, 110, 139 **Remarks** aquaculture, high protein and lipid, EPA
- 0266 Sampling** 1999-10-01, Geojedo/Gyeongnam (34°53'36" N, 128°43'43" E), coast, surface water, 24°C **Isolator** Lee, GA (1999-12-22) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 25-28 (L), 3-5 (W) **Original No.** B-405 **Remarks** aquaculture, high protein and lipid, EPA
- 0267 Sampling** 1999-10-01, Hansando/Gyeongnam (34°46'07" N, 128°30'47" E), coast, surface water, 24°C **Isolator** Lee, GA (1999-12-22) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 27-40 (L), 3-4 (W) **Gene data** 18S rRNA (GQ452850) **Original No.** B-411 **References** 97, 110, 139 **Remarks** aquaculture, high protein and lipid, EPA
- 0278 Sampling** 1999-08-12, Namgu/Busan (35°07'56" N, 129°06'06" E), pond, surface water, 27°C **Isolator** Lee, GA (2000-01-04) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 15°C, 0 psu, 20 PPF, 2 M **Size (µm)** 21-25 (L), 2-3 (W) **Original No.** FB-12 **Remarks** patent, high protein and lipid, EPA
- 0309 Sampling** 1999-10-13, East Sea (36°34' N, 131°50' E), open sea, surface water, 22°C **Isolator** Lee, GA (2000-01-20) **Identifier** Hur, SB **States** axenic, agar,

- liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 8-11 (L), 3-4 (W) **Original No.** B-414 **Remarks** aquaculture, high protein and lipid, EPA
- 0362 Sampling** 1999-10-17, Namgu/Busan (35°07'56" N, 129°06'06" E), pond, surface water, 25°C **Isolator** Lee, GA (2000-02-27) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** JM-agar, JM, 20°C, 0 psu, 20 PPF, 2 M **Size (µm)** 6-8 (Ø) **Original No.** FB-21 **Remarks** high protein and lipid, EPA
- 0387 Sampling** 1999-12-09, Haeundae/Busan (35°09'55" N, 129°07'34" E), estuary, surface water, 14°C **Isolator** Lee, GA (2000-03-27) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM-E, f/2-E, 20°C, 15 psu, 20 PPF, 2 M **Size (µm)** 20-25 (L), 2-4 (W) **Original No.** EB-27 **Remarks** high protein and lipid, EPA
- 0415 Sampling** 1999-11-11, Haeundae/Busan (35°09'55" N, 129°07'34" E), estuary, surface water, 15°C **Isolator** Lee, GA (2000-04-30) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM-E, f/2-E, 20°C, 15 psu, 20 PPF, 2 M **Size (µm)** 25-43 (L), 3-4 (W) **Original No.** EB-25 **Remarks** high protein and lipid, EPA
- 0447 Sampling** 2000-08-07, Goseong/Gangwon (38°25'25" N, 128°28'03" E), coast, surface water, 26°C **Isolator** Lee, GA (2000-12-01) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 3-15 (L), 2-3 (W) **Original No.** B-518 **Remarks** aquaculture, high protein and lipid, EPA
- 0456 Sampling** 2000-11-06, Yangyang/Gangwon (38°04'34" N, 128°40'40" E), coast, surface water, 16°C **Isolator** Lee, GA (2001-02-26) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 25-28 (L), 3-5 (W) **Original No.** B-525 **Remarks** aquaculture, high protein and lipid, EPA
- 0541 Sampling** 2001-03-29, Buan/Jeonbuk (35°35'31" N, 126°37'30" E), coast, mud, 9°C, 31 psu **Isolator** Lee, GA (2001-08-27) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 13-20 (L), 3-5 (W) **Original No.** B-523 **Remarks** aquaculture, high protein and lipid, EPA
- 0626 Sampling** 1995-07-30, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 26°C, 33 psu **Isolator** Hur, SB (1996-03-29) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 10-18, 5-9 (W) **Gene data** 18S rRNA (GQ452851) **Original No.** B-112 **Remarks** aquaculture, high protein and lipid, EPA
- 0690 Sampling** 1999-09-02, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 27°C **Isolator** Lee, GA (2000-01-30) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 8-25 (L), 3-4 (W) **Original No.** B-367 **Remarks** aquaculture, high protein and lipid, EPA
- 0691 Sampling** 1999-09-30, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 21°C **Isolator** Lee, GA (2000-01-30) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 27-30 (L), 3-4 (W) **Gene data** 18S rRNA (GQ452849) **Original No.** B-377 **Remarks** aquaculture, high protein and lipid, EPA
- 0692 Sampling** 1999-09-13, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 25°C **Isolator** Lee, GA (2000-01-30) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 23-25 (L), 3-4 (W) **Original No.** B-386 **Remarks** aquaculture, high protein and lipid, EPA
- 0745 Sampling** 1995-05-04, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 17°C, 33 psu **Isolator** Hur, SB (1996-03-18) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 23-35 (L), 3-5 (W) **Original No.** B-128 **References** 73, 96 **Remarks** aquaculture, high protein and lipid, EPA
- 0746 Sampling** 1995-12-04, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 9°C, 33 psu **Isolator** Hur, SB (1996-10-30) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 23-25 (L), 4-5 (W) **Gene data** 18S rRNA (GQ452853) **Original No.** B-131 **Remarks** aquaculture, high protein and lipid, EPA
- 0747 Sampling** 1996-04-20, Namhae/Gyeongnam (34°42'47" N, 127°59'13" E), coast, surface water **Isolator** Hur, SB (1996-10-15) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 8-15 (L), 3-4 (W) **Original No.** B-158 **Remarks** aquaculture, high protein and lipid, EPA
- 0748 Sampling** 1995-11-09, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 16°C, 33 psu **Isolator** Hur, SB (1996-03-18) **Identi-**

- fier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size** (μm) 23-25 (L), 3-5 (W) **Gene data** 18S rRNA (GQ452865) **Original No.** B-160 **Remarks** aquaculture, high protein and lipid, EPA
- 0749 Sampling** 1996-04-01, Chungmu/Gyeongnam (34°50'22" N, 128°26'19" E), coast, surface water, 13°C **Isolator** Hur, SB (1996-10-15) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size** (μm) 25-30 (L), 3-5 (W) **Original No.** B-162 **Remarks** aquaculture, high protein and lipid, EPA
- 0750 Sampling** 1995-12-07, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 10°C, 33 psu **Isolator** Hur, SB (1996-10-30) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size** (μm) 23-25 (L), 4-6 (W) **Gene data** 18S rRNA (GQ452855) **Original No.** B-165 **Remarks** aquaculture, high protein and lipid, EPA
- 0751 Sampling** 1996-05-15, Narodo/Jeonnam (34°28'08" N, 127°28'14" E), coast, surface water, 16°C, 34 psu **Isolator** Hur, SB (1997-01-30) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size** (μm) 15-19 (L), 4-8 (W) **Original No.** B-172 **Remarks** aquaculture, high protein and lipid, EPA
- 0752 Sampling** 1996-02-08, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 4°C, 33 psu **Isolator** Hur, SB (1996-10-30) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size** (μm) 24-45 (L), 4-6 (W) **Gene data** 18S rRNA (GQ452856) **Original No.** B-173 **Remarks** aquaculture, high protein and lipid, EPA
- 0753 Sampling** 1996-05-11, Wando/Jeonnam (34°19'34" N, 126°45'09" E), coast, surface water, 13°C **Isolator** Hur, SB (1997-01-30) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size** (μm) 15-25 (L), 2-3 (W) **Gene data** 18S rRNA (GQ452857) **Original No.** B-177 **Remarks** aquaculture, high protein and lipid, EPA
- 0805 Sampling** 1996-05-15, Narodo/Jeonnam (34°28'08" N, 127°28'14" E), coast, surface water, 16°C, 34 psu **Isolator** Hur, SB (1997-01-30) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size** (μm) 21-25 (L), 3-5 (W) **Gene data** 18S rRNA (GQ452858) **Original No.** B-185 **Remarks** aquaculture, high protein and lipid, EPA
- 0806 Sampling** 1996-04-25, Chungmu/Gyeongnam (34°50'22" N, 128°26'19" E), coast, surface water, 13°C, 34 psu **Isolator** Hur, SB (1996-10-15) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size** (μm) 23-25 (L), 3-5 (W) **Original No.** B-193 **Remarks** aquaculture, high protein and lipid, EPA
- 0807 Sampling** 1996-05-31, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 18°C, 33 psu **Isolator** Hur, SB (1997-01-30) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size** (μm) 20-25 (L), 4-6 (W) **Gene data** 18S rRNA (GQ452859) **Original No.** B-218 **Remarks** aquaculture, high protein and lipid, EPA
- 0808 Sampling** 1998-05-08, Yokjido/Gyeongnam (34°38'30" N, 128°16'22" E), coast, surface water **Isolator** Hur, SB (1998-11-30) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size** (μm) 13-25 (L), 3-5 (W) **Original No.** B-255 **Remarks** aquaculture, high protein and lipid, EPA
- 0924 Sampling** 2000-08-15, Junam/Gyeongnam (35°18'49" N, 128°40'25" E), reservoir, mud, 30°C **Isolator** Lee, GA (2001-12-19) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** JM-agar, JM, 20°C, 0 psu, 20 PPF, 2 M **Size** (μm) 18-23 (L), 2-3 (W) **Original No.** FB-34 **Remarks** high protein and lipid, EPA
- 0925 Sampling** 1999-07-15, Yangyang/Gangwon (38°04'14" N, 128°37'22" E), stream, surface water, 24°C **Isolator** Lee, GA (1999-11-11) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** JM-agar, JM, 20°C, 0 psu, 20 PPF, 2 M **Size** (μm) 4-5 (\emptyset) **Original No.** FB-40 **Remarks** high protein and lipid, EPA
- 0962 Sampling** 1995-08-01, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 27°C, 33 psu **Isolator** Hur, SB (1996-04-17) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size** (μm) 23-25 (L), 3-5 (W) **Gene data** 18S rRNA (GQ452852) **Original No.** B-129 **References** 97, 107, 110, 113, 139 **Remarks** aquaculture, high protein and lipid, EPA
- Phaeodactylum* sp.
- 1036 Sampling** 2001-05-01, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Lee, GA (2002-12-20) **Identifier** Hur, SB **States** axenic,

agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size** (μm) 8-13 (L), 3-4 (W) **Original No.** B-665

- 1193 Sampling** 2004-04-07, Ulrungdo/Gyeongbuk (37°29'35" N, 130°46'09" E), open sea, bottom water, 0°C, 34 psu **Isolator** Park, SJ (2004-12-11) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size** (μm) 11-23 (L), 3-5 (W) **Original No.** B-671 **Remarks** low °C sp.
- 1194 Sampling** 2004-04-07, Ulrungdo/Gyeongbuk (37°29'35" N, 130°46'09" E), open sea, bottom water, 6°C, 34 psu **Isolator** Park, SJ (2004-12-11) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size** (μm) 23-29 (L), 2-3 (W) **Original No.** B-678 **Remarks** low °C sp.

PHORMIDIUM: Cyanophyceae

Phormidium lucidum Kützing ex Gomont

Syn. *Lyngbya lucida* (Kützing ex Gomont) Hansgirg

- 0034 Sampling** 1985-09-21, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water **Isolator** Hur, SB (1986-09-01) **Identifier** Kim, YJ **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (μm) 2-3 (L), 2-3 (W) **Original No.** Cy-1 **References** 13, 64, 76, 97, 139
- 0128 Sampling** 1996-07-03, Deukryang Bay (34°45'27" N, 127°13'52" E), coast, surface water **Isolator** Hur, SB (1996-07-03) **Identifier** Kim, YJ **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (μm) 1 (\emptyset) **Original No.** Cy-12 **References** 76

Phormidium subfuscum Kützing

- 2217 Source KIOST Sampling** 2013-10-24, Kosrae, Micronesia (05°18'22" N, 162°58'33" E), coast, surface water, 26°C, 30 psu **Isolator** Jo, MJ (2014-04-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 23°C, 33 psu, 20 PPF, 1 M **Size** (μm) 6-7 (\emptyset) **Original No.** FCy-76

Phormidium tenue (Meneghini) Gomont

- 1921 Sampling** 2012-02-26, Gunsan/Jeonbuk (35°56'39" N, 126°37'17" E), reservoir, surface water, 3°C **Isolator** Jo, MJ (2012-05-31) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 18°C, 0 psu, 40 PPF, 1 M **Size** (μm) 2-4 (L), 2-3 (W) **Original No.** FCy-46 **References** 121
- 2183 Sampling** 2013-09-30, Kyungju/Gyeongbuk

(35°46'04" N, 129°13'25" E), swamp, surface water, 21°C **Isolator** Jo, MJ (2013-12-24) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** JM, 18°C, 0 psu, 20 PPF, 1 M **Size** (μm) 3-4 (L) 1-2 (W) **Original No.** FCy-61

Phormidium valderianum var. *tenuis* Woronichin

- 1845 Sampling** 2011-06-07, Seogwipo/Jeju (33°22'08" N, 126°41'36" E), marshy land, surface water, 24°C **Isolator** Jo, MJ (2011-08-31) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** JM, 20°C, 0 psu, 40 PPF, 1 M **Size** (μm) 3-4 (L), 2-3 (W) **Original No.** FCy-37

Phormidium sp.

- 0598 Sampling** 2000-04-01, Yangyang/Gangwon (38°04'14" N, 128°37'22" E), stream, surface water, 13°C **Isolator** Lee, GA (2001-10-10) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** JM, 20°C, 0 psu, 20 PPF, 1 M **Size** (μm) 1-2 (\emptyset) **Original No.** FCy-1
- 1218 Sampling** 2003-05-01, Upo/Gyeongnam (35°32'54" N, 128°24'25" E), swamp, surface water, 14°C **Isolator** Park, SJ (2005-05-12) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** JM, 20°C, 0 psu, 40 PPF, 1 M **Size** (μm) 3-7 (L), 2-4 (W) **Original No.** FCy-8

PINNULARIA: Bacillariophyceae

Pinnularia acrosphaeria Rabenhorst

- 2002 Sampling** 2012-10-17, Seogwipo/Jeju (33°15'29" N, 126°16'41" E), pond, surface water, 20°C **Isolator** Jo, MJ (2012-12-27) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 20°C, 0 psu, 40 PPF, 1 M **Size** (μm) 73-74 (L), 14-15 (W) **Original No.** FB-67

Pinnularia gibba var. *mesogongyla* (Ehrenberg) Hustedt

Syn. *Pinnularia erratica* Krammer

- 2164 Source KIOST Sampling** 2013-10-23, Kosrae, Micronesia (05°17'06" N, 162°57'25" E), reservoir, surface water, 26°C **Isolator** Jo, MJ (2013-12-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 0 psu, 20 PPF, 1 M **Size** (μm) 67-72 (L), 13-15 (W) **Original No.** FB-71 **Remarks** high °C sp.

Pinnularia tabellaria Ehrenberg

- 2208 Source KIOST Sampling** 2013-10-23, Kosrae, Micronesia (05°17'06" N, 162°57'25" E), reservoir, surface water, 26°C **Isolator** Jo, MJ (2014-04-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 23°C,

0 psu, 20 PPF, 1 M Size (μm) 116-119 (L), 13-18 (W) **Original No.** FB-80

Pinnularia sp.

1669 Sampling 2010-06-22, Taean/Chungnam (36°40'39" N, 126°08'09" E), coast, surface water, 16°C, 32 psu **Isolator** Jo, MJ (2010-08-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (μm) 149-154 (L), 17-22 (W) **Original No.** B-1011

PLAGIOGRAMMA: Bacillariophyceae

Plagiogramma staurophorum (Gregory) Heiberg

Syn. *Denticula staurophora* Gregory

2117 Source KIOST Sampling 2012-11-19, Chukk, Micronesia (07°27'02" N, 151°53'20" E), coast, surface water, 30°C, 24 psu **Isolator** Jo, MJ (2013-04-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 40 PPF, 1 M **Size** (μm) 11-15 (L), 4-6 (W) **Original No.** B-1156 **Remarks** high °C sp.

Plagiogramma vanheurckii Grunow

0754 Sampling 1995-11-01, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 16°C, 33 psu **Isolator** Hur, SB (1996-03-18) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (μm) 30-45 (L), 25-33 (W) **Original No.** B-140

1660 Sampling 2010-06-22, Malripo/Chungnam (36°46'38" N, 126°07'49" E), coast, surface water, 14°C, 32 psu **Isolator** Jo, MJ (2010-07-14) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (μm) 10-13 (W), 6-10 (L) **Original No.** B-1001

Plagiogramma sp.

0505 Sampling 2001-03-01, Wando/Jeonnam (34°18'33" N, 126°51'18" E), hatchery, substratum, 10°C **Isolator** Lee, GA (2001-07-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (μm) 28-40 (L), 20-30 (W) **Original No.** B-560

PLAGIOTROPS: Bacillariophyceae

Plagiotrops gaussii (Heiden, in Heiden & Kolbe) Paddock

2088 Sampling 2013-01-11, South sea (33°22'40" N, 127°43'29" E), coast, surface water, 17°C, 33 psu **Isolator** Jo, MJ (2013-3-12) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size** (μm) 198-201 (L), 38-49 (W) **Original**

nal No. B-1133

PLATYMONAS: Prasinophyceae

Platymonas subcordiformis (Wille) Hazen

Syn. *Tetraselmis hazeni* Butcher

0062 Source UTEX 171 (1992-07-27) **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size** (μm) 10-15 (L), 6-10 (W) **Gene data** 18S rRNA (FJ517748) **Original No.** P-1 **References** 2, 4, 10, 12, 13, 33, 51, 97, 110, 139 **Remarks** patent, aquaculture, high protein and lipid

PLEODORINA: Chlorophyceae

Pleodorina japonica H. Nozaki

1869 Sampling 2011-07-06, Nakdong River/Busan (35°06'17" N, 128°53'42" E), surface water, 25°C **Isolator** Jo, MJ (2011-12-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 20°C, 33 psu, 60 PPF, 1 M **Size** (μm) 8-10 (W), 48-86 (L) **Original No.** FC-205

PLEUROCHRYSIS: Haptophyceae

Pleurochrysis carterae (Braarud & Fagerland) T. Christensen

Syn. *Syracosphaera carterae* Braarud & Fagerland

1065 Source CCAP 961/8 (2003-03-24) **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size** (μm) 8-10 (L), 9-11 (W) **Gene data** 18S rRNA (HQ877918) **Original No.** H-19

PLEUROSIGMA: Bacillariophyceae

Pleurosigma angulatum (Queckett) W. Smith

0319 Sampling 1999-10-28, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 17°C **Isolator** Lee, GA (2000-01-27) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 2 M **Size** (μm) 45-75 (L), 8-10 (W) **Original No.** B-431

0431 Sampling 2000-03-11, Ulsan/Gyeongnam (35°31'01" N, 129°22'44" E), coast, surface water, 13°C **Isolator** Lee, GA (2000-06-02) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 2 M **Size** (μm) 38-58 (L), 8-10 (W) **Original No.** B-498

0809 Sampling 1998-09-25, Gampo/Gyeongbuk (35°48'17" N, 129°30'32" E), coast, surface water, 25°C **Isolator** Hur, SB (1999-07-16) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 2 M **Size** (μm) 38-75 (L), 8-10 (W) **Original No.** B-271

0845 Sampling 1999-03-22, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 8°C, 31 psu **Iso-**

- lator Lee, GA (1999-10-26) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 50-70 (L), 8-11 (W) **Original No.** B-315 **References** 115
- 0846 Sampling** 1999-02-24, Maemuldo/Gyeongnam (34°46'10" N, 128°38'51" E), coast, surface water **Isolator** Lee, GA (1999-06-30) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 53-75 (L), 8-11 (W) **Original No.** B-324
- 0847 Sampling** 1999-08-14, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 27°C, 31 psu **Isolator** Lee, GA (2000-01-20) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 40-70 (L), 9-11 (W) **Original No.** B-384 **References** 97, 139
- 1661 Sampling** 2010-06-22, Taean/Chungnam (36°40'39" N, 126°08'09" E), coast, surface water, 15°C, 33 psu **Isolator** Jo, MJ (2010-07-14) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 130-134 (L), 50-52 (W) **Original No.** B-992
- 1892 Sampling** 2011-12-20, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 14°C, 32 psu **Isolator** Jo, MJ (2013-04-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 204-233 (L), 42-47 (W) **Original No.** B-1094
- 2111 Source KIOST Sampling** 2012-11-19, Chukk, Micronesia (07°27'02" N, 151°53'20" E), coast, surface water, 30°C, 24 psu **Isolator** Jo, MJ (2013-04-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 229-235 (L), 35-41 (W) **Original No.** B-1152 **Remarks** high °C sp.
- Pleurosigma delicatulum* W. Smith
Syn. *Gyrosigma delicatulum* (W. Smith) Griffith & Henfrey
- 1582 Sampling** 2009-12-16, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 10°C, 33 psu **Isolator** Jo, MJ (2010-01-12) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 255-260 (L), 20-24 (W) **Original No.** B-946
- 1608 Sampling** 2010-02-19, Nakdong River/Busan (35°06'17" N, 128°53'42" E), estuary, surface water, 5°C, 23 psu **Isolator** Jo, MJ (2010-03-17) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2-E, 20°C, 15 psu, 40 PPF, 2 M **Size (µm)** 161-170 (L), 17-19 (W) **Original No.** EB-48
- 1662 Sampling** 2010-06-22, Taean/Chungnam (36°40'39" N, 126°08'09" E), coast, surface water, 21°C, 31 psu **Isolator** Jo, MJ (2010-07-14) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 230-235 (L), 25-27 (W) **Original No.** B-995
- 1663 Sampling** 2010-06-22, Taean/Chungnam (36°40'39" N, 126°08'09" E), coast, surface water, 21°C, 31 psu **Isolator** Jo, MJ (2010-07-14) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 152-156 (L), 20 (W) **Original No.** B-998
- 1892 Sampling** 2011-12-20, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 14°C, 32 psu **Isolator** Jo, MJ (2013-04-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 204-233 (L), 42-47 (W) **Original No.** B-1094
- Pleurosigma directum* Grunow in Cleve & Grunow
- 1583 Sampling** 2009-12-23, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 12°C, 34 psu **Isolator** Jo, MJ (2010-01-12) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 163-176 (L), 38-44 (W) **Original No.** B-948
- Pleurosigma elongatum* W. Smith
Syn. *Gyrosigma elongatum* (W. Smith) Griffith & Henfrey
- 1376 Sampling** 2006-12-01, Buan/Jeonbuk (35°35'27" N, 126°37'11" E), salt farm, 19°C **Isolator** Jeong, EH (2007-03-22) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2-E, 20°C, 15 psu, 40 PPF, 2 M **Size (µm)** 180-195 (L), 17-20 (W) **Original No.** EB-44
- 1670 Sampling** 2010-07-18, South Sea (34°43' N, 139°46' E), surface water, 23°C **Isolator** Jo, MJ (2010-08-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 209-214 (L), 29-31 (W) **Original No.** B-1006
- 1745 Sampling** 2010-12-07, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 9°C, 32 psu **Isolator** Jo, MJ (2010-12-28) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 339-358 (L), 26-36 (W) **Original No.** B-1041
- 2100 Source KIOST Sampling** 2012-11-22, Chukk, Micronesia (07°27'18" N, 151°53'58" E), coast, surface water, 30°C, 30 psu **Isolator** Jo, MJ (2013-03-12) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 141-145 (L),

19-21 (W) **Original No.** B-1141 **Remarks** high °C sp.

Pleurosigma normanii Ralfs

1584 Sampling 2009-12-08, Namcheon Bay/Busan (35°08'14" N, 129°06'49" E), coast, surface water, 15°C, 34 psu **Isolator** Jo, MJ (2010-01-12) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 158-174 (L), 23-28 (W) **Original No.** B-943

2110 Source KIOST **Sampling** 2012-11-19, Chukk, Micronesia (07°27'05" N, 151°53'38" E), coast, surface water, 30°C, 26 psu **Isolator** Jo, MJ (2013-04-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 134-138 (L), 19-23 (W) **Original No.** B-1151 **Remarks** high °C sp.

Pleurosigma rectum Donkin

1308 Sampling 2006-05-03, Haenam/Jeonnam (34°32'17" N, 126°27'29" E), salt farm **Isolator** Jeong, EH (2006-07-10) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 67-95 (L), 6-10 (W) **Original No.** B-776

Pleurosigma rigidum W. Smith

1998 Sampling 2012-10-18, Pyoseon/Jeju (33°19'56" N, 126°50'38" E), coast, surface water, 19°C, 33 psu **Isolator** Jo, MJ (2012-12-27) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 40 PPF, 1 M **Size (µm)** 266-271 (L), 31-40 (W) **Original No.** B-1129

Pleurosigma sp.

0428 Sampling 2000-02-04, Hadong/Gyeongnam (35°03'51" N, 127°44'27" E), coast, surface water, 11°C **Isolator** Lee, GA (2000-05-29) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 53-75 (L), 8-12 (W) **Original No.** B-511 **References** 110

0542 Sampling 2001-03-29, Buan/Jeonbuk (35°35'31" N, 126°37'30" E), coast, mud, 9°C, 31 psu **Isolator** Lee, GA (2001-08-27) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 53-70 (L), 8-11 (W) **Original No.** B-529

1333 Sampling 2006-09-02, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 24°C, 30 psu **Isolator** Bae, JH (2006-11-22) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 240-243 (L), 27-32 (W) **Original No.** B-810

1891 Sampling 2012-01-05, Geojedo/Gyeongnam

(34°50'45" N, 128°34'57" E), coast, surface water, 14°C **Isolator** Jo, MJ (2012-02-08) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 379-384 (L), 44-52 (W) **Original No.** B-1093

PLEUROTAENIUM: Chlorophyceae

Pleurotaenium ehrenbergii Brébisson

Syn. *Docidium ehrenbergii* Ralfs

1852 Sampling 2011-06-07, Seogwipo/Jeju (33°22'08" N, 126°41'36" E), marshy land, surface water, 24°C **Isolator** Jo, MJ (2011-11-09) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 20°C, 0 psu, 40 PPF, 1 M **Size (µm)** 250-305 (L), 19-21 (W) **Original No.** FC-200

Pleurotaenium nodosum (Bailly) Lundell

Syn. *Docidium nodosum* Bailey ex Ralfs

1853 Sampling 2011-06-07, Seogwipo/Jeju (33°22'08" N, 126°41'36" E), marshy land, surface water, 24°C **Isolator** Jo, MJ (2011-11-09) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 20°C, 0 psu, 40 PPF, 1 M **Size (µm)** 210-270 (L), 47-51 (W) **Original No.** FC-201

Pleurotaenium trabecula var. *rectum* (Delponte) West & G. S. West

Syn. *Haplotaenium rectum* (Delponte) Bando

2085 Sampling 2012-10-17, Hallim/Jeju (33°17'39" N, 126°13'59" E), reservoir, surface water, 19°C **Isolator** Jo, MJ (2013-03-12) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 20°C, 0 psu, 40 PPF, 1 M **Size (µm)** 570-627 (L), 40-48 (W) **Original No.** FC-242

POLYKRIKOS: Dinophyceae

Polykrikos schwartzii Bütschli

Syn. *Polykrikos auricularia* Bergh

1830 Sampling 2009-07-30, Namcheon Bay/Busan (35°08'14" N, 129°06'49" E), coast, surface water, 21°C, 23 psu **Isolator** Jo, MJ (2009-07-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 64-99 (L), 49-57 (W) **Original No.** D-180

PORPHYRIDIDIUM: Rhodophyceae

Porphyridium cruentum (S. F. Gray) Nägeli

Syn. *Porphyridium purpureum* (Bory de Saint-Vincent) K. M. Drew & R. Ross

1061 Source CCMP 1328 (2003-03-18) **States** axenic, agar,

liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (µm) 5-8 (Ø) **Original No.** Rh-1 **Remarks** high protein and lipid, EPA

- 1793 Sampling** 2011-02-22, Geum River/Jeonbuk (36°00'54" N, 126°45'24" E), coast, surface water, 6°C, 10 psu **Isolator** Jo, MJ (2011-05-11) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2-E, 20°C, 15 psu, 40 PPF, 1 M **Size** (µm) 9-12 (Ø) **Original No.** ERh-1 **Remarks** high protein and lipid, EPA
- 2099 Source** KIOST **Sampling** 2012-11-22, Chukk, Micronesia (07°27'18" N, 151°53'58" E), coast, surface water, 30°C, 30 psu **Isolator** Jo, MJ (2013-03-12) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size** (µm) 6-8 (Ø) **Original No.** Rh-12 **Remarks** high °C sp., high protein and lipid, EPA

Porphyridium purpureum (Bory de Saint-Vincent) K. M. Drew & R. Ross

Syn. *Phytoconis purpurea* Bory de Saint-Vincent

- 1066 Source** CCAP 1380/3 (2003-03-24) **States** axenic, agar, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (µm) 5-8 (Ø) **Original No.** Rh-2

Porphyridium sordidum Geitler

- 1566 Sampling** 2009-11-05, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 17°C, 33 psu **Isolator** Jo, MJ (2010-01-02) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 60 PPF, 4 M **Size** (µm) 7-8 (Ø) **Original No.** Rh-9

Porphyridium sp.

- 1664 Sampling** 2010-06-10, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 25°C, 25 psu **Isolator** Jo, MJ (2010-07-14) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (µm) 19-20 (Ø) **Original No.** Rh-6

PROBOSCIA: Bacillariophyceae

Proboscia alata (Brightwell) Sundstrom

Syn. *Rhizosolenia alata* Brightwell

- 1861 Sampling** 2011-09-14, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 24°C, 32 psu **Isolator** Jo, MJ (2011-11-09) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (µm) 385-622 (L), 80-83 (W) **Original No.** B-1080

PROROCENTRUM: Dinophyceae

Prorocentrum arcuatum Issel

- 1641 Sampling** 2010-05-13, Dokdo/Gyeongbuk (37°14'27" N, 131°50'46" E), open sea, bottom water, 1°C **Isolator** Jo, MJ (2010-06-17) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (µm) 23-25 (L), 11-13 (W) **Original No.** D-192 **Remarks** low °C sp.

Prorocentrum balticum (Lohmann) Loeblich

Syn. *Exuviaella baltica* Lohmann

- 0589 Sampling** 1999-08-01, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 27°C, 30 psu **Isolator** Lee, GA (2000-01-20) **Identifier** Han, MS **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (µm) 10-23 (L), 10-14 (W) **Original No.** D-71

Prorocentrum dentatum Stein

- 1101 Sampling** 2004-07-26, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Park, SJ (2004-11-25) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size** (µm) 11-15 (L), 9-15 (W) **Original No.** D-149

Prorocentrum gracile Schütt

- 1821 Sampling** 2011-06-16, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 18°C, 30 psu **Isolator** Jo, MJ (2011-07-28) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size** (µm) 27-30 (L), 9-12 (W) **Original No.** D-202
- 2151 Sampling** 2013-08-14, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 21°C, 31 psu **Isolator** Jo, MJ (2013-09-25) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size** (µm) 23-26 (L), 9-11 (W) **Original No.** D-286

Prorocentrum lima Ehrenberg

Syn. *Cryptomonas lima* Ehrenberg

- 0568 Sampling** 1998-03-15, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Hur, SB (1998-09-10) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (µm) 34-39 (L), 20-30 (W) **Original No.** D-8 **References** 111, 126 **Remarks** toxic
- 0968 Source** NFRDI **Sampling** 1997-08-01, coast, surface water, 29°C (2002-04-08) **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (µm)

35-40 (L), 28-30 (W) **Original No.** D-77 **References** 133 **Remarks** high °C sp., toxic

2130 Source KIOST **Sampling** 2012-11-16, Chuk, Micronesia (07°38'22" N, 151°53'46" E), open sea, surface water, 29°C, 28 psu **Isolator** Jo, MJ (2013-06-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 30-35 (L), 21-27 (W) **Original No.** D-283 **Remarks** high °C sp., toxic

Prorocentrum cf. *lima* (Ehrenberg) F. Stein

2041 Source Kunsan Univ. (KNUTP PL-091021) **Sampling** 2009-10-31, Seongsan/Jeju (33°27'38" N, 126°56'03" E), coast, surface water, 21°C, 32 psu (2013-01-02) **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 30-35 (L), 18-28 (W) **Original No.** D-252

2042 Source Kunsan Univ. (KNUTP PL-091021) **Sampling** 2011-02-25, Seongsan/Jeju (33°27'38" N, 126°56'03" E), coast, surface water, 14°C, 34 psu (2013-01-02) **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 32-39 (L), 20-30 (W) **Original No.** D-253

2043 Source Kunsan Univ. (KNUTP PL-091021) **Sampling** 2011-02-25, Seongsan/Jeju (33°27'38" N, 126°56'03" E), coast, surface water, 14°C, 34 psu (2013-01-02) **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 35-40 (L), 18-25 (W) **Original No.** D-254

Prorocentrum mexicanum Tafall

1857 Sampling 2011-08-22, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 23°C, 32 psu **Isolator** Jo, MJ **Identifier** Hur, SB (2011-11-09) **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 34-42 (L), 23-27 (W) **Original No.** D-204

Prorocentrum micans Ehrenberg

Syn. *Prorocentrum schilleri* Böhrn

0974 Source Inje Univ. **Sampling** 1997-05-23, Jinhae Bay/Gyeongnam, coast, surface water (2002-05-22) **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 15-20 (L), 10-15 (W) **Original No.** D-86

1178 Source NFRDI **Sampling** 1997-08-01, Tongyoung/Gyeongnam (34°50'18" N, 128°25'04" E), coast, surface water (2004-12-08) **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 25-37.5 (L), 18-28 (W) **Original No.** D-128

1179 Source NFRDI **Sampling** 1996-10-07, Masan/Gyeongnam, coast, surface water (2004-12-08) **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 30-45 (L), 20-30 (W) **Original No.** D-130

1527 Sampling 2009-05-12, East Sea (37°03' N, 129°40' E), coast, surface water, 16°C **Isolator** Jo, MJ (2009-07-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 34-41 (L), 18-21 (W) **Original No.** D-178

2045 Source Kunsan Univ. (KNUTP PM-111106) **Sampling** 2011-11-06, Tongyeong/Gyeongnam (34°49'33" N, 128°25'57" E), coast, surface water, 15°C, 30 psu (2013-01-02) **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 18-25 (L), 10-15 (W) **Original No.** D-256

2046 Source Kunsan Univ. (KNUTP PM-111106) **Sampling** 2010-10-02, Geojedo/Gyeongnam (34°53'36" N, 128°36'59" E), coast, surface water, 20°C, 31 psu (2013-01-02) **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 20-28 (L), 10-15 (W) **Original No.** D-257

Prorocentrum cf. *micans*

2044 Source Kunsan Univ. (KNUTP PL-091021) **Sampling** 2011-08-25, Seongsan/Jeju (33°27'38" N, 126°56'03" E), coast, surface water, 24°C, 32 psu (2013-01-02) **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 22-25 (L), 18-28 (W) **Original No.** D-255

Prorocentrum minimum (Pavillard) Schiller

Syn. *Prorocentrum cordatum* (Ostenfeld) J. D. Dodge

0569 Sampling 1996-05-24, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 13°C **Isolator** Hur, SB (1996-07-26) **Identifier** Hur, SB **States** axenic, agar + liquid, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 10-20 (L), 11-15 (W) **Original No.** D-2

0570 Sampling 1999-01-**, Jindong/Gyeongnam (35°06'09" N, 128°29'40" E), coast, surface water **Isolator** Lee, GA (1999-05-22) **Identifier** Yu, JS **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 13-23 (L), 9-14 (W) **Original No.** D-13

0571 Sampling 1999-05-01, Chujado/Jeju (33°57'23" N, 126°19'21" E), coast, surface water **Isolator** Lee, GA (1999-08-09) **Identifier** Yu, JS **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 13-23 (L), 11-15 (W) **Original No.** D-23

- 0572 Sampling** 1999-05-01, Hyungjedo/Jeonnam (34°16'13" N, 127°00'35" E), coast, surface water, 16°C **Isolator** Lee, GA (1999-08-09) **Identifier** Yu, JS **States** axenic, agar + liquid, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 13-23 (L), 10-14 (W) **Original No.** D-31 **References** 107, 110, 113
- 0573 Sampling** 1999-04-01, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 15°C **Isolator** Lee, GA (1999-07-21) **Identifier** Yu, JS **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 15-23 (L), 10-13 (W) **Original No.** D-35
- 0590 Sampling** 1999-08-01, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 27°C **Isolator** Lee, GA (2000-01-20) **Identifier** Yu, JS **States** axenic, agar + liquid, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 15-23 (L), 12-14 (W) **Original No.** D-63 **References** 115
- 0969 Source** NFRDI **Sampling** 1998-07-01, Tongyoung/Gyeongnam, coast, surface water, 20°C (2002-04-08) **States** axenic, agar + liquid, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 13-18 (L), 10-15 (W) **Original No.** D-78
- 0975 Source** Inje Univ. **Sampling** Jinhae Bay/Gyeongnam, coast, surface water (2002-05-22) **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 13-15 (L), 10-13 (W) **Original No.** D-87
- 1079 Sampling** 2004-05-24, Namhae/Gyeongnam (34°42'47" N, 127°59'13" E), coast, surface water **Isolator** Park, SJ (2004-11-24) **Identifier** Lee, CG **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 15-19 (Ø) **Original No.** D-120 **References** 133
- 1145 Sampling** 2003-08-01, Haeundae/Busan (35°09'06" N, 129°09'07" E), intertidal zone, surface water, 27°C, 33 psu **Isolator** Park, SJ (2004-12-01) **Identifier** Lee, CG **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 6-8 (L), 5-6 (W) **Original No.** D-112
- 1180 Source** NFRDI **Sampling** 1997-08-01, Tongyeong/Gyeongnam, coast, surface water (2004-12-08) **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 15-18 (L), 12-15 (W) **Original No.** D-126
- 1181 Source** NFRDI **Sampling** 1997-08-01, Tongyeong/Gyeongnam, coast, surface water (2004-12-08) **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 12-20 (L), 10-18 (W) **Original No.** D-127 **References** 146, 165
- 1334 Sampling** 2006-08-01, Jinhae Bay/Gyeongnam (35°08'35" N, 128°40'58" E), coast, surface water, 26°C, 28 psu **Isolator** Jeong, EH (2006-11-22) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 15-17 (L), 14-16 (W) **Original No.** D-153
- 1335 sampling** 2006-07-01, East Sea (39°04' N, 131°49' E), open sea, surface water, 20°C **Isolator** Jeong, EH (2006-11-22) **Identifier** Hur, SB **States** axenic, agar + liquid, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 11-15 (L), 9-13 (W) **Original No.** D-154
- 1930 Sampling** 2012-04-04, Jinhae Bay/Gyeongnam (35°08'35" N, 128°40'58" E), coast, surface water, 11°C, 33 psu **Isolator** Jo, MJ (2012-05-31) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 40 PPF, 1 M **Size (µm)** 18-19 (L), 13-14 (W) **Original No.** D-211
- 2047 Source** Kunsan Univ. (KNUTP PM-081101) **Sampling** 2008-11-04, Buan/Jeonbuk (35°47'31" N, 126°44'25" E), coast, surface water, 16°C, 28 psu (2013-01-02) **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 15-23 (L), 12-14 (W) **Original No.** D-258
- Prorocentrum triestinum* Schiller
Syn. *Prorocentrum redfieldii* Bursa
- 1415 Sampling** 2008-07-29, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 22°C, 32 psu **Isolator** Jeong, EH (2008-09-01) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 25-28 (L), 11-14 (W) **Original No.** D-164
- 1585 Sampling** 2009-12-08, Namcheon Bay/Busan (35°08'14" N, 129°06'49" E), coast, surface water, 15°C, 33 psu **Isolator** Jo, MJ (2010-01-12) **Identifier** Hur, SB **States** axenic, agar + liquid, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 66-69 (L), 51-54 (W) **Original No.** D-185
- Prorocentrum* sp.
- 1169 Sampling** 2004-05-14, East South Sea, open sea, surface water, 21°C **Isolator** Park, SJ (2004-12-01) **Identifier** Hur, SB **States** axenic, agar + liquid, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 6-8 (L), 3-5 (W) **Original No.** D-115
- 2048 Source** Kunsan Univ. (KNUTP PS-080804) **Sampling** 2008-08-25, Hyeopjae/Jeju (33°23'47" N, 126°11'59" E), coast, surface water, 26°C, 32 psu (2013-01-02) **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 5-9 (L), 4-5 (W) **Original No.** D-259
- 2049 Source** Kunsan Univ. (KNUTP PS-090205) **Sampling**

2009-02-07, Jejusi/Jeju (33°31'11" N, 126°31'59" E), coast, surface water, 13°C, 31 psu (2013-01-02) **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 6-9 (L), 3-6 (W) **Original No.** D-260

2050 Source Kunsan Univ. (KNUTP PS-101001) **Sampling** 2010-10-02, Geojedo/Gyeongnam (34°53'36" N, 128°36'59" E), coast, surface water, 20°C, 31 psu (2013-01-02) **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 6-10 (L), 4-6 (W) **Original No.** D-261

2051 Source Kunsan Univ. (KNUTP PS-101002) **Sampling** 2010-10-02, Geojedo/Gyeongnam (34°53'36" N, 128°36'59" E), coast, surface water, 20°C, 31 psu (2013-01-02) **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 5-9 (L), 4-8 (W) **Original No.** D-262

PROTOCOCCUS: Chlorophyceae

Protococcus sp.

1988 Sampling 2012-10-17, Hallim/Jeju (33°17'39" N, 126°13'59" E), swamp, surface water, 19°C **Isolator** Jo, MJ (2012-12-27) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 20°C, 0 psu, 60 PPF, 1 M **Size (µm)** 8-10 (L), 6-9 (W) **Original No.** FC-236

PRYMNESIUM: Haptophyceae

Prymnesium annuliferum Billard

2202 Sampling 2013-12-11, Yeonggwang/Jeonnam (35°16'02" N, 126°20'58" E), salt farm, surface water, 4°C, 26 psu **Isolator** Jo, MJ (2014-04-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 2 M **Size (µm)** 10-12 (L), 5-7 (W) **Original No.** H-41

Prymnesium parvum N. Carter

1671 Sampling 2010-05-13, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 22°C, 25 psu **Isolator** Jo, MJ (2014-04-24) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 8-12 (L), 5-6 (W) **Original No.** H-33

1965 Sampling 2012-09-19, Geojedo/Gyeongnam (34°49'03" N, 128°44'42" E), coast, surface water, 22°C, 33 psu **Isolator** Jo, MJ (2012-10-23) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 20°C, 0 psu, 40 PPF, 1 M **Size (µm)** 7-9 (L), 5-6 (W) **Original No.** H-38

2122 Sampling 2013-03-19, Nakdong River/Busan (35°06'17" N, 128°53'42" E), estuary, surface water,

12°C, 18 psu **Isolator** Jo, MJ (2013-06-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 8-11 (L), 6-7 (W) **Original No.** H-39

2196 Sampling 2013-12-11, Yeonggwang/Jeonnam (35°16'02" N, 126°20'58" E), salt farm, surface water, 4°C, 26 psu **Isolator** Jo, MJ (2014-02-17) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 8-11 (L), 4-6 (W) **Original No.** H-40

Prymnesium patelliferum Green, Hibberd & Pienaar

Syn. *Prymnesium parvum* f. *patelliferum* (J. C. Green, D. J. Hibberd & R. N. Pienaar) A. Larsen

1807 Sampling 2011-04-13, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 16°C, 28 psu **Isolator** Jo, MJ (2011-06-28) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 4-12 (L), 4-5 (W) **Original No.** H-35

Prymnesium zebrinum Billard

1790 Sampling 2011-03-29, Namcheon Bay/Busan (35°08'14" N, 129°06'49" E), coast, surface water, 11°C, 30 psu **Isolator** Jo, MJ (2011-05-11) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 9-13 (L), 4-6 (W) **Original No.** H-34

Prymnesium sp.

1528 Sampling 2009-06-23, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 19°C, 34 psu **Isolator** Jo, MJ (2009-07-30) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 16-19 (L), 9-12 (W) **Original No.** H-31

1865 Sampling 2011-09-26, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 26°C **Isolator** Jo, MJ (2011-11-09) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 20-22 (L), 10-12 (W) **Original No.** H-37

PSEUDOCOCCOMYXA: Chlorophyceae

Pseudococcomyxa sp.

0015 Source UTEX 91 (1985-12-04) **States** axenic, agar, liquid, cryopreserved **Culture** JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 5-7 (L), 2-4 (W) **Gene data** 18S rRNA (JQ315652) **Original No.** FC-7

0147 Sampling 1996-04-26, Jinhae Bay/Gyeongnam (35°08'35" N, 128°40'58" E), hatchery, surface wa-

ter **Isolator** Hur, SB (1997-01-21) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 3-8 (L), 2-4 (W) **Gene data** 18S rRNA (GQ122371) **Original No.** FC-10

0246 Sampling 1999-02-11, Gwangalli/Busan (35°08'47" N, 129°06'56" E), estuary, surface water, 12 psu **Isolator** Lee, GA (1999-07-27) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM-E, f/2-E, 23°C, 15 psu, 60 PPF, 4 M **Size (µm)** 5-13 (L), 2-3 (W) **Gene data** 18S rRNA (JQ315619) **Original No.** EC-7

2192 Source KIOST **Sampling** 2013-10-23, Kosrae, Micronesia (05°17'06" N, 162°57'25" E), reservoir, surface water, 28°C **Isolator** Jo, MJ (2014-02-174) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 18°C, 0 psu, 20 PPF, 1 M **Size (µm)** 5-7 (L), 3-4 (W) **Original No.** FC-260

PSEUDODICTYOSPHAERIUM: Chlorophyceae

Pseudodictyosphaerium sp.

1210 Sampling 2004-12-15, Upo/Gyeongnam (35°32'53" N, 128°24'25" E), swamp, surface water **Isolator** Park, SJ (2005-03-10) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 2-5 (Ø) **Gene data** 18S rRNA (JQ315564) **Original No.** FC-92

PSEUDOISOCHRYSIS: Haptophyceae

Pseudoisochrysis paradoxa F. D. Ott

1357 Source CCMP 715 (2007-01-23) **States** non-axenic, liquid **Culture** f/2-si, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 3-4 (Ø) **Gene data** 18S rRNA (HQ877921) **Original No.** H-24

PSEUDONITZSCHIA: Bacillariophyceae

Pseudo-nitzschia pungens (Grunow ex Cleve) G. R. Hasle

Syn. *Nitzschia pungens* Grunow ex Cleve

0627 Sampling 1994-10-05, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Hur, SB (1996-03-27) **Identifier** Lee, JH **States** axenic, agar, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 31-34 (L), 4-5 (W) **Original No.** B-61

Pseudonitzschia sp.

1529 Source Kunsan Univ. (PD-MAL108) **Sampling** Pal-dang/Gyeonggi, reservoir, surface water (2009-07-30) **States** non-axenic, liquid **Culture** JM, 20°C, 0 psu, 40 PPF, 2 M **Size (µm)** 123-197 (L), 5 (W) **Original No.** FB-56

PSEUDOPEDINELLA: Chrysophyceae

Pseudopedinella pyriforme N. Carter

1779 Sampling 2011-03-23, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 11°C, 32 psu **Isolator** Jo, MJ (2011-05-11) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 7-9 (Ø) **Original No.** Ch-7

Pseudopedinella tricostata (M. I. Roukhiyajnen) H. A. Thomsen

Syn. *Pseudopedinella thomsenii* Sekiguchi, Kawachi, Nakayama & Inouye

1625 Sampling 2010-04-06, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 13°C, 34 psu **Isolator** Jo, MJ (2010-04-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 7-10 (L), 5-8 (W) **Original No.** Ch-8

PYCNOCOCCUS: Prasinophyceae

Pycnococcus provasolii R. R. L. Guillard

0438 Source CCMP 1203 (2000-07-01) **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 1-5 (Ø) **Gene data** 18S rRNA (JQ315741) **Original No.** P-38

Pycnococcus sp.

1146 Sampling 2004-04-07, Ulrungdo/Gyeongbuk (37°29'35" N, 130°46'09" E), open sea, bottom water, 6°C, 34 psu **Isolator** Park, SJ (2004-12-01) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 2-3 (Ø) **Gene data** 18S rRNA (GQ122364) **Original No.** P-54 **Remarks** low °C sp.

PYRAMIMONAS: Prasinophyceae

Pyramimonas gelidicola McFadden, Moestrup & Wetherbee

1182 Sampling 2004-07-01, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Park, SJ (2004-12-08) **Identifier** Lee, CG **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 6-9 (Ø) **Original No.** P-88

Pyramimonas grossii Parke

0198 Sampling 1996-07-12, Geojedo/Gyeongnam (34°50'45" N, 128°34'57" E), coast, surface water, 17°C **Isolator** Hur, SB (1997-08-02) **Identifier** Lee, SG **States** axenic, agar, liquid, cryopreserved **Cul-**

ture LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M Size (µm) 10-16 (L), 6-10 (W) **Original No.** P-29

Pyramimonas orientalis McFadden, Hill & Wetherbee
Syn. *Pyramimonas plurioculata* Butcher

1902 Sampling 2012-01-30, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 11°C, 34 psu **Isolator** Jo, MJ (2012-03-29) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 6-8 (L), 4-6 (W) **Original No.** P-86

2150 Sampling 2013-09-12, Geojedo/Gyeongnam (34°43'25" N, 128°29'24" E), coast, surface water, 24°C, 33 psu **Isolator** Jo, MJ (2013-09-25) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 7-9 (L), 5-7 (W) **Original No.** P-92

Pyramimonas propulsa Moestrup & Hill

1827 Sampling 2011-06-16, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 18°C, 31 psu **Isolator** Jo, MJ (2011-07-28) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 15-19 (L), 9-12 (W) **Original No.** P-82

Pyramimonas sp.

1626 Sampling 2010-02-23, Taean/Chungnam (36°40'39" N, 126°08'09" E), coast, surface water, 5°C, 32 psu **Isolator** Jo, MJ (2010-04-30) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 11-15 (L), 4-8 (W) **Original No.** P-69

1874 Sampling 2011-11-25, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 14°C, 35 psu **Isolator** Jo, MJ (2011-12-30) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 7-8 (L), 5-6 (W) **Original No.** P-85

PYROCYSTIS: Dinophyceae

Pyrocystis robusta Kofoid

2205 Sampling 2014-01-18, Udo/Jeju (33°28'07" N, 126°57'08" E), open sea, surface water, 16°C, 33 psu **Isolator** Jo, MJ (2014-04-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 138-163 (L), 35-58 (W) **Original No.** D-288

PYROPHACUS: Dinophyceae

Pyrophacus horologicum Stein

1530 Sampling 2009-05-20, Yeosu/Jeonnam (34°45'07" N, 127°39'33" E), coast, surface water **Isolator** Jo, MJ (2009-07-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 87-97 (L), 35-41 (W) **Original No.** D-177

Pyrophacus steinii (Schiller) Wall & Dale

Syn. *Pyrophacus horologicum* var. *steinii* Schiller

2141 Sampling 2013-08-16, Yeosu/Jeonnam (34°44'06" N, 127°45'02" E), coast, surface water, 23°C, 34 psu **Isolator** Jo, MJ (2013-08-28) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 88-93 (Ø) **Original No.** D-284

QUADRIGULA: Chlorophyceae

Quadrigula chodatii (Tanner-Füllemann) G. M. Smith

Syn. *Rhaphidium chodatii* Tanner-Füllemann

1789 Sampling 2011-02-22, Mangyeong River/Jeonbuk (35°53'53" N, 127°03'40" E), surface water, 8°C **Isolator** Jo, MJ (2011-05-11) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** JM, 20°C, 0 psu, 60 PPF, 1 M **Size (µm)** 49-88 (L), 2-3 (W) **Original No.** FC-183

RHABDONEMA: Bacillariophyceae

Rhabdonema adriaticum Kützing

1750 Sampling 2011-01-05, Namcheon Bay/Busan (35°08'14" N, 129°06'49" E), coast, surface water, 12°C, 33 psu **Isolator** Jo, MJ (2011-02-08) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 87-152 (L), 45-48 (W) **Original No.** B-1046

1725 Sampling 2010-10-19, Namcheon Bay/Busan (35°08'14" N, 129°06'49" E), coast, surface water, 19°C, 32 psu **Isolator** Jo, MJ (2010-11-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 159-162 (L), 74-112 (W) **Original No.** B-1025

1726 Sampling 2010-10-19, Namcheon Bay/Busan (35°08'14" N, 129°06'49" E), coast, surface water, 19°C, 32 psu **Isolator** Jo, MJ (2010-11-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 109-111 (L), 74-95 (W) **Original No.** B-1026

RHAPHONEIS: Bacillariophyceae

Rhaphoneis sp.

0628 Sampling 1986-06-01, Suncheon Bay/Jeonnam

- (34°53'08" N, 127°30'52" E), salt farm, surface water, **Isolator** Hur, SB (1986-11-19) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 5-11 (L), 3-5 (W) **Original No.** B-41 **References** 13, 28, 69, 71, 97, 110, 139, 167, 168 **Remarks** aquaculture
- 0693 Sampling** 1999-07-22, Maemuldo/Gyeongnam (34°46'10" N, 128°38'51" E), coast, surface water **Isolator** Lee, GA (1999-11-11) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 8-10 (L), 5-6 (W) **Original No.** B-362 **Remarks** aquaculture
- 1018 Sampling** 2001-09-01, Namhae/Gyeongnam (34°42'47" N, 127°59'13" E), coast, surface water, 11°C **Isolator** Lee, GA (2002-12-02) **Identifier** Lee, K **States** axenic, agar + liquid, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 4-5 (L), 3-4 (W) **Original No.** B-642 **Remarks** aquaculture
- 1037 Sampling** 2001-10-01, Wando/Jeonnam (34°18'33" N, 126°51'18" E), hatchery, substratum **Isolator** Lee, GA (2002-12-20) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 8-13 (L), 5-6 (W) **Original No.** B-647 **Remarks** aquaculture
- RHINOMONAS:** Cryptophyceae
Rhinomonas fulva (Butcher) Hill & Wetherbee
Syn. *Cryptochrysis fulva* Butcher
- 1922 Sampling** 2012-03-07, Namcheon Bay/Busan (35°08'14" N, 129°06'49" E), coast, surface water, 12°C, 34 psu **Isolator** Jo, MJ (2012-05-31) **Identifier** Hur, SB **States** axenic, agar + liquid, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 11-14 (L), 6-7 (W) **Original No.** Cr-37
- Rhinomonas sp.**
- 1080 Sampling** 2004-05-24, Namhae/Gyeongnam (34°42'47" N, 127°59'13" E), coast **Isolator** Park, SJ (2004-11-24) **Identifier** Lee, CG **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 10-14 (L), 5-6 (W) **Original No.** Cr-13
- RHIZOLENIA:** Bacillariophyceae
Rhizolenia alata Brightwell
- 1434 Sampling** 2008-08-21, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 23°C, 31 psu **Isolator** Jeong, EH (2008-10-13) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 273-465 (L), 8-9 (W) **Original No.** B-870
- 1801 Sampling** 2011-05-17, Samcheok/Gangwon (37°26'05" N, 129°11'45" E), coast, surface water, 11°C **Isolator** Jo, MJ (2011-06-28) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 376-533 (L), 11-18 (W) **Original No.** B-1063
- Rhizolenia alata forma indica** (Peragallo) Gran
- 1416 Sampling** 2008-07-22, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 19°C, 34 psu **Isolator** Jeong, EH (2008-09-01) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 350-428 (L), 58-60 (W) **Gene data** 18S rRNA (JQ315453) **Original No.** B-853
- 1441 Sampling** 2008-09-24, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 24°C, 32 psu **Isolator** Jeong, EH (2008-10-14) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 287-507 (L), 49-51 (W) **Gene data** 18S rRNA (JQ315456) **Original No.** B-878
- 1559 Sampling** 2009-09-11, Mokdo/Jeonnam (34°26'25" N, 127°17'34" E), coast, surface water **Isolator** Jo, MJ (2009-10-26) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 300-506 (L), 25-26 (W) **Original No.** B-919
- 1586 Sampling** 2009-11-06, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 17°C **Isolator** Jo, MJ (201-01-12) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 303-483 (L), 9-10 (W) **Original No.** B-934
- 1628 Sampling** 2010-04-14, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 13°C, 34 psu **Isolator** Jo, MJ (2010-04-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 233-276 (L), 64-67 (W) **Gene data** 18S rRNA (JQ315455) **Original No.** B-979
- Rhizolenia curvata** Zacharias
- 1704 Sampling** 2010-08-18, Yeongdeok/Gyeongbuk (36°24'50" N, 129°27'00" E), open sea, surface water, 24°C, 34 psu **Isolator** Jo, MJ (2010-10-15) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 261-568 (L), 24-30 (W) **Original No.** B-1015
- Rhizolenia delicatula** Cleve
Syn. *Guinardia delicatula* (Cleve) Hasle
- 1479 Sampling** 2008-12-01-**, Nakdong River/Busan

(35°06'17" N, 128°53'42" E), coast, surface water, 15°C, 33 psu **Isolator** Jeong, EH (2009-01-07) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 27-55 (L), 10-11 (W) **Original No.** B-897

Rhizosolenia heberata Bailey

1377 Sampling 2007-02-**, Jinhae Bay/Gyeongnam (35°08'35" N, 128°40'58" E), coast, surface water, 7°C, 32 psu **Isolator** Jeong, EH (2007-03-22) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 250 (L), 5-8 (W) **Original No.** B-817

Rhizosolenia hyalina Ostenfeld

1442 Sampling 2008-09-05, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 32°C, 32 psu **Isolator** Jeong, EH (2008-10-14) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 244-368 (L), 20-21 (W) **Original No.** B-869

Rhizosolenia imbricata Brightwell

Syn. *Rhizosolenia shrubsolei* Cleve

1453 Sampling 2008-10-10, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 23°C, 31 psu **Isolator** Jeong, EH (2008-11-05) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 265-360 (L), 38-40 (W) **Gene data** 18S rRNA (JQ315461) **Original No.** B-885

1856 Sampling 2011-08-06, Yokjido/Gyeongnam (34°38'30" N, 128°16'22" E), coast, surface water, 26°C **Isolator** Jo, MJ (2011-11-09) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 180-262 (L), 31-34 (W) **Original No.** B-1079

Rhizosolenia imbricata var. *shrubsolei* (Cleve) Schröder

Syn. *Rhizosolenia imbricata* Brightwell

1702 Sampling 2010-09-09, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 22°C, 25 psu **Isolator** Jo, MJ (2010-10-15) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 170-310 (L), 31-37 (W) **Gene data** 18S rRNA (JQ315462) **Original No.** B-1013

Rhizosolenia indica (Peragallo) Ostenfeld

Syn. *Proboscia indica* (H. Peragallo) Hernández-Becerril

1672 Sampling 2010-06-22, Anmyeondo/Chungnam

(36°35'20" N, 126°18'51" E), coast, surface water, 23°C, 31 psu **Isolator** Jo, MJ (2010-08-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 488-894 (L), 40-42 (W) **Gene data** 18S rRNA (JQ315454) **Original No.** B-1007

1795 Sampling 2011-05-17, Ulleungdo/Gyeongnam (37°27'22" N, 130°44'56" E), open sea, surface water, 12°C, 31 psu **Isolator** Jo, MJ (2011-06-28) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 265-381 (L), 20-25 (W) **Original No.** B-1057

Rhizosolenia pungens Cleve-Euler

Syn. *Rhizosolenia setigera* f. *pungens* (Cleve-Euler) Brunel

1336 Sampling 2006-09-04, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 24°C, 30 psu **Isolator** Jeong, EH (2006-11-22) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 163-360 (L), 2-5 (W) **Original No.** B-806

Rhizosolenia robusta Norman

Syn. *Neocalyptrella robusta* (G. Norman ex Ralfs) Hernández-Becerril & Meave del Castillo

1673 Sampling 2010-07-12, Yeongdeok/Gyeongbuk (36°24'17" N, 129°25'32" E), coast, surface water, 23°C **Isolator** Jo, MJ (2010-08-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 434-550 (L), 142-153 (W) **Original No.** B-1010

Rhizosolenia setigera Brightwell

Syn. *Rhizosolenia japonica* Castracane

1403 Sampling 2007-10-11, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 20°C, 31 psu **Isolator** Jeong, EH (2008-06-23) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 270-370 (L), 10-15 (W) **Original No.** B-845

1627 Sampling 2010-04-06, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 13°C, 34 psu **Isolator** Jo, MJ (2010-04-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 222-340 (L), 15-17 (W) **Gene data** 18S rRNA (JQ315466) **Original No.** B-975

Rhizosolenia shrubsolei Cleve

Syn. *Rhizosolenia imbricata* Brightwell

1378 Sampling 2006-11-**, Yongho Bay/Busan (35°08'01"

N, 129°07'15" E), coast, surface water, 19°C, 30 psu **Isolator** Jeong, EH (2007-03-22) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 170-280 (L), 18-20 (W) **Original No.** B-814

Rhizosolenia sp.

1705 Sampling 2010-08-17, Yeongdeok/Gyeongbuk (36°24'50" N, 129°27'00" E), open sea, surface water, 24°C, 34 psu **Isolator** Jo, MJ (2010-10-15) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 214-652 (L), 16-21 (W) **Original No.** B-1016

RHODOMONAS: Cryptophyceae

Rhodomonas baltica Karsten

1733 Sampling 2010-08-06, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast surface water, 31°C, 20 psu **Isolator** Jo, MJ (2010-11-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2-E, 20°C, 15 psu, 40 PPF, 1 M **Size (µm)** 14-17 (L), 5-10 (W) **Original No.** ECr-1 **Remarks** aquaculture

1756 Sampling 2010-11-10, Yeongdeok/Gyeongbuk (36°24'50" N, 129°27'00" E), open sea, surface water, 17°C, 34 psu **Isolator** Jo, MJ (2011-02-08) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 15-18 (L), 8-10 (W) **Original No.** Cr-28 **Remarks** aquaculture

Rhodomonas salina (Wislouch) Hill & Wetherbee

Syn. *Cryptomonas salina* Wislouch

1062 Source CCMP 1419 (2003-03-18) **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 10-14 (L), 6-10 (W) **Original No.** Cr-1 **References** 107, 113, 157

1629 Sampling 2010-02-19, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 8°C, 33 psu **Isolator** Jo, MJ (2010-04-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 10-13 (L), 6-8 (W) **Original No.** Cr-26

1867 Sampling 2011-11-25, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast surface water, 14°C, 34 psu **Isolator** Jo, MJ (2011-12-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 11-14 (L), 7-8 (W) **Original No.** Cr-33

Rhodomonas sp.

0574 Sampling 1999-02-01, Buan/Jeonbuk (35°49'17" N,

126°38'29" E), coast, surface water, 8°C, 31 psu **Isolator** Lee, GA (2000-02-07) **Identifier** Lee, CG **States** axenic, agar + liquid, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 7-10 (L), 5-8 (W) **Original No.** Cr-16

0591 Sampling 1999-07-01, Ulsan/Gyeongnam (35°31'01" N, 129°22'44" E), coast, surface water, 22°C **Isolator** Lee, GA (1999-11-11) **Identifier** Lee, CG **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 3-13 (L), 6-8 (W) **Original No.** Cr-10

1071 Sampling 2004-05-15, East China Sea, high sea, 24°C **Isolator** Lee, GA (2004-01-24) **Identifier** Lee, CG **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 11-15 (L), 5-9 (W) **Original No.** Cr-12

1438 Sampling 2008-08-14, Taean/Chungnam (36°45'23" N, 126°11'16" E), salt farm, surface water, 30°C, 19 psu **Isolator** Jeong, EH (2008-10-13) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 11-14 (Ø) **Original No.** Cr-51

1493 Sampling 2008-11-26, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 13°C, 34 psu **Isolator** Jo, MJ (2013-04-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 10-13 (L), 5-7 (W) **Original No.** Cr-16

1532 Sampling 2009-06-23, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 19°C, 31 psu **Isolator** Jo, MJ (2009-07-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 20-21 (L), 9-11 (W) **Original No.** Cr-19

1642 Sampling 2010-05-14, Ulsan/Gyeongnam (35°31'01" N, 129°22'44" E), coast, surface water, 17°C **Isolator** Jo, MJ (2010-06-17) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 20-23 (L), 10-12 (W) **Original No.** Cr-27

1684 Sampling 2001-10-31, Yellow Sea (34°40' N, 125°39' E), open sea, middle water, 18°C **Isolator** Lee, GA (2007-02-01) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 4-5 (L), 2-3 (W) **Original No.** Cr-50

1701 Sampling 2010-06-10, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 20°C, 28 psu **Isolator** Jo, MJ (2010-07-14) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 11-13 (L), 6-9 (W) **Original No.** Cr-53

2070 Source Kunsan Univ. (KNUTP RS-110801) **Sampling**

- 2011-08-25, Jejusi/Jeju (33°28'04" N, 126°19'23" E), coast surface water, 24°C, 32 psu (2013-01-02) **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 40 PPF, 1 M **Size (µm)** 13-15 (L), 5-8 (W) **Original No.** Cr-38
- 2071 Source** Kunsan Univ. (KNUTP RS-110802) **Sampling** 2011-08-25, Jejusi/Jeju (33°28'04" N, 126°19'23" E), coast surface water, 24°C, 32 psu (2013-01-02) **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 40 PPF, 1 M **Size (µm)** 10-13 (L), 6-7 (W) **Original No.** Cr-39
- 2072 Source** Kunsan Univ. (KNUTP RS-111001) **Sampling** 2011-10-30, Jejusi/Jeju (33°23'23" N, 126°14'07" E), coast surface water, 20°C, 33 psu (2013-01-02) **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 12-16 (L), 5-7 (W) **Original No.** Cr-40
- 2073 Source** Kunsan Univ. (KNUTP CR-021203) **Sampling** 2002-12-15, Sinan/Jeonnam (35°02'36" N, 126°12'11" E), coast, surface water, 15°C, 33 psu (2013-04-24) **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 2-3 (Ø) **Original No.** Cr-41
- 2074 Source** Kunsan Univ. (KNUTP CR-101001) **Sampling** 2010-10-26, Kunsan/Jeonbuk (36°02'08" N, 126°32'28" E), coast, surface water, 22°C, 30 psu (2013-04-24) **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 3-4 (Ø) **Original No.** Cr-42
- 2075 Source** Kunsan Univ. (KNUTP CR-101101) **Sampling** 2010-11-23, Tongyeong/Gyeongnam (34°47'20" N, 128°23'22" E), coast, surface water, 15°C, 30 psu (2013-04-24) **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 3-4 (Ø) **Original No.** Cr-43
- 2076 Source** Kunsan Univ. (KNUTP CR-101102) **Sampling** 2010-11-23, Tongyeong/Gyeongnam (34°47'20" N, 128°23'22" E), coast, surface water, 15°C, 30 psu (2013-04-24) **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 2-4 (Ø) **Original No.** Cr-44
- 2077 Source** Kunsan Univ. (KNUTP CR-101201) **Sampling** 2010-12-10, Boryeong/Chungnam (36°19'42" N, 126°30'20" E), coast, surface water, 11°C, 31 psu (2013-04-24) **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 3-5 (Ø) **Original No.** Cr-45
- 2078 Source** Kunsan Univ. (KNUTP CR-111107) **Sampling** 2011-11-07, Taehwa River/Ulsan (35°31'01" N, 129°22'44" E), coast, surface water, 19°C, 33 psu (2013-04-24) **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 2-4 (Ø) **Original No.** Cr-46
- 2079 Source** Kunsan Univ. (KNUTP CR-111108) **Sampling** 2011-11-07, Taehwa River/Ulsan (35°31'01" N, 129°22'44" E), coast, surface water, 19°C, 33 psu (2013-04-24) **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 3-4 (Ø) **Original No.** Cr-47
- RHODOSORUS:** Rhodophyceae
Rhodosorus marinus Geitler
1358 Source CCMP 769 (2007-01-23) **States** non-axenic, liquid, cryopreserved **Culture** f/2-si, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 5 (Ø) **Original No.** Rh-3
- RIVULARIA:** Cyanophyceae
Rivularia globiceps G. S. West
Syn. *Rivularia aquatica* De Wildeman
1923 Sampling 2012-02-27, Gunsan/Jeonbuk (35°55'45" N, 126°38'47" E), reservoir, surface water, 3°C **Isolator** Jo, MJ (2012-05-31) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 18°C, 0 psu, 20 PPF, 1 M **Size (µm)** 2-3 (Ø) **Original No.** FCy-47
- SARCINOCHRYSIS:** Chrysophyceae
Sarcinochrysis marina Geitler
1610 Sampling 2010-02-23, Taean/Chungnam (36°40'39" N, 126°08'09" E), coast, surface water, 5°C, 32 psu **Isolator** Jo, MJ (2010-03-17) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 60 PPF, 1 M **Size (µm)** 7-10 (L), 5-7 (W) **Original No.** Ch-1
- SCENEDESMUS:** Chlorophyceae
Scenedesmus acuminatus (Lagerheim) Chodat
Syn. *Acutodesmus acuminatus* (Lagerheim) Tsarenko
1973 Sampling 2012-07-25, Upo/Gyeongnam (35°33'39" N, 128°24'21" E), swamp, surface water, 30°C **Isolator** Jo, MJ (2012-10-23) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 20°C, 0 psu, 60 PPF, 1 M **Size (µm)** 30-50 (L), 3-6 (W) **Original No.** FC-232
- Scenedesmus acutiformis* Schröder
Syn. *Acutodesmus acutiformis* (Schröder) Tsarenko & D. M. John
1826 Sampling 2011-06-07, Seogwipo/Jeju (33°22'08" N, 126°41'36" E), swamp, surface water, 24°C **Isolator** Jo, MJ (2011-07-28) **Identifier** Hur, SB **States** non-

axenic, liquid, cryopreserved **Culture** JM, 20°C, 0 psu, 60 PPF, 1 M **Size** (μm) 9-11 (L), 2-3 (W) **Original No.** FC-190

Scenedesmus acutus f. *costulatus* (Chodat) Uherkovich
1560 Sampling 2009-07-17, Namgu/Busan (35°07'56" N, 129°06'06" E), pond, surface water **Isolator** Jo, MJ (2009-10-26) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** JM, 23°C, 0 psu, 60 PPF, 4 M **Size** (μm) 13-18 (L), 13-18 (W) **Original No.** FC-164

Scenedesmus obliquus (Turpin) Kützing
 Syn. *Acutodesmus obliquus* (Turpin) Hegewald & Hana-gata

1234 Sampling 2005-03-30, Upo/Gyeongnam (35°32'53" N, 128°24'25" E), swamp, surface water, 15°C **Isolator** Jeong, EH (2005-09-01) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size** (μm) 7-12 (L), 4-6 (W) **Original No.** FC-106 **Remarks** high protein and lipid

Scenedesmus rubescens (P. J. L. Dangeard) E. Kessler, M. Schafer, C. Hummer, A. Kloboucek & V. A. R. Huss
 Syn. *Halochlorella rubescens* P. J. L. Dangeard

0263 Sampling 1999-07-15, Gampo/Gyeongbuk (35°48'17" N, 129°30'32" E), coast, surface water, 22°C **Isolator** Lee, GA (1999-12-15) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size** (μm) 9-13 (\emptyset) **Gene data** 18S rRNA (JQ315585) **Original No.** C-155

0279 Sampling 1999-07-15, Namgu/Busan (35°07'56" N, 129°06'06" E), pond, surface water, 24°C **Isolator** Lee, GA (2000-01-04) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size** (μm) 2-4 (\emptyset) **Gene data** 18S rRNA (JQ315565) **Original No.** FC-88

Scenedesmus spinosus var. *bicaudatus* Hortobagyi
2156 Sampling 2013-09-30, Kyungju/Gyeongbuk (35°46'04" N, 129°13'25" E), swamp, surface water, 21°C **Isolator** Jo, MJ (2013-12-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 18°C, 0 psu, 40 PPF, 1 M **Size** (μm) 11-13 (L), 4-6 (W) **Original No.** FC-254

Scenedesmus sp.

0048 Sampling 1986-09-01, Namgu/Busan (35°07'56" N,

129°06'06" E), pond, surface water **Isolator** Hur, SB (1986-12-15) **Identifier** Lee, SG **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size** (μm) 10-15 (L), 3-6 (W) **Gene data** 18S rRNA (JQ315584) **Original No.** FC-9 **References** 2, 4, 13

0071 Sampling 1990-05-14, Namhae/Gyeongnam (34°42'47" N, 127°59'13" E), coast, surface water **Isolator** Hur, SB (1992-07-29) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size** (μm) 10-15 (L), 6-9 (W) **Gene data** 18S rRNA (GQ122336) **Original No.** C-41

0140 Sampling 1996-06-02, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 17°C **Isolator** Hur, SB (1996-10-21) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size** (μm) 3-10 (\emptyset) **Gene data** 18S rRNA (JQ315586) **Original No.** C-99

0157 Sampling 1996-04-21, Geojedo/Gyeongnam (34°50'45" N, 128°34'57" E), coast, surface water, 11°C **Isolator** Hur, SB (1997-02-03) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size** (μm) 5-13 (\emptyset) **Gene data** 18S rRNA (JQ315601) **Original No.** C-100

0178 Sampling 1996-08-25, Gimhae/Gyeongnam (35°12'38" N, 128°59'47" E), reservoir, surface water **Isolator** Hur, SB (1997-02-10) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size** (μm) 10-25 (\emptyset) **Gene data** 18S rRNA (JQ315566) **Original No.** FC-18

0210 Sampling 1998-04-15, Yeosu/Jeonnam (34°45'07" N, 127°39'33" E), coast, surface water, 15°C **Isolator** Hur, SB (1998-09-17) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size** (μm) 3-10 (\emptyset) **Gene data** 18S rRNA (JQ315602) **Original No.** C-133 **References** 111

0244 Sampling 1999-03-22, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 8°C, 31 psu **Isolator** Lee, GA (1999-07-22) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size** (μm) 5-15 (\emptyset) **Gene data** 18S rRNA (JQ315604) **Original No.** C-152

0245 Sampling 1999-02-24, Yeosu/Jeonnam (34°45'07" N, 127°39'33" E), coast, surface water, 13°C **Isolator** Lee, GA (1999-07-22) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size** (μm) 3-13 (\emptyset) **Gene data** 18S rRNA (JQ315600) **Original No.** C-154

0343 Sampling 1999-08-12, Namgu/Busan (35°07'56" N,

- N, 129°06'06" E), pond, surface water, 27°C **Isolator** Lee, GA (2000-02-11) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 5-15 (L), 7-11 (W) **Gene data** 18S rRNA (JQ315583) **Original No.** FC-45
- 0363 Sampling** 1999-10-13, East Sea (37°53' N, 129°45' E), open sea, surface water, 19°C **Isolator** Lee, GA (2000-02-27) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 8-15, 6-8 (W) **Gene data** 18S rRNA (JQ315587) **Original No.** C-208
- 0373 Sampling** 1999-10-28, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 17°C **Isolator** Lee, GA (2000-03-02) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 8-15 (Ø) **Gene data** 18S rRNA (JQ315598) **Original No.** C-198
- 0374 Sampling** 1999-10-28, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 17°C **Isolator** Lee, GA (2000-03-02) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 8-15 (Ø) **Gene data** 18S rRNA (JQ315588) **Original No.** C-199
- 0401 Sampling** 1999-11-25, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 14°C **Isolator** Lee, GA (2000-04-04) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 1-5 (Ø) **Gene data** 18S rRNA (JQ315589) **Original No.** C-202
- 0405 Sampling** 2000-05-01, Nakdong River/Busan (35°06'17" N, 128°53'42" E), surface water, 16°C **Isolator** Lee, GA (2000-04-10) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 10-14 (L), 3-5 (W) **Gene data** 18S rRNA (JQ315582) **Original No.** FC-71
- 0406 Sampling** 2000-05-01, Nakdong River/Busan (35°06'17" N, 128°53'42" E), surface water, 16°C **Isolator** Lee, GA (2000-04-10) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 13-18 (L), 4-5 (W) **Gene data** 18S rRNA (JQ315581) **Original No.** FC-72
- 0423 Sampling** 1999-12-23, Donghae/Gangwon (37°29'45" N, 129°08'42" E), coast, surface water **Isolator** Lee, GA (2000-05-14) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 5-13 (Ø) **Gene data** 18S rRNA (JQ315596) **Original No.** C-206
- 0444 Sampling** 2000-04-30, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 18°C **Isolator** Lee, GA (2000-11-20) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 3-5 (Ø) **Gene data** 18S rRNA (JQ315591) **Original No.** C-221
- 0463 Sampling** 2000-08-09, Dokdo/Gyeongbuk (37°14'27" N, 131°50'46" E), open sea, surface water, 25°C **Isolator** Lee, GA (2001-03-27) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, PPF, 4 M **Size (µm)** 9-14 (Ø) **Gene data** 18S rRNA (JQ315590) **Original No.** C-229
- 0475 Sampling** 2000-09-25, Ulrungdo/Gyeongbuk (37°29'35" N, 130°46'09" E), open sea, surface water, 22°C **Isolator** Lee, GA (2001-06-07) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 3-5 (Ø) **Gene data** 18S rRNA (JQ315595) **Original No.** C-230
- 0858 Sampling** 2001-02-07, Yangyang/Gangwon (38°04'14" N, 128°37'22" E), stream, surface water, 10°C **Isolator** Lee, GA (2001-10-28) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 5-13 (L), 6-13 (W) **Gene data** 18S rRNA (JQ315580) **Original No.** FC-68
- 0871 Sampling** 2000-05-05, Taehwa River/Ulsan (35°32'38" N, 129°21'56" E), surface water, 21°C **Isolator** Lee, GA (2001-11-28) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 6-8 (L), 2-3 (W) **Gene data** 18S rRNA (JQ315567) **Original No.** FC-60
- 0872 Sampling** 2001-02-07, Yangyang/Gangwon (38°04'14" N, 128°37'22" E), stream, surface water, 10°C **Isolator** Lee, GA (2001-11-28) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 5-10 (L), 3-5 (W) **Gene data** 18S rRNA (JQ315579) **Original No.** FC-66
- 0964 Sampling** 2001-03-01, Buan/Jeonbuk (35°44'44" N, 126°35'27" E), hatchery, substratum **Isolator** Lee, GA (2002-03-22) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 9-13 (Ø) **Gene data** 18S rRNA (JQ315592) **Original No.** C-242
- 0981 Sampling** 2000-05-01, Nakdong River/Busan (35°06'17" N, 128°53'42" E), surface water, 16°C

- Isolator** Lee, GA (2000-08-07) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 11-19 (L), 5-7 (W) **Gene data** 18S rRNA (JQ315569) **Original No.** FC-74
- 1011 Sampling** 2001-09-01, Uljin/Gyeongbuk (36°57'28" N, 129°25'00" E), hatchery, substratum **Isolator** Lee, GA (2002-08-06) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 8-12 (Ø) **Gene data** 18S rRNA (JQ315593) **Original No.** C-241
- 1046 Sampling** 2001-12-01, Nakdong River/Busan (35°06'17" N, 128°53'42" E), surface water, 13°C **Isolator** Lee, GA (2003-01-04) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 2-6 (Ø) **Gene data** 18S rRNA (JQ315568) **Original No.** FC-76
- 1047 Sampling** 2001-12-01, Nakdong River/Busan (35°06'17" N, 128°53'42" E), surface water, 13°C **Isolator** Lee, GA (2003-01-04) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 8-13 (L), 4-6 (W) **Original No.** FC-78
- 1048 Sampling** 2001-12-01, Nakdong River/Busan (35°06'17" N, 128°53'42" E), surface water, 13°C **Isolator** Lee, GA (2003-01-04) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 5-10 (L), 3-6 (W) **Gene data** 18S rRNA (JQ315578) **Original No.** FC-79
- 1049 Sampling** 2001-12-01, Nakdong River/Busan (35°06'17" N, 128°53'42" E), surface water, 13°C **Isolator** Lee, GA (2003-01-04) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 9-13 (L), 3-5 (W) **Original No.** FC-81
- 1070 Sampling** 2001-12-01, Nakdong River/Busan (35°06'17" N, 128°53'42" E), surface water, 13°C **Isolator** Lee, GA (2003-03-29) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 10-14 (L), 3-4 (W) **Gene data** 18S rRNA (JQ315484) **Original No.** FC-80
- 1147 Sampling** 2004-07-11, Haeundae/Busan (35°09'55" N, 129°07'34" E), coast, surface water **Isolator** Park, SJ (2004-12-01) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 12-19 (L), 9-14 (W) **Gene data** 18S rRNA (JQ315594) **Original No.** C-261
- 1211 Sampling** 2004-12-15, Upo/Gyeongnam (35°32'53" N, 128°24'25" E), swamp, surface water, 7°C **Isolator** Park, SJ (2005-03-01) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 6-12 (L), 5-8 (W) **Gene data** 18S rRNA (JQ315570) **Original No.** FC-93
- 1235 Sampling** 2005-06-29, Nakdong River/Busan (35°06'17" N, 128°53'42" E), surface water, 0°C **Isolator** Park, SJ (2005-09-01) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 17-25 (L), 3-5 (W) **Gene data** 18S rRNA (JQ315571) **Original No.** FC-107
- 1238 Sampling** 2005-06-24, Upo/Gyeongnam (35°32'53" N, 128°24'25" E), swamp, surface water, 28°C **Isolator** Park, SJ (2005-09-02) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 7-9 (L), 2-5 (W) **Gene data** 18S rRNA (JQ315573) **Original No.** FC-100
- 1239 Sampling** 2005-04-08, Nakdong River/Busan (35°06'17" N, 128°53'42" E), surface water, 14°C **Isolator** Park, SJ (2005-09-02) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 7-9 (Ø) **Gene data** 18S rRNA (JQ315572) **Original No.** FC-109
- 1242 Sampling** 2005-06-27, Upo/Gyeongnam (35°32'53" N, 128°24'25" E), swamp, surface water, 25°C **Isolator** Park, SJ (2005-11-07) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 5-9 (L), 3-4 (W) **Gene data** 18S rRNA (JQ315575) **Original No.** FC-126
- 1258 Sampling** 2005-03-30, Upo/Gyeongnam (35°33'40" N, 128°25'57" E), swamp, surface water, 14°C **Isolator** Park, SJ (2006-01-17) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 1-15 (L), 2-8 (W) **Gene data** 18S rRNA (JQ315574) **Original No.** FC-127
- 1273 Sampling** 2005-11-01, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 17°C, 30 psu **Isolator** Jeong, EH (2006-03-13) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 8-14 (Ø) **Gene data** 18S rRNA (JQ315597) **Original No.** C-266
- 1289 Sampling** 2005-10-04, Nakdong River/Busan (35°06'17" N, 128°53'42" E), estuary, substratum, 21°C, 13 psu **Isolator** Jeong, EH (2006-05-09) **Iden-**

- tifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** f/2-E, 23°C, 15 psu, 60 PPF, 4 M **Size** (µm) 5-9 (L), 6-8 (W) **Gene data** 18S rRNA (JQ315603) **Original No.** EC-37
- 1297 Source** NFDRI (2006-07-07) **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size** (µm) 4-5 (Ø) **Gene data** 18S rRNA (JQ315599) **Original No.** C-268
- 1533 Source** Kunsan Univ. (PD-MAL08) **Sampling** Paldangho/Gyeonggi, reservoir, surface water (2009-07-30) **States** axenic, agar, liquid, cryopreserved **Culture** JM, 23°C, 0 psu, 60 PPF, 4 M **Size** (µm) 8-12 (L), 4-6 (W) **Original No.** FC-153
- 1534 Source** Kunsan Univ. (PD-MAL10) **Sampling** Paldangho/Gyeonggi, reservoir, surface water (2009-07-30) **States** axenic, agar, liquid, cryopreserved **Culture** JM, 23°C, 0 psu, 60 PPF, 4 M **Size** (µm) 9-14 (L), 2-6 (W) **Original No.** FC-154
- 1967 Sampling** 2012-07-25, Upo/Gyeongnam (35°32'53" N, 128°24'25" E), swamp, surface water, 30°C **Isolator** Jo, MJ (2012-10-23) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM, 20°C, 0 psu, 60 PPF, 1 M **Size** (µm) 9-12 (L), 5-6 (W) **Original No.** FC-227
- SCRIPPSIELLA:** Dinophyceae
Scrippsiella spinifera Honsell et Cabrini
- 1643 Sampling** 2010-04-30, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 14°C, 33 psu **Isolator** Jo, MJ (2010-06-17) **Identifier** Hur, SB **States** axenic, agar + liquid, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (µm) 19-29 (L), 14-20 (W) **Original No.** D-190 **References** 110
- Scrippsiella trochoidea* (Stein) Balech ex Loeblich III
Syn. *Glenodinium trochoideum* Stein
- 0575 Sampling** 1996-05-21, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water **Isolator** Hur, SB (1996-07-26) **Identifier** Lee, SG **States** axenic, agar + liquid, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (µm) 18-35 (L), 8-11 (W) **Original No.** D-1 **References** 110
- 0576 Sampling** 1999-05-01, South Sea (30°10' N, 128°17' E), open sea, surface water, 17°C **Isolator** Lee, GA (1999-08-09) **Identifier** Yu, JS **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (µm) 13-20 (L), 6-11 (W) **Original No.** D-37 **References** 107
- 0592 Sampling** 1999-05-01, Geojedo/Gyeongnam (34°50'45" N, 128°34'57" E), coast, surface water, 16°C **Isolator** Lee, GA (1999-08-09) **Identifier** Yu, JS **States** axenic, agar + liquid, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (µm) 13-23 (L), 8-11 (W) **Original No.** D-45 **References** 113
- 0593 Sampling** 1999-09-01, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 27°C, 29 psu **Isolator** Lee, GA (1999-07-18) **Identifier** Han, MS **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (µm) 20-28 (L), 15-23 (W) **Original No.** D-69
- 0970 Source** NFRDI **Sampling** 1998-06-01, Yeosu/Jeonnam, coast, surface water (2002-04-08) **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (µm) 17-22 (L), 9-13 (W) **Original No.** D-83
- 0976 Source** Inje Univ. (2002-05-22) **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (µm) 18-22 (L), 10-13 (W) **Original No.** D-91
- Scrippsiella* sp.
- 1388 Sampling** 2007-05, Geojedo/Gyeongnam (34°50'45" N, 128°34'57" E), coast, surface water **Isolator** Jeong, EH (2007-06-26) **Identifier** Hur, SB **States** axenic, agar + liquid, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (µm) 6-10 (L), 4-7 (W) **Original No.** D-162
- SELENASTRUM:** Chlorophyceae
Selenastrum capricornutum Printz
- Syn. *Raphidocelis subcapitata* (Korshikov) Nygaard, Komárek, J. Kristiansen & O. M. Skulberg
- 1542 Sampling** 2009-07-17, Namgu/Busan (35°07'56" N, 129°06'06" E), pond, surface water **Isolator** Jo, MJ (2009-10-26) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size** (µm) 12-18 (L), 3-4 (W) **Original No.** FC-161
- Selenastrum* sp.
- 1456 Sampling** 2008-10-22, Gyeongju/Gyeongbuk (35°47'47" N, 129°14'33" E), reservoir, surface water, 18°C **Isolator** Jeong, EH (2008-12-04) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 23°C, 0 psu, 60 PPF, 4 M **Size** (µm) 5-8 (L), 2-3 (W) **Original No.** FC-133
- 1842 Sampling** 2011-06-07, Seogwipo/Jeju (33°22'08" N, 126°41'36" E), swamp, surface water, 24°C **Isolator** Jo, MJ (2011-08-31) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** JM, 23°C, 0 psu, 60 PPF, 1 M **Size** (µm) 9-12 (L), 4-6 (W) **Original No.** FC-195

SKELETONEMA: Bacillariophyceae*Skeletonema costatum* (Greville) CleveSyn. *Melosira costata* Greville

- 0292 Sampling** 1999-10-28, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 17°C **Isolator** Lee, GA (2000-01-15) **Identifier** Lee, JH **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 4-6 (L), 3-4 (W) **Original No.** B-433 **Remarks** aquaculture, high protein and lipid
- 0492 Sampling** 2001-03-01, Asan Bay/Chungnam (36°54'51" N, 126°54'16" E), coast, surface water, 12°C **Isolator** Lee, GA (2001-07-04) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 5-14 (L), 3-5 (W) **Original No.** B-578 **References** 110 **Remarks** aquaculture, high protein and lipid
- 0629 Sampling** 1985-12-01, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water **Isolator** Hur, SB (1986-09-02) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 4-6 (L), 3-5 (W) **Original No.** B-24 **References** 2, 4, 10, 13, 19, 21, 25, 32, 83, 86, 115 **Remarks** aquaculture, high protein and lipid
- 0630 Sampling** 1995-05-02, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 17°C, 33 psu **Isolator** Hur, SB (1996-03-18) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 4-6 (L), 2-4 (W) **Original No.** B-46 **References** 25, 65 **Remarks** aquaculture, high protein and lipid
- 0631 Sampling** 1999-03-11, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 13°C **Isolator** Lee, GA (1999-06-30) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 5-15 (L), 4-5 (W) **Original No.** B-288 **Remarks** aquaculture, high protein and lipid
- 0660 Sampling** 1999-02-03, Jindong/Gyeongnam (35°06'09" N, 128°29'40" E), coast, surface water **Isolator** Lee, GA (1999-05-22) **Identifier** Lee, JH **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 4-8 (L), 4-5 (W) **Original No.** B-285 **References** 130, 135, 149 **Remarks** aquaculture, high protein and lipid
- 0661 Sampling** 1999-03-20, Samcheonpo/Gyeongnam (34°55'29" N, 128°05'02" E), coast, surface water **Isolator** Lee, GA (1999-06-30) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 4-9 (L), 3-4 (W) **Original No.** B-291 **References** 107 **Remarks** aquaculture, high protein and lipid
- 0694 Sampling** 1999-08-14, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 28°C, 30 psu **Isolator** Lee, GA (2000-01-20) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 4-5 (L), 3-5 (W) **Original No.** B-366 **Remarks** aquaculture, high protein and lipid
- 0695 Sampling** 1999-09-09, East Sea (35°35' N, 130°75' E), coast, surface water, 25°C **Isolator** Lee, GA (2000-01-30) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 5-10 (L), 3-4 (W) **Original No.** B-396 **References** 136 **Remarks** aquaculture, high protein and lipid
- 0696 Sampling** 1999-09-02, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 27°C **Isolator** Lee, GA (2000-01-30) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 6-8 (L), 3-5 (W) **Original No.** B-399 **Remarks** aquaculture, high protein and lipid
- 0755 Sampling** 1996-02-08, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 6°C, 33 psu **Isolator** Hur, SB (1996-07-15) **Identifier** Lee, SG **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 4-6 (L), 3-5 (W) **Original No.** B-144 **Remarks** aquaculture, high protein and lipid
- 0810 Sampling** 1996-02-08, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water **Isolator** Hur, SB (1996-07-15) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 5-9 (L), 3-5 (W) **Original No.** B-229 **Remarks** aquaculture, high protein and lipid
- 0811 Sampling** 1998-12-31, Jindong/Gyeongnam (35°06'09" N, 128°29'40" E), coast, surface water **Isolator** Lee, GA (1999-02-10) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 5-10 (L), 4-5 (W) **Original No.** B-252 **Remarks** aquaculture, high protein and lipid
- 0848 Sampling** 1998-05-08, Yokjido/Gyeongnam (34°38'30" N, 128°16'22" E), coast, surface water **Isolator** Hur, SB (1998-10-24) **Identifier** Lee, JH **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 5-23 (L), 3-5 (W) **Original No.** B-257 **Remarks** aquaculture, high protein and lipid
- 0849 Sampling** 1999-02-24, Hongdo/Jeonnam (34°40'49" N, 125°12'09" E), coast, surface water **Isolator** Lee, GA (1999-05-22) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF,

- 1 M Size (μm) 5-8 (L), 3-4 (W) **Original No.** B-262 **Remarks** aquaculture, high protein and lipid
- 0850 Sampling** 1999-01-21, Jindong/Gyeongnam (35°06'09" N, 128°29'40" E), coast, surface water **Isolator** Lee, GA (1999-05-22) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 5-7 (L), 2-3 (W) **Original No.** B-266 **Remarks** aquaculture, high protein and lipid
- 1002 Sampling** 2001-08-23, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 27°C **Isolator** Lee, GA (2002-06-24) **Identifier** Lee, JH **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 5-8 (L), 3-5 (W) **Original No.** B-617 **Remarks** aquaculture, high protein and lipid
- 1038 Sampling** 2002-03-01, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 14°C **Isolator** Park, SJ (2002-12-20) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 5-8 (L), 3-4 (W) **Original No.** B-641 **Remarks** aquaculture, high protein and lipid
- 1102 Sampling** 2004-07-21, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Park, SJ (2004-11-25) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 5-13 (L), 5-7 (W) **Original No.** B-687 **Remarks** aquaculture, high protein and lipid
- 1116 Sampling** 2004-07-22, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Park, SJ (2004-11-30) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 3-5 (L), 2-3 (W) **Original No.** B-705 **Remarks** aquaculture, high protein and lipid
- 1148 Sampling** 2004-08-17, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Park, SJ (2004-12-01) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 3-18 (L), 2-4 (W) **Original No.** B-717 **Remarks** aquaculture, high protein and lipid
- 1149 Sampling** 2004-07-20, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Park, SJ (2004-12-01) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 2-10 (L), 1-3 (W) **Original No.** B-719 **Remarks** aquaculture, high protein and lipid
- 1212 Sampling** 2005-01-26, East Sea (31°25' N, 130°03' E), open sea, surface water **Isolator** Park, SJ (2005-03-10) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 2-8 (L), 2-3 (W) **Original No.** B-741 **Remarks** aquaculture, high protein and lipid
- 1290 Sampling** 2006-04-02, Kyoungpoda/Busan (37°47'49" N, 128°54'10" E), coast, surface water, 10°C, 34 psu **Isolator** Jeong, EH (2006-05-09) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 6-20 (L), 5 (W) **Original No.** B-773 **Remarks** aquaculture, high protein and lipid
- 1337 Sampling** 2006-07-01, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 24°C, 29 psu **Isolator** Jeong, EH (2006-11-22) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 7-14 (L), 2-4 (W) **Original No.** B-796 **References** 133 **Remarks** aquaculture, high protein and lipid
- 1644 Sampling** 2010-05-12, Ulleungdo/Gyeongbuk (37°27'22" N, 130°44'56" E), open sea, deep sea, deep water, 1°C **Isolator** Jo, MJ (2013-04-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 6-8 (L), 2-3 (W) **Original No.** B-986 **Remarks** low °C sp., aquaculture, high protein and lipid
- 1645 Sampling** 2010-05-12, Ulleungdo/Gyeongbuk (37°27'22" N, 130°44'56" E), open sea, deep sea, deep water, 1°C **Isolator** Jo, MJ (2010-06-17) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 5-7 (L), 2-3 (W) **Original No.** B-982 **Remarks** low °C sp., aquaculture, high protein and lipid

Skeletonema potamos (C. I. Weber) Hasle
Syn. *Microsiphona potamos* C. I. Weber

- 0378 Sampling** 1999-12-23, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 13°C **Isolator** Lee, GA (2000-03-11) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 4-6 (L), 3-4 (W) **Original No.** B-442
- 0662 Sampling** 1999-04-22, Oedo/Gyeongnam (34°46'14" N, 128°42'27" E), coast, surface water, 15°C **Isolator** Lee, GA (1999-07-21) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 8-13 (L), 4-5 (W) **Original No.** B-343
- 0812 Sampling** 1996-10-19, Masan Bay/Gyeongnam (35°11'20" N, 128°34'00" E), coast, surface water **Isolator** Hur, SB (1997-01-22) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 4-6 (L), 3-4 (W) **Original No.** B-211
- 0851 Sampling** 1999-03-22, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 8°C, 31 psu **Iso-**

- lator** Lee, GA (1999-06-30) **Identifier** Lee, JH **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 3-5 (L), 2-3 (W) **Original No.** B-279
- 1150 Sampling** 2004-09-02, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Park, SJ (2004-12-01) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 2-7 (L), 2-4 (W) **Original No.** B-716
- 1151 Sampling** 2004-08-11, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Park, SJ (2004-12-01) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 1-4 (L), 1-3 (W) **Original No.** B-721
- 1243 Sampling** 2005-08-21, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 23°C, 33 psu **Isolator** Jeong, EH (2005-11-07) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 4-7 (L), 2-5 (W) **Original No.** B-746
- Skeletonema sp.**
- 0226 Sampling** 1999-12-24, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 6°C, 31 psu **Isolator** Lee, GA (2000-03-27) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 4-5 (L), 3-5 (W) **Original No.** B-435
- 0389 Sampling** 2000-01-05, Hadong/Jeonnam (35°03'51" N, 127°44'27" E), coast, surface water, 8°C **Isolator** Lee, GA (2000-03-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 6-10 (L), 3-4 (W) **Original No.** B-478
- 0863 Sampling** 1999-04-01, Jingdong/Gyeongnam (35°06'09" N, 128°29'40" E), intertidal zone, surface water, 16°C, 33 psu **Isolator** Lee, GA (1999-07-21) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 5-23 (L), 3-5 (W) **Original No.** B-680
- 1152 Sampling** 2004-07-21, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Park, SJ (2004-12-01) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 3-5 (L), 2-5 (W) **Original No.** B-724
- 1153 Sampling** 2004-08-11, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Park, SJ (2004-12-01) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 3-7 (L), 2-5 (W) **Original No.** B-729
- 1274 Sampling** 2005-12-02, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 10°C, 33 psu **Isolator** Jeong, EH (2006-03-13) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 4-7 (L), 2-5 (W) **Original No.** B-761
- 1309 Sampling** 2006-03-17, Jinhae Bay/Gyeongnam (35°08'35" N, 128°40'58" E), 8°C, 33 psu **Isolator** Jeong, EH (2006-07-10) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 5-6 (L), 3-5 (W) **Original No.** B-777
- SORASTRUM: Chlorophyceae**
Sorastrum spinulosum Nägeli
- 2160 Sampling** 2013-10-10, Sangju (36°30'46" N, 128°09'39" E), reservoir, surface water, 21°C **Isolator** Jo, MJ (2013-04-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 18°C, 0 psu, 40 PPF, 1 M **Size (µm)** 10-15 (L), 5-12 (W) **Original No.** FC-257
- SPIROGYRA: Chlorophyceae**
Spirogyra porticalis (Müller) Cleve
- 2123 Sampling** 2013-05-10, Jinhae/Gyeongnam (35°09'46" N, 128°39'35" E) reservoir, surface water, 18°C **Isolator** Jo, MJ (2013-06-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 18°C, 0 psu, 60 PPF, 1 M **Size (µm)** 171-389 (L), 44-46 (W) **Original No.** FC-246
- Spirogyra sp.**
- 1611 Sampling** 2010-02-19, Nakdong River/Busan (35°06'17" N, 128°53'42" E), surface water, 4°C, 1 psu **Isolator** Jo, MJ (2010-03-17) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 9-12 (Ø) **Original No.** FC-167
- 1936 Sampling** 2012-02-26, Gunsan/Jeonbuk (35°57'02" N, 126°41'37" E), reservoir, surface water, 8°C **Isolator** Jo, MJ (2012-05-31) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 18°C, 0 psu, 60 PPF, 1 M **Size (µm)** 152-240 (L), 78-82 (W) **Original No.** FC-217
- SPIRULINA: Cyanophyceae**
Spirulina maxima (Setchell & N. L. Gardner) Geitler
Syn. *Arthrospira maxima* Setchell & N. L. Gardner
- 1057 Source** UTEX 2342 (2003-03-03) **States** non-axenic, liquid, cryopreserved **Culture** SP, 20°C, 13 psu, 20 PPF, 1 M **Size (µm)** 8-10 (L), 5-8 (W) **Original No.**

Cy-49 **References** 124, 159 **Remarks** high protein

Spirulina platensis (Gomont) Geitler

Syn. *Arthrospira platensis* Gomont

- 0056 Source** The Oceanic Institute, Hawaii, USA (1991-03-02) **States** non-axenic, liquid, cryopreserved **Culture** SOT, 20°C, 13 psu, 20 PPF, 1 M **Size (µm)** 7-8 (L), 3-5 (W) **Original No.** Cy-7 **References** 13, 14, 15, 124, 148, 160 **Remarks** aquaculture, high protein
- 1349 Source** UTEX 1926 (2006-12-15) **States** non-axenic, liquid, cryopreserved **Culture** ES, 20°C, 13 psu, 20 PPF, 1 M **Size (µm)** 9-11 (Ø) **Original No.** Cy-50 **Remarks** aquaculture, high protein

Spirulina subsalsa Oersted ex Gomont

- 1359 Source** CCMP 796 (2007-01-23) **States** non-axenic, liquid **Culture** f/2-si, 20°C, 13 psu, 20 PPF, 1 M **Size (µm)** 2-3 (Ø) **Original No.** Cy-52
- 1417 Sampling** 2008-07-31, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 24°C, 33 psu **Isolator** Jeong, EH (2008-09-01) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 1-2 (Ø) **Original No.** Cy-57
- 1418 Sampling** 2008-07-01, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 24°C, 33 psu **Isolator** Jeong, EH (2008-09-01) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 1-2 (Ø) **Original No.** Cy-58

Spirulina sp.

- 1171 Sampling** 2003-05-01, Haeundae/Busan (35°09'55" N, 129°07'34" E), estuary, substratum, stone, 18°C, 19 psu **Isolator** Lee, GA (2004-12-01) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2-E, 20°C, 15 psu, 20 PPF, 1 M **Size (µm)** 7-8 (Ø) **Original No.** ECy-1
- 1379 Sampling** 2006-11-01, Gomso Bay/Jeonbuk (35°35'12" N, 126°36'34" E), coast, mud, 17°C, 32 psu **Isolator** Jeong, EH (2007-03-22) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2-si, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 1-3 (Ø) **Original No.** Cy-53
- 1565 Sampling** 2009-07-30, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 24°C, 28 psu **Isolator** Jo, MJ (2009-10-30) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2-si, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 1-2 (Ø) **Original No.** Cy-63
- 1802 Sampling** 2011-05-25, Nakdong River/Busan

(35°06'17" N, 128°53'42" E), coast, surface water, 22°C, 22 psu **Isolator** Jo, MJ (2011-06-28) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 4 (Ø) **Original No.** Cy-68

- 1896 Sampling** 2011-05-25, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 13°C, 34 psu **Isolator** Jo, MJ (2012-02-08) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 3-4 (Ø) **Original No.** Cy-70
- 2132 Source** KIOST **Sampling** 2012-11-19, Chuuk, Micronesia (07°27'05" N, 151°53'31" E), coast, surface water, 30°C, 25 psu **Isolator** Jo, MJ (2013-06-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 4-5 (L), 1-2 (W) **Original No.** Cy-73 **Remarks** high °C sp.

SPONDYLIOSIUM: Chlorophyceae

Spondyliosium moniliforme Lundell

- 1864 Sampling** 2011-08-22, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 25°C, 3 psu **Isolator** Jo, MJ (2011-11-09) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 20°C, 0 psu, 60 PPF, 1 M **Size (µm)** 20-28 (L), 16-27 (W) **Original No.** FC-204

SPUMELLA: Cryptophyceae

Spumella sp.

- 0242 Sampling** 1999-01-28, Namgu/Busan (35°07'56" N, 129°06'06" E), pond, surface water, 10°C **Isolator** Lee, GA (1999-07-16) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 20°C, 0 psu, 40 PPF, 1 M **Size (µm)** 5-15 (L), 2-3 (W) **Gene data** 18S rRNA (JQ315654) **Original No.** FCr-3

STAUSTRUM: Chlorophyceae

Staurastrum asteroideum var. *nanum* (Wille) Gronblad

- 1454 Sampling** 2008-09-26, Nakdong River/Busan (35°06'17" N, 128°53'42" E), estuary, surface water, 23°C **Isolator** Jeong, EH (2008-11-05) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 30-31 (L), 21-23 (W) **Original No.** FC-131
- 1972 Sampling** 2012-07-25, Upo/Gyeongnam (35°32'47" N, 128°23'59" E), swamp, surface water, 32°C **Isolator** Jo, MJ (2012-10-23) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 20°C, 0 psu, 60 PPF, 1 M **Size (µm)** 26-30 (L), 31-33 (W) **Original**

No. FC-231

Culture JM, 23°C, 0 psu, 60 PPF, 4 M Size (μm)
21-30 (L), 16-25 (W) Original No. FC-156*Staurastrum connatum* (Lundell) Roy et BissetSyn. *Staurodesmus connatus* (P. Lundell) Thomasson

1971 **Sampling** 2012-07-25, Upo/Gyeongnam (35°32'47" N, 128°23'59" E), swamp, surface water, 32°C **Isolator** Jo, MJ (2012-10-23) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 20°C, 0 psu, 60 PPF, 1 M **Size** (μm) 21-26 (L), 19-22 (W) **Original No.** FC-230

Staurastrum punctulatum Brébisson

1731 **Sampling** 2010-09-09, Nakdong River/Busan (35°06'17" N, 128°53'42" E), estuary, surface water, 24°C, 1 psu **Isolator** Jo, MJ (2010-11-30) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 1 M **Size** (μm) 19-24 (L), 20-24 (W) **Original No.** FC-174

Staurastrum tetracerum f. *trigona* Lundell

1280 **Sampling** 2005-10-11, Daechungho/Chungbuk (36°30'45" N, 127°30'08" E), reservoir, surface water, 20°C **Isolator** Jeong, EH (2006-03-17) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** JM, 23°C, 0 psu, 60 PPF, 4 M **Size** (μm) 59-81 (L), 35-45 (W) **Original No.** FC-117

1918 **Sampling** 2012-02-26, Gunsan/Jeonbuk (35°57'02" N, 126°41'37" E), reservoir, surface water, 8°C **Isolator** Jo, MJ (2012-05-31) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 23°C, 0 psu, 60 PPF, 1 M **Size** (μm) 47-64 (L), 33-38 (W) **Original No.** FC-213

Staurastrum tetracerum var. *subexcavatum* Gronblad

1999 **Sampling** 2012-10-17, Aewol/Jeju (33°28'16" N, 126°25'37" E), reservoir, surface water, 20°C **Isolator** Jo, MJ (2012-12-27) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 20°C, 0 psu, 60 PPF, 1 M **Size** (μm) 30-31 (\emptyset) **Original No.** FC-239

Staurastrum sp.

1536 **Source** Kunsan Univ. (PD-MAL12) **Sampling** Paldangho/Gyeonggi, reservoir, surface water (2009-07-30) **States** axenic, agar, liquid **Culture** JM, 23°C, 0 psu, 60 PPF, 4 M **Size** (μm) 21-28 (L), 16-23 (W) **Original No.** FC-155

1537 **Source** Kunsan Univ. (PD-MAL11) **Sampling** Paldangho/Gyeonggi, reservoir, surface water (2009-07-30) **States** non-axenic, liquid, cryopreserved

STAURONEIS: Bacillariophyceae*Stauroneis amphioxys* (Ehrenberg) Ralfs

0813 **Sampling** 1995-05-01, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 27°C, 30 psu **Isolator** Hur, SB (1996-03-18) **Identifier** Lee, JH **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (μm) 4-9 (\emptyset) **Original No.** B-198

Stauroneis membranacea (Cleve) HustedtSyn. *Meuniera membranacea* (Cleve) P. C. Silva

1419 **Sampling** 2008-07-29, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 22°C, 32 psu **Isolator** Jo, MJ (2008-09-01) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (μm) 50-52 (L), 30-35 (W) **Original No.** B-857

1420 **Sampling** 2008-07-01, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 21°C, 32 psu **Isolator** Jeong, EH (2008-09-01) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (μm) 43-51 (L), 29-39 (W) **Original No.** B-862

Stauroneis membranacea (Cleve) Hustedt

1598 **Sampling** 2009-12-29, Namcheon Bay/Busan (35°08'14" N, 129°06'49" E), coast, surface water, 12°C, 34 psu **Isolator** Jo, MJ (2010-02-08) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (μm) 59-62 (L), 34-39 (W) **Original No.** B-985

Stauroneis sp.

1039 **Sampling** 2002-05-21, East Sea (37°32' N, 130°13' E), open sea, surface water, 20°C **Isolator** Lee, GA (2002-12-20) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (μm) 35-53 (L), 10-15 (W) **Original No.** B-655

1040 **Sampling** 2002-04-01, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 17°C **Isolator** Lee, GA (2002-12-20) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (μm) 40-50 (L), 10-13 (W) **Original No.** B-658

STEPHANODISCUS: Bacillariophyceae*Stephanodiscus hantzschii* Grunow

0416 Sampling 2000-01-30, Uljin/Gyeongbuk (36°57'28" N, 129°25'00" E), hatchery, substratum, 8°C **Isolator** Lee, GA (2000-04-30) **Identifier** Lee, JH **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 5-8 (L), 3-4 (W) **Original No.** B-502

Stephanodiscus parvus Stoermer & Håkansson

1291 Sampling 2006-02-01, Nakdong River/Busan (35°06'17" N, 128°53'42" E), reservoir, surface water, 2°C **Isolator** Jeong, EH (2006-05-09) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** JM, 20°C, 0 psu, 40 PPF, 2 M **Size (µm)** 10-11 (Ø) **Original No.** FB-51

Stephanodiscus sp.

0391 Sampling 2001-01-11, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 10°C **Isolator** Lee, GA (2000-04-02) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 5-8 (L), 2-3 (W) **Original No.** B-480

0403 Sampling 2000-01-11, Taean/Chungnam (36°40'39" N, 126°08'09" E), coast, surface water, 8°C **Isolator** Lee, GA (2000-04-07) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 3-5 (L), 3-4 (W) **Original No.** B-461

0506 Sampling 2001-03-01, Buan/Jeonbuk (35°35'31" N, 126°37'30" E), coast, mud, 9°C, 31 psu **Isolator** Lee, GA (2001-07-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 4-6 (L), 2-3 (W) **Original No.** B-568

STEPHANOPYXIS: Bacillariophyceae*Stephanopyxis nipponica* Gran & Yendo

0756 Sampling 1996-01-23, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 7°C, 33 psu **Isolator** Hur, SB (1996-07-15) **Identifier** Lee, JH **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 10-20 (L), 9-11 (W) **Original No.** B-126

Stephanopyxis palmeriana (Greville) GrunowSyn. *Creswellia palmeriana* Greville

1587 Sampling 2009-11-26, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 15°C, 33 psu **Isolator** Jo, MJ (2010-01-12) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu,

40 PPF, 1 M **Size (µm)** 48-85 (L), 33-37 (W) **Original No.** B-940

1599 Sampling 2010-01-09, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 11°C, 34 psu **Isolator** Jo, MJ (2010-02-08) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 99-104 (Ø) **Original No.** B-964

1777 Sampling 2010-11-16, Yokjido/Gyeongnam (34°32'27" N, 128°16'39" E), open sea, surface water, 15°C **Isolator** Jo, MJ (2011-05-11) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 132-136 (L), 51-105 (W) **Original No.** B-1054

1913 Sampling 2012-02-08, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 11°C, 34 psu **Isolator** Jo, MJ (2012-03-29) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 98-100 (L), 46-69 (W) **Original No.** B-1099

Stephanopyxis turris (Greville) RalfsSyn. *Creswellia turris* Greville & Arnott

1338 Sampling 2006-09-01, Yeosu/Jeonnam (34°25'47" N, 127°47'53" E), surface water, 25°C **Isolator** Jeong, EH (2006-11-22) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 50-70 (L), 24-26 (W) **Original No.** B-792

Stephanopyxis sp.

0507 Sampling 2001-03-01, Buan (35°44'44" N, 126°35'27" E), hatchery, substratum, 12°C **Isolator** Lee, GA (2000-07-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 13-20 (L), 10-11 (W) **Original No.** B-562

STICHOCOCCUS: Chlorophyceae*Stichococcus bacillaris* NägeliSyn. *Stichococcus pallescens* Chodat

0018 Sampling 1985-12-01, Nakdong River/Busan (35°06'17" N, 128°53'42" E), surface water **Isolator** Hur, SB (1985-12-30) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 5-13 (L), 2-3 (W) **Gene data** 18S rRNA (JQ315623) **Original No.** FC-8 **References** 13, 53

0019 Source Institute, Japan (1985-12-05) **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 5-15 (L), 2-3 (W) **Original No.** C-5 **References** 13, 17, 76

- 0020 Sampling** 1985-12-04, Masan Bay/Gyeongnam (35°11'20" N, 128°34'00" E), coast, surface water **Isolator** Hur, SB (1985-12-30) **Identifier** Kim, YJ **States** axenic, agar, liquid **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 8-23 (L), 2-3 (W) **Gene data** 18S rRNA (JQ315605) **Original No.** C-7 **References** 13, 76
- 0036 Sampling** 1985-12-03, Masan Bay/Gyeongnam (35°11'20" N, 128°34'00" E), coast, surface water **Isolator** Hur, SB (1986-09-02) **Identifier** Kim, YJ **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 8-20 (L), 1-3 (W) **Gene data** 18S rRNA (JQ315606) **Original No.** C-2 **References** 13, 76
- 0037 Sampling** 1985-12-05, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water **Isolator** Hur, SB (1986-09-02) **Identifier** Kim, YJ **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 3-13 (L), 2-3 (W) **Gene data** 18S rRNA (JQ315607) **Original No.** C-3 **References** 13, 76, 110
- 0047 Sampling** 1986-07-01, Oido/Incheon (37°20'48" N, 126°40'57" E), salt farm, surface water **Isolator** Hur, SB (1986-11-19) **Identifier** Kim, YJ **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 3-18 (L), 1-2 (W) **Gene data** 18S rRNA (JQ315608) **Original No.** C-4 **References** 13, 76
- 0060 Sampling** 1988-03-01, Gamcheon/Busan (35°04'58" N, 129°00'06" E), coast, surface water **Isolator** Hur, SB (1991-09-17) **Identifier** Kim, YJ **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 3-15 (L), 2-3 (W) **Gene data** 18S rRNA (JQ315609) **Original No.** C-8 **References** 13, 76
- 0141 Sampling** 1996-07-09, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 26°C, 33 psu **Isolator** Hur, SB (1996-10-23) **Identifier** Kim, YJ **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 3-8 (L), 2-3 (W) **Gene data** 18S rRNA (JQ315610) **Original No.** C-122
- 0169 Sampling** 1996-08-12, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 27°C, 31 psu **Isolator** Hur, SB (1997-02-06) **Identifier** Kim, YJ **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 3-8 (L), 2-3 (W) **Gene data** 18S rRNA (JQ315611) **Original No.** C-83
- 0186 Sampling** 1996-09-20, Geojedo/Gyeongnam (34°50'45" N, 128°34'57" E), coast, surface water **Isolator** Hur, SB (1997-03-14) **Identifier** Kim, YJ **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 5-20 (L), 2-3 (W) **Gene data** 18S rRNA (JQ315612) **Original No.** C-109
- 0199 Sampling** 1996-05-16, South Sea (34°22' N, 128°47' E), open sea, surface water, 16°C **Isolator** Hur, SB (1997-08-02) **Identifier** Kim, YJ **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 3-13 (L), 2-3 (W) **Gene data** 18S rRNA (JQ315613) **Original No.** C-121
- 0200 Sampling** 1996-07-24, East China Sea, high sea, 29°C **Isolator** Hur, SB (1997-08-02) **Identifier** Kim, YJ **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 5-13 (L), 2-3 (W) **Original No.** C-124 **Remarks** high °C sp.
- 1480 Sampling** 2008-11-01, Boseong Bay/Jeonnam (34°49'42" N, 127°23'21" E), coast, surface water, 16°C, 34 psu **Isolator** Jeong, EH **Identifier** Hur, SB (2009-01-07) **States** non-axenic, liquid, cryopreserved **Culture** f/2, 23°C, 33 psu, 40 PPF, 4 M **Size (µm)** 5-6 (L), 2-3 (W) **Gene data** 18S rRNA (JQ315614) **Original No.** C-274
- Stichococcus* sp.
- 0255 Sampling** 1999-12-24, Maemuldo/Gyeongnam (34°46'10" N, 128°38'51" E), coast, surface water **Isolator** Lee, GA (1999-08-30) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 5-13 (L), 1-3 (W) **Gene data** 18S rRNA (JQ315615) **Original No.** C-146
- 0293 Sampling** 1999-08-17, East Sea (35°41' N, 130°01' E), open sea, surface water, 25°C **Isolator** Lee, GA (2000-01-15) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 5-15 (L), 2-3 (W) **Gene data** 18S rRNA (JQ315616) **Original No.** C-164
- 0313 Sampling** 1999-09-13, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 28°C, 27 psu **Isolator** Lee, GA (2000-01-24) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (µm)** 5-10 (L), 2-3 (W) **Gene data** 18S rRNA (JQ315617) **Original No.** C-167
- 0364 Sampling** 1999-09-13, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 27°C, 30 psu **Isolator** Lee, GA (2000-02-27) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture**

LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M Size (μm) 3-13 (L), 2-3 (W) **Gene data** 18S rRNA (JQ315618) **Original No.** C-158

- 0365 Sampling** 1999-09-09, Namgu/Busan (35°07'56" N, 129°06'06" E), pond, surface water, 28°C **Isolator** Lee, GA (2000-10-24) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (μm)** 3-13 (L), 2-3 (W) **Gene data** 18S rRNA (JQ315624) **Original No.** FC-51
- 0873 Sampling** 2000-08-15, Taewha River/Ulsan (35°32'38" N, 129°21'56" E), surface water, 28°C **Isolator** Lee, GA (2001-11-28) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM, 23°C, 0 psu, 60 PPF, 4 M **Size (μm)** 5-13 (L), 2-3 (W) **Gene data** 18S rRNA (JQ315625) **Original No.** FC-65
- 0881 Sampling** 2001-03-29, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, mud, 9°C, 31 psu **Isolator** Lee, GA (2001-12-11) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size (μm)** 8-30 (L), 2-3 (W) **Gene data** 18S rRNA (JQ315620) **Original No.** C-225

STIGEOCLONIUM: Chlorophyceae

Stigeoclonium lubricum (Dillwyn) Kützing

- 2214 Source** KIOST **Sampling** 2013-10-23, Kosrae, Micronesia (05°16'30" N, 162°59'15" E), reservoir, surface water, 26°C **Isolator** Jo, MJ (2014-04-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 23°C, 0 psu, 20 PPF, 1 M **Size (μm)** 24-31 (L), 6-8 (W) **Original No.** FC-266

STREPTOTHECA: Bacillariophyceae

Streptotheca thamensis Shrubsole

- 1389 Sampling** 2007-01-**, East Sea (34°30' N, 129°44' E), open sea, surface water, 17°C **Isolator** Jeong, EH (2007-06-26) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (μm)** 13-15 (L), 4-6 (W) **Original No.** B-834
- 1435 Sampling** 2008-08-27, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 24°C, 31 psu **Isolator** Jeong, EH (2008-10-13) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (μm)** 73-140 (L), 54-64 (W) **Original No.** B-880

Streptotheca sp.

- 1195 Sampling** 2004-05-12, Haeundae/Busan (35°09'06" N, 129°09'07" E), intertidal zone, surface water,

17°C **Isolator** Park, SJ (2004-12-11) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (μm)** 13-15 (L), 4-6 (W) **Original No.** B-668

STRIATELLA: Bacillariophyceae

Striatella unipunctata (Lyngbye) C. Agardh

Syn. *Fragilaria unipunctata* Lyngbye

- 1812 Sampling** 2011-06-08, Daejeong/Jeju (33°12'21" N, 126°15'36" E), coast, surface water, 18°C, 33 psu **Isolator** Jo, MJ (2011-07-28) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (μm)** 89-144 (L), 78-115 (W) **Original No.** B-1068
- 1893 Sampling** 2011-12-13, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 15°C, 33 psu **Isolator** Jo, MJ (2012-02-08) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (μm)** 102-104 (L), 63-110 (W) **Original No.** B-1095

SURIRELLA: Bacillariophyceae

Surirella cuneata A. Schmidt

- 1436 Sampling** 2008-07-10, Gwangalli/Busan (35°08'47" N, 129°06'56" E), coast, surface water, 25°C, 25 psu **Isolator** Jeong, EH (2008-10-13) **Identifier** Hur, SB **States** axenic, liquid, cryopreserved **Culture** f/2, 15°C, 33 psu, 40 PPF, 3 M **Size (μm)** 60-65 (L), 38-41 (W) **Original No.** B-876
- 1455 Sampling** 2008-07-02, Jeju/Jeju (33°31'51" N, 126°34'20" E), coast, surface water, 15°C, 34 psu **Isolator** Jeong, EH (2008-11-06) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (μm)** 59-63 (L), 39-41 (W) **Original No.** B-881
- 1561 Sampling** 2009-09-23, Yeosu/Jeonnam (34°45'07" N, 127°39'33" E), coast, surface water, 24°C **Isolator** Jo, MJ (2009-10-26) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (μm)** 77-98 (L), 63-72 (W) **Original No.** B-929

Surirella fastuosa (Ehrenberg) Ehrenberg

Syn. *Navicula fastuosa* Ehrenberg

- 1820 Sampling** 2011-06-07, Gimnyeong/Jeju (33°33'50" N, 126°46'49" E), coast, surface water, 19°C, 33 psu **Isolator** Jo, MJ (2011-07-28) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (μm)** 56-61 (L), 40-42 (W) **Original No.** B-1076

Surirella fastuosa var. *recedens* (Schmidt) Cleve

- 2091 Source** KIOST **Sampling** 2012-11-19, Chuuk, Micronesia (07°27'02" N, 151°53'20" E), coast, surface water, 30°C, 24 psu **Isolator** Jo, MJ (2013-03-12) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 37-41 (L), 27-32 (W) **Original No.** B-1135 **Remarks** high °C sp.
- 2187 Source** KIOST **Sampling** 2013-10-22, Kosrae, Micronesia (05°19'14" N, 162°55'28" E), coast, surface water, 30°C, 30 psu **Isolator** Jo, MJ (2014-02-17) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 43-48 (L), 29-33 (W) **Original No.** B-1182

Surirella gemma (Ehrenberg) KützingSyn. *Navicula gemma* Ehrenberg

- 1685 Sampling** 2008-09-26, Nakdong River/Busan (35°06'17" N, 128°53'42" E), estuary, surface water, 24°C, 16 psu **Isolator** Jeong, EH (2008-11-05) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2-E, 20°C, 15 psu, 40 PPF, 2 M **Size (µm)** 68-76 (L), 118-126 (W) **Original No.** EB-46
- 1753 Sampling** 2010-12-07, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 9°C, 27 psu **Isolator** Jo, MJ (2011-02-08) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 72-80 (L), 32-35 (W) **Original No.** B-1049
- 1880 Sampling** 2011-10-27, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 18°C, 33 psu **Isolator** Jo, MJ (2011-12-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 42-48 (L), 28-31 (W) **Original No.** B-1089
- 1906 Sampling** 2012-02-26, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 11°C, 31 psu **Isolator** Jo, MJ (2012-03-29) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 87-94 (L), 38-43 (W) **Original No.** B-1098

Surirella ovalis BrébissonSyn. *Suriraya ovalis* (Brébisson) Pfitzer

- 0283 Sampling** 1999-10-13, Ulrungdo/Gyeongbuk (37°29'35" N, 130°46'09" E), open sea, surface water, 23°C **Isolator** Lee, GA (2000-01-14) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 23-30 (L), 11-18 (W) **Original No.** B-416
- 0852 Sampling** 1999-02-08, East Sea (31°52' N, 128°54'

E), open sea, surface water, 17°C **Isolator** Lee, GA (1999-06-30) **Identifier** Lee, JH **States** axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 25-38 (L), 13-18 (W) **Original No.** B-330

- 1041 Sampling** 2001-04-01, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 16°C **Isolator** Lee, GA (2002-12-20) **Identifier** Lee, JH **States** axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 18-25 (L), 11-18 (W) **Original No.** B-651
- 1275 Sampling** 2006-02-10, Nakdong River/Busan (35°06'17" N, 128°53'42" E), estuary, surface water, 2°C, 16 psu **Isolator** Jeong, EH (2006-03-13) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2-E, 20°C, 15 psu, 40 PPF, 2 M **Size (µm)** 23-25 (L), 16-20 (W) **Original No.** EB-40

Surirella robusta var. *splendida* (Ehrenberg) van Heurck

- 1768 Sampling** 2011-02-22, Dongjin River/Jeonbuk (35°45'33" N, 126°46'42" E), estuary, surface water, 8°C **Isolator** Jo, MJ (2011-03-31) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 0 psu, 20 PPF, 1 M **Size (µm)** 18-19 (L), 9-10 (W) **Original No.** FB-61

Surirella sp.

- 1292 Sampling** 2006-02-01, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 5°C, 33 psu **Isolator** Jeong, EH (2006-05-09) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 23-29 (L), 13-23 (W) **Original No.** B-767
- 1380 Sampling** 2006-10-**, Buan/Jeonbuk (35°35'27" N, 126°37'11" E), salt farm, mud, 17°C, 30 psu **Isolator** Jeong, EH (2007-03-22) **Identifier** Hur, SB **States** axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 24-28 (L), 17-20 (W) **Original No.** B-829
- 1465 Sampling** 2008-10-01, Suncheon Bay/Jeonnam (34°50'36" N, 127°29'38" E), coast, surface water, 22°C, 33 psu **Isolator** Jeong, EH (2008-02-04) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 32-35 (L), 20-21 (W) **Original No.** B-875
- 1588 Sampling** 2009-12-08, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 14°C, 34 psu **Isolator** Jo, MJ (2010-01-12) **Identifier** Hur, SB **States** axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 27-32 (L), 16-22 (W) **Original No.** B-951
- 1590 Sampling** 2009-11-26, Namcheon Bay/Busan (35°08'14" N, 129°06'49" E), coast, surface water,

16°C, 33 psu **Isolator** Jo, MJ (2010-01-12) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 29-35 (Ø) **Original No.** B-944

1724 Sampling 2010-10-19, Namcheon Bay/Busan (35°08'14" N, 129°06'49" E), coast, surface water, 19°C, 32 psu **Isolator** Jo, MJ (2010-11-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 24-25 (L), 18-22 (W) **Original No.** B-1024

1740 Sampling 2010-11-04, Namcheon Bay/Busan (35°08'14" N, 129°06'49" E), coast, surface water, 18°C, 33 psu **Isolator** Jo, MJ (2010-12-28) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 36-44 (L), 19-48 (W) **Original No.** B-1036

2186 Source KIOST **Sampling** 2013-10-22, Kosrae, Micronesia (05°19'36" N, 162°55'57" E), coast, surface water, 30°C, 30 psu **Isolator** Jo, MJ (2014-02-17) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 20-26 (L), 16-19 (W) **Original No.** B-1181

SYMBIODINIUM: Dinophyceae

Symbiodinium sp.

2025 Source Kunsan Univ. (KNUTP SS-111001) **Sampling** 2011-10-30, Namwon/Jeju (33°16'34" N, 126°43'10" E), coast, surface water, 23°C, 34 psu (2013-01-02) **States** non-axenic, liquid, cryopreserved **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 20-26 (L), 16-19 (W) **Original No.** D-236

2026 Source Kunsan Univ. (KNUTP SS-111003) **Sampling** 2011-10-30, Namwon/Jeju (33°16'34" N, 126°43'10" E), coast, surface water, 23°C, 34 psu (2013-01-02) **States** non-axenic, liquid, cryopreserved **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 20-26 (L), 16-19 (W) **Original No.** D-237

2027 Source Kunsan Univ. (KNUTP SS-111201) **Sampling** 2011-11-25, Namwon/Jeju (33°16'34" N, 126°43'10" E), coast, surface water, 17°C, 33 psu (2013-01-02) **States** non-axenic, liquid, cryopreserved **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 20-26 (L), 16-19 (W) **Original No.** D-238

SYNECHOCOCCUS: Cyanophyceae

Synechococcus elongatus (Nägeli) Nägeli

Syn. *Protococcus elongatus* Nägeli

0885 Sampg 2000-06-11, Hadong/Gyeongbuk (35°50'32" N, 129°17'00" E), estuary, surface water, 21°C **Isolator** Lee, GA (2001-12-12) **Identifier** Hur, SB **States**

non-axenic, liquid, cryopreserved **Culture** f/2-E, 20°C, 15 psu, 60 PPF, 1 M **Size (µm)** 2-7 (L), 2-5 (W) **Original No.** ECy-3 **Remarks** aquaculture

1063 Source CCMP 1631 (2003-03-18) **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 60 PPF, 1 M **Size (µm)** 5-8 (L), 2-3 (W) **Original No.** Cy-22 **Remarks** aquaculture

Synechococcus nidulans (Pringsheim) Komárek

Syn. *Lauterbornia nidulans* Pringsheim

0100 Sampling 1995-01-25, Namhae/Gyeongnam (34°42'47" N, 127°59'13" E), coast, surface water **Isolator** Hur, SB (1996-03-27) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 60 PPF, 1 M **Size (µm)** 5-10 (L), 2-3 (W) **Original No.** Cy-31

0101 Sampling 1994-08-01, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water **Isolator** Hur, SB (1996-03-27) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 60 PPF, 1 M **Size (µm)** 5-10 (L), 1-3 (W) **Original No.** Cy-32

0129 Sampling 1994-04-30, Gyeonggi Bay/Gyeonggi (37°09'43" N, 126°41'05" E), salt farm, surface water **Isolator** Hur, SB (1996-07-03) **Identifier** Jeon, SR **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 60 PPF, 1 M **Size (µm)** 4-6 (L), 2-3 (W) **Original No.** Cy-30

0548 Sampling 2000-08-09, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 27°C, 31 psu **Isolator** Lee, GA (2001-09-20) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 60 PPF, 1 M **Size (µm)** 5-8 (L), 3-4 (W) **Original No.** Cy-29

Synechococcus sp.

0102 Sampling 1995-01-25, Wando/Jeonnam (34°19'34" N, 126°45'09" E), coast, surface water **Isolator** Hur, SB (1996-03-27) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 60 PPF, 1 M **Size (µm)** 5-15 (L), 2-3 (W) **Original No.** Cy-36

0314 Sampling 1999-09-13, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 27°C, 29 psu **Isolator** Lee, GA (2000-01-24) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 60 PPF, 1 M **Size (µm)** 3-10 (L), 2-3 (W) **Original No.** Cy-39

0366 Sampling 1999-09-14, Taehwa River/Ulsan (35°31'01" N, 129°22'44" E), estuary, surface water,

20°C **Isolator** Lee, GA (2000-02-27) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 60 PPF, 1 M **Size (µm)** 3-8 (L), 2-3 (W) **Original No.** Cy-35

0411 Sampling 1999-12-16, Gwangalli/Busan (35°08'47" N, 129°06'56" E), estuary, surface water, 15°C **Isolator** Lee, GA (2000-04-30) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2-E, 20°C, 15 psu, 60 PPF, 1 M **Size (µm)** 3-10 (Ø) **Original No.** ECy-4

0424 Sampling 1999-11-24, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 13°C, 30 psu **Isolator** Lee, GA (2000-05-14) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 60 PPF, 1 M **Size (µm)** 3-8 (L), 2-3 (W) **Original No.** Cy-38

0489 Sampling 2000-11-06, Yangyang/Gangwon (38°04'34" N, 128°40'40" E), coast, surface water, 16°C **Isolator** Lee, GA (2001-06-30) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 60 PPF, 1 M **Size (µm)** 5-10 (L), 1-2 (W) **Original No.** Cy-37

SYNECHOCYSTIS: Cyanophyceae

Synechocystis aquatilis Sauvageau

1889 Sampling 2011-07-06, Nakdong River/Busan (35°06'17" N, 128°53'42" E), surface water, 25°C **Isolator** Jo, MJ (2012-02-08) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** JM, 20°C, 0 psu, 40 PPF, 1 M **Size (µm)** 4-6 (Ø) **Original No.** FCy-42

2113 Source KIOST Sampling 2012-11-16, Chuuk, Micronesia (07°27'07" N, 151°53'28" E), coast, surface water, 30°C, 25 psu **Isolator** Jo, MJ (2013-04-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 5-6 (Ø) **Original No.** Cy-72 **Remarks** high °C sp.

Synechocystis nigrescens Guiry

1067 Source UTEX 2587 (2003-03-24) **States** axenic, agar, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 3-4 (L), 2-3 (W) **Original No.** Cy-43

1692 Source UTEX 2587 (2009-10-20) **Sampling** 2006-12-15 **States** non-axenic, liquid **Culture** ES, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 3-5 (L), 4-5 (W) **Original No.** Cy-51

Synechocystis pevalekii Ercegovic

1920 Sampling 2012-02-26, Gunsan/Jeonbuk (35°56'39"

N, 126°37'17" E), reservoir, surface water, 8°C **Isolator** Jo, MJ (2012-05-31) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** JM, 18°C, 0 psu, 40 PPF, 1 M **Size (µm)** 1-2 (Ø) **Original No.** FCy-45

SYNEDRA: Bacillariophyceae

Synedra delicatissima W. Smith

Syn. *Ulnaria delicatissima* (W. Smith) M. Aboal & P. C. Silva

1313 Sampling 2006-06-01, Nakdong River/Busan (35°06'17" N, 128°53'42" E), surface water, 26°C **Isolator** Jeong, EH (2006-10-31) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** JM, 20°C, 0 psu, 20 PPF, 2 M **Size (µm)** 160-240 (L), 4-6 (W) **Original No.** FB-55

1612 Sampling 2010-02-19, Nakdong River/Busan (35°06'17" N, 128°53'42" E), surface water, 4°C **Isolator** Jo, MJ (2013-03-17) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 20°C, 0 psu, 20 PPF, 2 M **Size (µm)** 244-262 (L), 23-26 (W) **Original No.** FB-59

Synedra formosa Hantzsch ex Raben

Syn. *Ardissonea formosa* (Hantzsch) Grunow

1466 Sampling 2008-11-04, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 17°C, 34 psu **Isolator** Jeong, EH (2008-12-04) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 3 M **Size (µm)** 230-233 (L), 18-20 (W) **Original No.** B-891

2082 Sampling 2012-11-18, Namcheon Bay/Busan (35°08'14" N, 129°06'49" E), coast, surface water, 17°C, 33 psu **Isolator** Jo, MJ (2013-03-12) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 330-342 (L), 17-38 (W) **Original No.** B-1130

2131 Source KIOST Sampling 2012-11-22, Chuuk, Micronesia (07°27'13" N, 151°53'29" E), coast, surface water, 30°C, 30 psu **Isolator** Jo, MJ (2013-06-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 135-147 (L), 8-14 (W) **Original No.** B-1164 **Remarks** high °C sp.

Synedra ulna (Nitzschia) Ehrenberg

1613 Sampling 2010-02-19, Nakdong River/Busan (35°06'17" N, 128°53'42" E), surface water, 4°C **Isolator** Jo, MJ (2010-03-17) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 20°C, 0 psu, 20 PPF, 2 M **Size (µm)** 118-134 (L), 5-7 (W) **Original No.** FB-58

Synedra sp.

1991 Sampling 2012-10-24, Namcheon Bay/Busan (35°08'14" N, 129°06'49" E), reservoir, surface water, 13°C, 33 psu **Isolator** Jo, MJ (2012-12-27) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 210-211 (L), 6-7 (W) **Original No.** B-1124

SYNEDROPSIS: Bacillariophyceae*Synedropsis hyperborea* (Grunow) Hasle

Syn. *Synedra hyperborea* Grunow

1562 Sampling 2009-09-17, Namcheon Bay/Busan (35°08'14" N, 129°06'49" E), coast, surface water, 25°C, 32 psu **Isolator** Jo, MJ (2009-10-26) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 370-380 (L), 10-11 (W) **Original No.** B-925

Synedropsis sp.

1727 Sampling 2010-11-05, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 15°C, 33 psu **Isolator** Jo, MJ (2010-11-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 475-480 (L), 12-20 (W) **Original No.** B-1027

SYNURA: Chrysophyceae*Synura spinosa* Korshikov

1760 Sampling 2011-02-22, Mangyeong River/Jeonbuk (35°53'53" N, 127°03'40" E), surface water, 8°C **Isolator** Jo, MJ (2011-03-31) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 20°C, 0 psu, 20 PPF, 1 M **Size (µm)** 9-12 (Ø) **Original No.** FCh-1

TABELLARIA: Bacillariophyceae*Tabellaria binalis* (Ehrenberg) Grunow

Syn. *Oxyneis binalis* (Ehrenberg) Round

2193 Source KIOST Sampling 2013-10-23, Kosrae, Micronesia (05°19'06" N, 162°00'20" E), reservoir, surface water, 28°C **Isolator** Jo, MJ (2014-02-17) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 0 psu, 20 PPF, 1 M **Size (µm)** 21-25 (L), 11-19 (W) **Original No.** FB-79

Tabellaria sp.

1259 Sampling 2005-10-04, Nakdong River/Busan (35°06'17" N, 128°53'42" E), surface water, 21°C **Isolator** Jeong, EH (2006-01-17) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** JM, 20°C, 0 psu, 40 PPF, 2 M **Size (µm)** 10-22 (L), 1-3 (W) **Original**

No. FB-50

1390 Sampling 2007-04, Maemuldo/Gyeongnam (34°46'10" N, 128°38'51" E), coast, surface water, 12°C **Isolator** Bae, JH (2007-0-26) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 25-30 (L), 7-10 (W) **Original No.** B-835

TELEAULAX: Cryptophyceae*Teleaulax acuta* (Butcher) Hill

Syn. *Cryptomonas acuta* Butcher

1780 Sampling 2011-04-13, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 14°C, 25 psu **Isolator** Jo, MJ (2011-05-11) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 8-10 (L), 4-6 (W) **Original No.** Cr-31

Teleaulax sp.

1496 Sampling 2008-12-31, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 8°C, 34 psu **Isolator** Jeong, EH (2009-02-19) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 7-8 (L), 3-5 (W) **Original No.** Cr-52

TETRASELMIS: Prasinophyceae*Tetraselmis carteriiformis* Butcher

0049 Sampling 1986-04-01, Oido/Incheon (37°20'48" N, 126°40'57" E), salt farm, surface water **Isolator** Hur, SB (1986-12-15) **Identifier** Lee, SG **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 9-15 (L), 6-11 (W) **Original No.** P-24 **References** 2, 4, 6, 11, 13

0103 Sampling 1995-05-01, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water **Isolator** Hur, SB (1996-03-27) **Identifier** Lee, SG **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 5-6 (L), 2-4 (W) **Gene data** 18S rRNA (FJ559384) **Original No.** P-12

0104 Sampling 1995-01-25, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Hur, SB (1996-03-27) **Identifier** Lee, SG **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 13-15 (L), 8-10 (W) **Gene data** 18S rRNA (FJ559385) **Original No.** P-13

0134 Sampling 1996-04-23, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 15°C, 33 psu **Isolator** Hur, SB (1996-07-15) **Identifier** Lee, SG **States** axenic, agar, liquid **Culture** LDM,

f/2, 20°C, 33 psu, 40 PPF, 2 M Size (μm) 10-16 (L), 5-9 (W) **Original No.** P-22

Tetraselmis chui Butcher

1068 Source CCAP 8/6 (2003-03-24) **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (μm)** 10-15 (L), 6-10 (W) **Original No.** P-39 **Remarks** aquaculture, high protein and lipid

Tetraselmis hazeni Butcher

1185 Sampling 2003-05-01, Haeundae/Busan (35°09'06" N, 129°09'07" E), intertidal zone, surface water, 17°C, 33 psu **Isolator** Park, SJ (2004-12-09) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (μm)** 5-9 (L), 5-7 (W) **Original No.** P-47 **Remarks** aquaculture

Tetraselmis striata Butcher

0042 Sampling 1986-06-01, Oido/Incheon (37°20'48" N, 126°40'57" E), salt farm, surface water **Isolator** Hur, SB (1986-09-12) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (μm)** 5-8 (L), 4-8 (W) **Gene data** 18S rRNA (FJ559378) **Original No.** P-5 **References** 13

0083 Sampling 1995-05-01, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 17°C, 33 psu **Isolator** Hur, SB (1996-03-07) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (μm)** 4-10 (L), 5-9 (W) **Gene data** 18S rRNA (FJ559383) **Original No.** P-11

0131 Sampling 1995-07-01, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 26°C, 33 psu **Isolator** Hur, SB (1996-07-03) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (μm)** 5-20 (L), 5-8 (W) **Gene data** 18S rRNA (FJ559392) **Original No.** P-18

0150 Sampling 1996-03-13, Jeju/Jeju (33°31'35" N, 126°31'53" E), coast, surface water **Isolator** Hur, SB (1997-01-22) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (μm)** 10-17 (L), 9-11 (W) **Original No.** P-81 **References** 111

0162 Sampling 1996-07-12, Chungmu/Gyeongnam (34°50'22" N, 128°26'19" E), coast, surface water, 18°C **Isolator** Hur, SB (1997-02-03) **Identifier** Hur,

SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (μm)** 8-13 (L), 6-11 (W) **Gene data** 18S rRNA (FJ559387) **Original No.** P-27

0271 Sampling 1999-07-22 Gwangalli/Busan (35°08'47" N, 129°06'56" E), estuary, surface water, 25°C **Isolator** Lee, GA (1999-12-27) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM-E, f/2-E, 20°C, 15 psu, 40 PPF, 2 M **Size (μm)** 10-15 (L), 8-10 (W) **Gene data** 18S rRNA (JQ315739) **Original No.** P-76

0295 Sampling 1999-08-14, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 27°C, 30 psu **Isolator** Lee, GA (2000-01-15) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (μm)** 8-15 (L), 8-10 (W) **Gene data** 18S rRNA (GQ917818) **Original No.** P-56

0402 Sampling 1999-10-15, East Sea (35°23' N, 129°29' E), open sea, surface water, 24°C **Isolator** Lee, GA (2000-04-04) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (μm)** 8-15 (L), 6-10 (W) **Gene data** 18S rRNA (GQ917220) **Original No.** P-58

0877 Sampling 2000-11-06, Yangyang/Gangwon (38°04'34" N, 128°40'40" E), coast, surface water, 16°C **Isolator** Lee, GA (2001-12-06) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (μm)** 10-13 (L), 6-11 (W) **Gene data** 18S rRNA (FJ559398) **Original No.** P-32

0878 Sampling 2000-09-25, Ulrungdo/Gyeongbuk (37°29'35" N, 130°46'09" E), open sea, surface water, 20°C **Isolator** Lee, GA (2001-12-06) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (μm)** 5-15 (L), 6-8 (W) **Gene data** 18S rRNA (FJ559395) **Original No.** P-35

0879 Sampling 1998-07-01, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 26°C **Isolator** Hur, SB (1998-10-24) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (μm)** 5-8 (L), 4-8 (W) **Gene data** 18S rRNA (FJ559399) **Original No.** P-36

0880 Sampling 1999-10-01, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 18°C, 28 psu **Isolator** Lee, GA (2000-03-30) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (μm)** 3-8 (L), 5-7 (W) **Gene data** 18S rRNA (FJ559402) **Original No.** P-37

1013 Sampling 2001-02-01, Wolmido/Incheon (37°28'06"

N, 126°35'45" E), coast, surface water, 8°C **Isolator** Lee, GA (2002-08-06) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 12-15 (L), 6-10 (W) **Gene data** 18S rRNA (JQ315740) **Original No.** P-72

1157 Sampling 2004-02-01, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Park, SJ (2004-12-01) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 10-15 (L), 5-11 (W) **Original No.** P-44

1159 Sampling 2004-03-05, Haeundae/Busan (35°09'06" N, 129°09'07" E), intertidal zone, surface water, 14°C, 32 psu **Isolator** Park, SJ (2004-12-01) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 9-13 (L), 4-8 (W) **Gene data** 18S rRNA (FJ559403) **Original No.** P-43

1443 Sampling 2008-07-31, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 24°C, 33 psu **Isolator** Jeong, EH (2008-10-14) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 7-10 (L), 5-6 (W) **Original No.** P-53

Tetraselmis subcordiformis (Wille) Butcher

Syn. *Platymonas subcordiformis* (Wille) Hazen

0075 Source Qingdao Oceanic Institute, China (1993-03-04) **States** axenic, agar, liquid **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 5-10 (Ø) **Gene data** 18S rRNA (FJ559380) **Original No.** P-6 **References** 51, 145 **Remarks** aquaculture, high protein and lipid

Tetraselmis suecica (Kyllin) Butcher

Syn. *Platymonas suecica* Kyllin

0007 Source CCAP 66/22A (1985-09-01) **States** axenic, agar, liquid **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 4-10 (L), 5-7 (W) **Gene data** 18S rRNA (FJ559377) **Original No.** P-4 **References** 4, 7, 10, 13, 17, 31, 33, 38, 45, 51, 53, 58, 64, 72 **Remarks** aquaculture, high protein and lipid

0111 Sampling 1995-05-01, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 17°C, 33 psu **Isolator** Hur, SB (1996-03-27) **Identifier** Lee, SG **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 5-10 (Ø) **Gene data** 18S rRNA (FJ559381) **Original No.** P-9 **References** 16, 65, 82, 85, 100, 103, 107,

108, 109, 113, 166 **Remarks** aquaculture, high protein and lipid

1158 Sampling 2004-03-05, Haeundae/Busan (35°09'06" N, 129°09'07" E), intertidal zone, surface water, 14°C, 32 psu **Isolator** Park, SJ (2004-12-01) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 13-20 (L), 7-10 (W) **Gene data** 18S rRNA (JQ315738) **Original No.** P-45 **Remarks** aquaculture, high protein and lipid

Tetraselmis tetrathele (G. S. West) Butcher

Syn. *Platymonas tetrathele* G. S. West

0053 Source The Oceanic Institute, USA (1988-01-15) **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 5-10 (L), 5-8 (W) **Gene data** 18S rRNA (FJ517749) **Original No.** P-2 **References** 2, 4, 6, 13, 18, 20, 21, 24, 33, 51, 77, 90, 97, 125, 129 **Remarks** aquaculture

1862 Sampling 2011-10-04, Busan Pier/Busan (35°04'05" N, 128°51'20" E), coast, surface water, 21°C **Isolator** Jo, MJ (2011-11-09) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 13-18 (L), 8-13 (W) **Original No.** P-84 **Remarks** aquaculture

2138 Sampling 2013-07-31, Namcheon Bay/Busan (35°08'14" N, 129°06'49" E), coast, surface water, 23°C, 31 psu **Isolator** Jo, MJ (2013-08-28) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 13-16 (L), 10-12 (W) **Original No.** P-91 **Remarks** aquaculture

Tetraselmis sp.

0040 Sampling 1985-12-03, Incheon Pier/Incheon (37°23'11" N, 126°36'53" E), coast, surface water **Isolator** Hur, SB (1986-09-04) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 8-18 (L), 6-11 (W) **Gene data** 18S rRNA (JQ315728) **Original No.** P-64 **References** 139

0041 Sampling 1986-05-01, Oido/Incheon (37°20'48" N, 126°40'57" E), salt farm, surface water **Isolator** Hur, SB (1986-09-10) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 5-13 (L), 6-9 (W) **Gene data** 18S rRNA (FJ559391) **Original No.** P-20 **References** 2, 4, 13

0072 Sampling 1990-05-14, Namhae/Gyeongnam (34°42'47" N, 127°59'13" E), coast, surface water **Isolator** Hur, SB (1992-07-29) **Identifier** Hur, SB

- States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size** (μm) 8-18 (L), 6-11 (W) **Gene data** 18S rRNA (GQ917214) **Original No.** P-55 **References** 13
- 0080 Sampling** 1995-05-01, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 17°C, 33 psu **Isolator** Lee, GA (1995-08-18) **Identifier** Lee, SG **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size** (μm) 10-15 (L), 6-10 (W) **Gene data** 18S rRNA (FJ559379) **Original No.** P-8
- 0081 Sampling** 1995-05-01, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 17°C, 33 psu **Isolator** Hur, SB (1995-08-18) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size** (μm) 9-16 (L), 5-10 (W) **Gene data** 18S rRNA (FJ559382) **Original No.** P-10
- 0084 Sampling** 1995-05-01, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 17°C, 33 psu **Isolator** Hur, SB (1996-03-07) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size** (μm) 8-13 (L), 6-8 (W) **Original No.** P-7
- 0105 Sampling** 1995-07-01, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 26°C, 33 psu **Isolator** Hur, SB (1996-03-27) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size** (μm) 5-13 (L), 5-8 (W) **Original No.** P-14
- 0106 Sampling** 1995-07-01, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 26°C, 33 psu **Isolator** Hur, SB (1996-03-27) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size** (μm) 13-15 (L), 5-9 (W) **Original No.** P-15
- 0107 Sampling** 1995-05-01, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 17°C, 33 psu **Isolator** Hur, SB (1996-03-27) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size** (μm) 11-18 (L), 6-9 (W) **Original No.** P-16
- 0108 Sampling** 1995-07-01, Anmyundo/Chungnam (36°35'20" N, 126°18'51" E), coast, surface water **Isolator** Hur, SB (1996-03-27) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size** (μm) 5-10 (L), 5-9 (W) **Gene data** 18S rRNA (FJ559393) **Original No.** P-17
- 0109 Sampling** 1995-05-26, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 17°C, 33 psu **Isolator** Hur, SB (1996-03-27) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size** (μm) 8-18 (L), 6-10 (W) **Gene data** 18S rRNA (GQ917215) **Original No.** P-59 **References** 139
- 0110 Sampling** 1995-05-06, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 17°C, 33 psu **Isolator** Hur, SB (1996-03-27) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size** (μm) 8-15 (L), 6-10 (W) **Gene data** 18S rRNA (GQ917216) **Original No.** P-60 **References** 66
- 0130 Sampling** 1996-01-23, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 7°C, 33 psu **Isolator** Hur, SB (1996-07-03) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size** (μm) 5-10 (L), 5-6 (W) **Gene data** 18S rRNA (FJ559390) **Original No.** P-21
- 0139 Sampling** 1995-05-01, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 17°C, 33 psu **Isolator** Lee, GA (1996-10-14) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size** (μm) 10-25 (L), 5-8 (W) **Original No.** P-19 **References** 37
- 0142 Sampling** 1996-05-31, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 17°C, 33 psu **Isolator** Lee, GA (1996-10-30) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size** (μm) 5-10 (L), 5-9 (W) **Original No.** P-25
- 0171 Sampling** 1996-03-27, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water **Isolator** Hur, SB **Identifier** Hur, SB (1997-02-07) **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size** (μm) 8-20 (L), 5-10 (W) **Gene data** 18S rRNA (JQ315729) **Original No.** P-65
- 0201 Sampling** 1996-05-17, South Sea (34°53' N, 129°24' E), open sea, surface water, 17°C **Isolator** Hur, SB (1997-08-02) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size** (μm) 8-18 (L), 6-10 (W) **Gene data** 18S rRNA (GQ917217) **Original No.** P-62
- 0207 Sampling** 1991-06-01, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Hur, SB (1992-09-17) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C,

- 33 psu, 40 PPF, 2 M **Size** (μm) 5-10 (L), 4-8 (W) **Gene data** 18S rRNA (FJ559376) **Original No.** P-3 **References** 13, 33, 51, 52, 119, 120
- 0222 Sampling** 1998-07-30, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 28°C **Isolator** Hur, SB (1999-02-04) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 23°C, 33 psu, 60 PPF, 4 M **Size** (μm) 10-14 (L), 8-10 (W) **Original No.** P-78
- 0231 Sampling** 1998-11-08, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 15°C **Isolator** Lee, GA (1999-05-20) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size** (μm) 8-15 (L), 5-10 (W) **Gene data** 18S rRNA (JQ315730) **Original No.** P-74
- 0256 Sampling** 1999-03-22, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 8°C, 31 psu **Isolator** Lee, GA (1999-08-30) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size** (μm) 8-13 (L), 5-9 (W) **Gene data** 18S rRNA (JQ315731) **Original No.** P-70
- 0257 Sampling** 1999-02-24, Maemuldo/Gyeongnam (34°46'10" N, 128°38'51" E), coast, surface water **Isolator** Lee, GA (1999-08-30) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size** (μm) 8-18 (L), 5-9 (W) **Gene data** 18S rRNA (JQ315732) **Original No.** P-71
- 0258 Sampling** 1999-02-24, Maemuldo/Gyeongnam (34°46'10" N, 128°38'51" E), coast, surface water **Isolator** Lee, GA (1999-08-30) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 2 M **Size** (μm) 9-15 (L), 6-8 (W) **Gene data** 18S rRNA (JQ315733) **Original No.** P-75
- 0294 Sampling** 1999-07-22, Hongdo/Jeonnam (34°40'49" N, 125°12'09" E), coast, surface water **Isolator** Lee, GA (2000-01-15) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size** (μm) 8-15 (L), 6-10 (W) **Gene data** 18S rRNA (GQ917219) **Original No.** P-63
- 0332 Sampling** 1999-10-01, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 18°C, 28 psu **Isolator** Lee, GA (2000-01-31) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 23°C, 33 psu, 60 PPF, 4 M **Size** (μm) 11-14 (L), 5-9 (W) **Original No.** P-79
- 0367 Sampling** 1999-09-09, Namgu/Busan (35°07'56" N, 129°06'06" E), pond, surface water, 28°C **Isolator** Lee, GA (2000-02-27) **Identifier** Jeon, SR **States** axenic, agar, liquid **Culture** JM-agar, JM, 20°C, 0 psu, 40 PPF, 2 M **Size** (μm) 9-20 (\emptyset) **Gene data** 18S rRNA (JQ315734) **Original No.** FP-1
- 0425 Sampling** 1999-11-02, Jindong/Gyeongnam (35°06'09" N, 128°29'40" E), coast, surface water **Isolator** Lee, GA (2000-05-14) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size** (μm) 13-28 (L), 6-8 (W) **Gene data** 18S rRNA (JQ315735) **Original No.** P-66
- 0862 Sampling** 2001-03-29, Buan/Jeonbuk (35°35'31" N, 126°37'30" E), coast, mud, 8°C, 31 psu **Isolator** Lee, GA (2001-10-30) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 2 M **Size** (μm) 15-24 (L), 6-10 (W) **Gene data** 18S rRNA (JQ315736) **Original No.** P-67
- 0874 Sampling** 2000-10-24, Mokdo/Jeonnam (34°26'25" N, 127°17'34" E), coast, surface water, 19°C **Isolator** Lee, GA (2001-01-27) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size** (μm) 10-15 (L), 8-13 (W) **Gene data** 18S rRNA (FJ559394) **Original No.** P-31
- 0875 Sampling** 2001-03-29, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 9°C, 31 psu **Isolator** Lee, GA (2001-12-06) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size** (μm) 5-13 (L), 5-10 (W) **Gene data** 18S rRNA (FJ559396) **Original No.** P-34
- 0876 Sampling** 2001-03-29, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 10°C, 30 psu **Isolator** Lee, GA (2001-12-06) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size** (μm) 11-13 (L), 5-10 (W) **Gene data** 18S rRNA (FJ559397) **Original No.** P-33
- 1012 Sampling** 2001-03-01, Uljin/Gyeongbuk (36°57'28" N, 129°25'00" E), hatchery, substratum **Isolator** Lee, GA (2002-08-06) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size** (μm) 10-13 (L), 5-10 (W) **Gene data** 18S rRNA (GQ917221) **Original No.** P-57
- 1081 Sampling** 2004-08-11, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Park, SJ (2004-11-24) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size** (μm) 6-11 (L), 5-9 (W) **Gene data** 18S rRNA (FJ559405) **Original No.** P-48
- 1103 Sampling** 2004-08-11, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Park, SJ (2004-11-24) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size** (μm) 6-11 (L), 5-9 (W) **Gene data** 18S rRNA (FJ559405) **Original No.** P-48

- N, 129°09'07" E), coast, surface water **Isolator** Park, SJ (2004-11-25) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 10-16 (L), 5-11 (W) **Gene data** 18S rRNA (FJ559406) **Original No.** P-49
- 1108 Sampling** 2004-08-11, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Park, SJ (2004-11-27) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 8-13 (L), 3-10 (W) **Original No.** P-51
- 1154 Sampling** 2004-04-01, Haeundae/Busan (35°09'06" N, 129°09'07" E), intertidal zone, surface water, 14°C, 32 psu **Isolator** Park, SJ (2004-12-01) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 9-13 (L), 5-9 (W) **Original No.** P-41
- 1155 Sampling** 2004-03-05, Haeundae/Busan (35°09'06" N, 129°09'07" E), intertidal zone, surface water, 14°C, 32 psu **Isolator** Park, SJ (2004-12-01) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 10-15 (L), 6-8 (W) **Gene data** 18S rRNA (FJ559400) **Original No.** P-42
- 1156 Sampling** 2004-04-30, Haeundae/Busan (35°09'06" N, 129°09'07" E), intertidal zone, surface water, 14°C, 32 psu **Isolator** Park, SJ (2004-12-01) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 13-15 (L), 6-8 (W) **Gene data** 18S rRNA (JQ315810) **Original No.** P-40
- 1276 Sampling** 2005-12-01, Yeosu/Jeonnam (34°45'07" N, 127°39'33" E), coast, surface water, 12°C, 32 psu **Isolator** Jeong, EH (2006-03-13) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 10 (L), 5-6 (W) **Gene data** 18S rRNA (FJ559407) **Original No.** P-52
- 1293 Sampling** 2001-11-01, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Lee, GA (2002-01-27) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 13-19 (L), 5-18 (W) **Original No.** P-73
- 1449 Sampling** 2008-08-13, Taean/Chungnam (36°45'23" N, 126°11'16" E), salt farm, surface water, 33°C **Isolator** Jeong, EH (2008-11-05) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** 2X-SW, 20°C, 50 psu, 40 PPF, 4 M **Size (µm)** 19-28 (L), 15-20 (W) **Gene data** 18S rRNA (JQ315811) **Original No.** P-80
- 1609 Sampling** 2010-02-23, Malripo/Chungnam (36°46'38" N, 126°07'49" E), coast, surface water, 4°C, 32 psu **Isolator** Jo, MJ (2010-03-17) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 2 M **Size (µm)** 8-12 (L), 5-8 (W) **Original No.** P-68
- 1964 Sampling** 2012-07-04, Namcheon Bay/Busan (35°08'14" N, 129°06'49" E), coast, surface water, 22°C, 33 psu **Isolator** Jo, MJ (2012-10-23) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 40 PPF, 1 M **Size (µm)** 10-11 (L), 6-9 (W) **Original No.** P-90
- THALASSIONEMA:** Bacillariophyceae
Thalassionema bacillare (Heiden) Kolbe
Syn. *Spinigera bacillaris* Heiden
- 1589 Sampling** 2009-09-25, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 24°C, 32 psu **Isolator** Jo, MJ (2010-01-12) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 311-321 (L), 6-9 (W) **Original No.** B-939
- Thalassionema nitzschioides** (Grunow) Mereschkowsky
Syn. *Synedra nitzschioides* Grunow
- 0663 Sampling** 1999-01-21, Jindong/Gyeongnam (35°06'09" N, 128°29'40" E), coast, surface water **Isolator** Lee, GA (1999-05-22) **Identifier** Lee, JH **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 8-18 (L), 3-5 (W) **Original No.** B-298
- 1339 Sampling** 2006-09-01, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 24°C, 30 psu **Isolator** Jeong, EH (2006-11-22) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 19-40 (L), 4-6 (W) **Original No.** B-802
- 1494 Sampling** 2008-11-26, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 13°C, 34 psu **Isolator** Jeong, EH (2009-02-19) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 38-42 (L), 4-7 (W) **Original No.** B-906
- 1563 Sampling** 2009-09-25, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 24°C, 32 psu **Isolator** Jo, MJ (2009-10-26) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 38-42 (L), 4-6 (W) **Original No.** B-923
- 1703 Sampling** 2010-08-18, Yeongdeok/Gyeongbuk (36°24'50" N, 129°27'00" E), open sea surface water,

23°C **Isolator** Jo, MJ (2010-10-15) **Identifier** Hur, SB
States non-axenic, liquid **Culture** f/2, 20°C, 33 psu,
 40 PPF, 1 M **Size** (μm) 11-15 (L), 4-5 (W) **Original**
No. B-1014

THALASSIOSIRA: Bacillariophyceae

Thalassiosira allenii Takano

- 0368 Sampling** 1999-11-27, Chungmu/Gyeongnam
 (34°50'22" N, 128°26'19" E), coast, surface water
Isolator Lee, GA (2000-02-27) **Identifier** Lee, JH
States non-axenic, liquid **Culture** f/2, 20°C, 33 psu,
 40 PPF, 1 M **Size** (μm) 10-11 (L), 5-6 (W) **Original**
No. B-460
- 0543 Sampling** 2001-03-29, Buan/Jeonbuk (35°35'31" N,
 126°37'30" E), coast, mud, 10°C **Isolator** Lee, GA
 (2001-08-27) **Identifier** Hur, SB **States** axenic, liq-
 uid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size**
 (μm) 9-11 (Ø) **Original No.** B-526
- 0664 Sampling** 1999-03-11, Haeundae/Busan (35°09'06"
 N, 129°09'07" E), coast, surface water, 13°C **Isolator**
 Lee, GA (1999-06-30) **Identifier** Lee, JH **States** non-
 axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1
 M **Size** (μm) 11-14 (L), 6-8 (W) **Original No.** B-287
References 115
- 0665 Sampling** 1999-02-24, Maemuldo/Gyeongnam
 (34°46'10" N, 128°38'51" E), coast, surface water
Isolator Lee, GA (1999-05-22) **Identifier** Lee, JH
States axenic, liquid **Culture** f/2, 20°C, 33 psu, 40
 PPF, 1 M **Size** (μm) 8-11 (L), 5-7 (W) **Original No.**
 B-333
- 1104 Sampling** 2004-07-13, Haeundae/Busan (35°09'06"
 N, 129°09'07" E), coast, surface water **Isolator** Park,
 SJ (2004-11-25) **Identifier** Lee, JH **States** non-axen-
 ic, liquid **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF,
 1 M **Size** (μm) 7-15 (L), 6-8 (W) **Original No.** B-696
- 1105 Sampling** 2004-08-17, Haeundae/Busan (35°09'06"
 N, 129°09'07" E), coast, surface water **Isolator** Park,
 SJ (2004-11-25) **Identifier** Lee, JH **States** axenic,
 liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size**
 (μm) 10-25 (L), 5-10 (W) **Original No.** B-735
- 1294 Sampling** 2006-02-01, Taewha River/Ulsan
 (35°32'38" N, 129°21'56" E), surface water, 7°C, 5
 psu **Isolator** Jeong, EH (2006-05-09) **Identifier** Lee,
 JH **States** non-axenic, liquid **Culture** JM, 20°C, 0
 psu, 40 PPF, 2 M **Size** (μm) 5-6 (Ø) **Original No.**
 FB-52

Thalassiosira baltica (Grunow) Ostensfeld

Syn. *Coscinodiscus polyacanthus* var. *balticus* Grunow

- 0814 Sampling** 1996-09-18, Namhae/Gyeongnam

(34°42'47" N, 127°59'13" E), coast, surface water
Isolator Hur, SB (1997-01-22) **Identifier** Lee, JH
States non-axenic, liquid **Culture** f/2, 20°C, 33 psu,
 40 PPF, 1 M **Size** (μm) 5-8 (Ø) **Original No.** B-223

- 1391 Source** Sangmyung Univ. (SMD64) **Sampling**
 2007-12-06, Jinhae Bay/Gyeongnam (35°08'35" N,
 128°40'58" E) (2008-03-15) **States** non-axenic, liq-
 uid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size**
 (μm) 5-8 (L), 10-13 (W) **Original No.** B-841

Thalassiosira conferta Hasle

- 0632 Sampling** 1986-12-01, Nakdong River/Busan
 (35°06'17" N, 128°53'42" E), coast, surface water
Isolator Hur, SB (1987-04-29) **Identifier** Lee, JH
States axenic, liquid **Culture** f/2, 20°C, 33 psu, 40
 PPF, 1 M **Size** (μm) 8-13 (Ø) **Original No.** B-20
References 13, 25, 67, 78
- 0633 Sampling** 1986-08-01, Masan Bay/Gyeongnam
 (35°11'20" N, 128°34'00" E), coast, surface water
Isolator Hur, SB (1986-12-15) **Identifier** Lee, JH
States axenic, liquid **Culture** f/2, 20°C, 33 psu, 40
 PPF, 1 M **Size** (μm) 8-10 (Ø) **Original No.** B-22
References 76, 107, 113
- 0634 Sampling** 1993-08-16, Hadong/Gyeongbuk
 (35°03'51" N, 127°44'27" E), coast, surface water
Isolator Hur, SB (1995-08-18) **Identifier** Lee, JH
States axenic, liquid **Culture** f/2, 20°C, 33 psu, 40
 PPF, 1 M **Size** (μm) 13-18 (Ø) **Original No.** B-90
- 0815 Sampling** 1996-07-16, Pohang/Gyeongbuk
 (35°59'58" N, 129°26'16" E), coast, surface water,
 16°C **Isolator** Hur, SB (1996-10-30) **Identifier** Lee,
 JH **States** axenic, liquid, cryopreserved **Culture** f/2,
 20°C, 33 psu, 40 PPF, 1 M **Size** (μm) 10-14 (L), 5-8
 (W) **Original No.** B-190
- 0853 Sampling** 1999-02-24, Maemuldo/Gyeongnam
 (34°46'10" N, 128°38'51" E), coast, surface water
Isolator Lee, GA (1999-05-22) **Identifier** Lee, JH
States axenic, liquid **Culture** f/2, 20°C, 33 psu, 40
 PPF, 1 M **Size** (μm) 8-10 (Ø) **Original No.** B-278
- 1260 Sampling** 2005-09-05, Namhae/Gyeongnam
 (34°42'47" N, 127°59'13" E), coast, surface water,
 24°C **Isolator** Jeong, EH (2006-01-17) **Identifier**
 Lee, JH **States** axenic, liquid **Culture** f/2, 20°C, 33
 psu, 40 PPF, 1 M **Size** (μm) 5-7 (Ø) **Original No.**
 B-753

Thalassiosira decipiens (Grunow) E. G. Jørgensen

Syn. *Coscinodiscus eccentricus* var. *decipiens* Grunow

- 0544 Sampling** 2001-03-29, Buan/Jeonbuk (35°35'31"
 N, 126°37'30" E), coast, mud, 16°C, 31 psu **Isola-**

tor Lee, GA (2001-08-27) **Identifier** Lee, JH **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 11-13 (Ø) **Original No.** B-540

0697 Sampling 1999-07-20, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 30°C **Isolator** Lee, GA (1999-11-11) **Identifier** Lee, JH **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 5-8 (Ø) **Original No.** B-349

0698 Sampling 1999-10-15, Hadong/Gyeongbuk (35°03'51" N, 127°44'27" E), coast, surface water, 22°C **Isolator** Lee, GA (2000-03-30) **Identifier** Lee, JH **States** axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 5-7 (Ø) **Original No.** B-355

Thalassiosira eccentrica (Ehrenberg) Cleve

Syn. *Coscinodiscus eccentricus* Ehrenberg

0666 Sampling 1999-03-08, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 8°C, 30 psu **Isolator** Lee, GA (1999-06-30) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 35-43 (Ø) **Original No.** B-320

0699 Sampling 1999-08-17, East Sea (35°24' N, 129°58' E), coast, surface water, 25°C **Isolator** Lee, GA (2000-01-20) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 23-25 (Ø) **Original No.** B-380

0700 Sampling 1999-08-21, Jindong/Gyeongnam (35°06'09" N, 128°29'40" E), coast, surface water **Isolator** Lee, GA (2000-01-20) **Identifier** Lee, JH **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 33-40 (Ø) **Original No.** B-389

0854 Sampling 1999-01-06, Jindong/Gyeongnam (35°06'09" N, 128°29'40" E), coast, surface water **Isolator** Lee, GA (1999-05-22) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 24-25 (Ø) **Original No.** B-280

1277 Sampling 2005-11-09, Bogildo/Jeonnam (34°08'17" N, 126°33'54" E), coast, surface water, 15°C, 32 psu **Isolator** Jeong, EH (2006-03-13) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 50-55 (Ø) **Original No.** B-755

1392 Source Sangmyung Univ. (SMDC27) **Sampling** 2007-01-13, Yeosu/Jeonnam (34°45'07" N, 127°39'33" E) (2008-03-15) **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 15-20 (L), 23-32 (W) **Original No.** B-839

Thalassiosira gracilis var. *gracilis* (Karsten) Hustedt

1926 Sampling 2012-05-02, Yokjido/Gyeongnam (34°38'30" N, 128°16'22" E), coast, surface water, 32°C, 15 psu **Isolator** Jo, MJ (2012-05-31) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2, 18°C, 33 psu, 40 PPF, 1 M **Size (µm)** 4-5 (Ø) **Original No.** B-1103

Thalassiosira gravida Cleve

Syn. *Coscinodiscus rotulus* (Meunier) Cleve-Euler

1262 Sampling 2006-07-02, East Sea (42°04' N, 132°15' E), open sea, 20°C **Isolator** Jeong, EH (2006-01-22) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 34-52 (L), 26-28 (W) **Original No.** B-790

Thalassiosira hyalina (Grunow) Gran

Syn. *Coscinodiscus hyalinus* Grunow

0757 Sampling 1996-07-03, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water, 24°C, 33 psu **Isolator** Hur, SB (1996-10-30) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 20-23 (Ø) **Original No.** B-179 **References** 165

Thalassiosira lundiana Fryxell

1393 Source Sangmyung Univ. (SMDC06) **Sampling** 2006-07-**, Taehwa River/Ulsan (35°31'01" N, 129°22'44" E), estuary, surface water (2008-03-15) **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 8-10 (L), 12-16 (W) **Original No.** B-836

Thalassiosira mala Takano

1394 Source Sangmyung Univ. (SMDC45) **Sampling** 2007-05-18, Incheon Pier/Incheon (37°27'32" N, 126°35'53" E), surface water (2008-03-15) **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 4-6 (Ø) **Original No.** B-840

1785 Sampling 2011-04-13, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 13°C, 12 psu **Isolator** Jo, MJ (2011-05-11) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 5-7 (Ø) **Original No.** EB-52

Thalassiosira minima Gaarder

0667 Sampling 1999-03-30, Jindong/Gyeongnam (35°06'09" N, 128°29'40" E), coast, surface water, 17°C **Isolator** Lee, GA (1999-06-30) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33

psu, 40 PPF, 1 M Size (μm) 4-8 (L), 3-5 (W) **Original No.** B-337

Thalassiosira nodulolineata (Hendey) Hasle & Fryxell
Syn. *Coscinodiscus nodulolineatus* Hendey

0545 Sampling 2001-03-29, Buan/Jeonbuk (35°35'31" N, 126°37'30" E), coast, mud, 9°C, 31 psu **Isolator** Lee, GA (2001-08-27) **Identifier** Lee, JH **States** axenic, agar, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (μm)** 11-13 (\emptyset) **Original No.** B-539

0701 Sampling 1999-05-20, Geomundo/Jeonam (34°02'14" N, 127°36'47" E), open sea, surface water, 15°C **Isolator** Lee, GA (1999-08-09) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (μm)** 24-26 (\emptyset) **Original No.** B-356

0758 Sampling 1995-12-04, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 9°C **Isolator** Hur, SB (1996-04-17) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (μm)** 15-18 (\emptyset) **Original No.** B-136

0759 Sampling 1996-03-20, Deukryang Bay/Jeonam (34°45'27" N, 127°13'52" E), coast, surface water, 10°C, 33 psu **Isolator** Hur, SB (1996-10-15) **Identifier** Lee, JH **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (μm)** 25-38 (L), 15-18 (W) **Original No.** B-152

Thalassiosira nordenskiöldii Cleve

Syn. *Coscinodiscus nordenskiöldii* (Cleve) Cleve-Euler

0635 Sampling 1986-04-01, Oido/Incheon (37°20'48" N, 126°40'57" E), salt farm, surface water **Isolator** Hur, SB (1986-08-25) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (μm)** 8-13 (\emptyset) **Original No.** B-19 **References** 2, 4, 10, 13, 18, 20, 21, 25, 32, 58, 76

Thalassiosira oestrupii (Ostenfeld) Hasle

Syn. *Shionodiscus oestrupii* (Ostenfeld) A. J. Alverson, S. H. Kang & E. C. Theriot

1106 Sampling 2004-07-06, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Park, SJ (2004-11-25) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (μm)** 8-32 (\emptyset) **Original No.** B-738

Thalassiosira pacifica Gran & Angst

0816 Sampling 1996-03-20, Deukryang Bay/Jeonam

(34°45'27" N, 127°13'52" E), coast, surface water **Isolator** Hur, SB (1996-10-154) **Identifier** Lee, JH **States** axenic, agar, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (μm)** 25-73 (\emptyset) **Original No.** B-230

1003 Sampling 2001-10-31, West Sea (35°27' N, 125°26' E), open sea, middle water, 18°C **Isolator** Lee, GA (2002-06-24) **Identifier** Lee, JH **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (μm)** 11-15 (\emptyset) **Original No.** B-632

1004 Sampling 2001-10-31, West Sea (37°51' N, 123°15' E), open sea, middle water, 18°C **Isolator** Lee, GA (2002-06-24) **Identifier** Lee, JH **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (μm)** 15-20 (\emptyset) **Original No.** B-633

1395 Source Sangmyung Univ. (SMDC11) **Sampling** 2007-01-20, Yeosu/Jeonnam (34°45'07" N, 127°39'33" E), coast, surface water (2008-03-15) **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (μm)** 15-16 (L), 19-24 (W) **Original No.** B-837

1646 Sampling 2010-05-13, Dokdo/Gyeongbuk (37°14'34" N, 131°36'19" E), open sea, bottom water, 1°C, 34 psu **Isolator** Lee, GA (2010-06-17) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (μm)** 8-10 (\emptyset) **Original No.** B-985 **Remarks** low °C sp.

Thalassiosira punctigera (Castracane) Hasle

Syn. *Ethmodiscus punctiger* Castracane

0469 Sampling 2001-02-01, Gwangyang Bay/Jeonnam (34°53'27" N, 127°45'57" E), coast, surface water, 7°C **Isolator** Lee, GA (2001-05-30) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (μm)** 50-55 (\emptyset) **Original No.** B-569

0702 Sampling 1999-09-13, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 27°C, 30 psu **Isolator** Lee, GA (2000-10-13) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (μm)** 8-10 (\emptyset) **Original No.** B-376

0760 Sampling 1996-05-15, Chungmu/Gyeongnam (34°50'22" N, 128°26'19" E), coast, surface water, 16°C, 34 psu **Isolator** Hur, SB (1997-01-30) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (μm)** 8-10 (\emptyset) **Original No.** B-163

1396 Source Sangmyung Univ. (SMDC20) **Sampling** 2007-01-13, Tongyeong/Gyeongnam (34°50'18" N, 128°25'04" E), coast, surface water (2008-03-15)

States non-axenic, liquid Culture f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 31-33 (L), 35-42 (W) Original No. B-838

Thalassiosira rotula Meunier

- 0817 **Sampling** 1998-12-24, Jindong/Gyeongnam (35°06'09" N, 128°29'40" E), coast, surface water Isolator Lee, GA (1999-02-10) Identifier Lee, JH States non-axenic, liquid Culture f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 6-13 (Ø) Original No. B-238
- 0818 **Sampling** 1998-01-08, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 10°C Isolator Hur, SB (1998-09-10) Identifier Lee, JH States non-axenic, liquid Culture f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 5-6 (Ø) Original No. B-239
- 1647 **Sampling** 2010-05-13, Dokdo/Gyeongbuk (37°16'25" N, 131°44'51" E), open sea, deep sea, deep water, 1°C Isolator Jo, MJ (2010-06-17) Identifier Hur, SB States non-axenic, liquid Culture f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 40-44 (W), 15-17 (L) Original No. B-991 Remarks low °C sp.

Thalassiosira tenera Proschkina-Lavrenko

- 0470 **Sampling** 2001-02-01, Baekryungdo/Incheon (37°55'35" N, 124°43'44" E), coast, surface water, 5°C Isolator Lee, GA (2001-05-30) Identifier Hur, SB States axenic, liquid, cryopreserved Culture f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 15-23 (L), 4-5 (W) Original No. B-570
- 0856 **Sampling** 1998-12-31, Jindong/Gyeongnam (35°06'09" N, 128°29'40" E), coast, surface water Isolator Hur, SB (1999-02-10) Identifier Lee, JH States axenic, liquid Culture f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 18-25 (Ø) Original No. B-256
- 1005 **Sampling** 2001-04-02, South Sea (34°51' N, 128°48' E), open sea, middle water, 13°C Isolator Lee, GA (2002-06-24) Identifier Lee, JH States non-axenic, liquid Culture f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 25-30 (Ø) Original No. B-612
- 1343 **Sampling** 2006-09-04, Jinhae Bay/Gyeongnam (35°08'35" N, 128°40'58" E), surface water, 23°C Isolator Jeong, EH (2006-11-22) Identifier Hur, SB States non-axenic, liquid Culture f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 15-16 (Ø) Original No. B-808

Thalassiosira trifulta G. Fryxell

- 1648 **Sampling** 2010-05-13, Dokdo/Gyeongbuk (37°14'34" N, 131°36'19" E), open sea, bottom water, 1°C Isolator Jo, MJ (2010-06-17) Identifier Hur, SB States

non-axenic, liquid Culture f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 22-24 (W), 16-18 (L) Original No. B-987 Remarks low °C sp.

Thalassiosira weissflogii (Grunow) G. Fryxell & Hasle

Syn. *Thalassiosira fluviatilis* Hustedt

- 0448 **Sampling** 2000-08-07, Goseong/Gangwon (38°25'25" N, 128°28'03" E), coast, surface water, 26°C Isolator Lee, GA (2000-12-01) Identifier Lee, JH States non-axenic, liquid, cryopreserved Culture f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 5-13 (L), 6-10 (W) Original No. B-517 Remarks aquaculture
- 0468 **Sampling** 2001-01-09, Younggwang/Gangwon (35°23'11" N, 126°24'11" E), coast, surface water, 5°C Isolator Lee, GA (2001-05-29) Identifier Lee, JH States axenic, liquid, cryopreserved Culture f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 8-14 (Ø) Original No. B-548 References 98 Remarks aquaculture
- 0477 **Sampling** 2001-02-01, Palmido/Incheon (37°21'30" N, 126°30'50" E), coast, surface water, 8°C Isolator Lee, GA (2001-06-16) Identifier Hur, SB States non-axenic, liquid, cryopreserved Culture f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 25-28 (Ø) Original No. B-576 Remarks aquaculture
- 0483 **Sampling** 2001-03-01, Incheon Pier/Incheon (37°23'11" N, 126°36'53" E), coast, surface water, 13°C Isolator Lee, GA (2001-06-26) Identifier Hur, SB States non-axenic, liquid Culture f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 6-10 (Ø) Original No. B-599 Remarks aquaculture
- 0486 **Sampling** 2001-03-01, Hansan Bay/Gyeongnam (34°46'07" N, 128°30'47" E), coast, surface water, 11°C Isolator Lee, GA (2001-06-27) Identifier Hur, SB States non-axenic, liquid Culture f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 38-48 (Ø) Original No. B-605 Remarks aquaculture
- 0546 **Sampling** 2001-03-29, Buan/Jeonbuk (35°35'31" N, 126°37'30" E), coast, mud, 9°C, 31 psu Isolator Lee, GA (2001-08-27) Identifier Lee, K States non-axenic, liquid Culture f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 55-74 (L), 4-6 (W) Original No. B-514 Remarks aquaculture
- 0636 **Sampling** 1994-05-01, Hadong/Gyeongbuk (35°03'51" N, 127°44'27" E), coast, surface water Isolator Hur, SB (1996-03-27) Identifier Lee, JH States non-axenic, liquid, cryopreserved Culture f/2, 20°C, 33 psu, 40 PPF, 1 M Size (μm) 13-21 (Ø) Original No. B-73 References 19, 42 Remarks aquaculture

- 0669 Sampling** 1999-02-08, Yokjido/Gyeongnam (34°38'30" N, 128°16'22" E), coast, surface water, 9°C **Isolator** Lee, GA (1999-05-22) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 15-23 (Ø) **Original No.** B-307 **Remarks** aquaculture
- 0703 Sampling** 1999-08-02, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 27°C **Isolator** Lee, GA (2000-01-20) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 15-25 (Ø) **Original No.** B-363 **Remarks** aquaculture
- 0704 Sampling** 1999-09-02, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 27°C **Isolator** Lee, GA (2000-01-30) **Identifier** Lee, JH **States** axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 16-21 (Ø) **Original No.** B-369 **References** 107, 113 **Remarks** aquaculture
- 0705 Sampling** 1999-08-16, East Sea (35°04' N, 129°45' E), open sea, surface water, 25°C **Isolator** Lee, GA (2000-01-20) **Identifier** Lee, JH **States** axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 13-20 (Ø) **Original No.** B-375 **Remarks** aquaculture
- 1197 Sampling** 2004-04-07, Ulrungdo/Gyeongbuk (37°29'35" N, 130°46'09" E), open sea, bottom water, 0°C, 34 psu **Isolator** Park, SJ (2004-12-11) **Identifier** Lee, JH **States** axenic, agar, liquid **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 11-15 (Ø) **Original No.** B-674 **Remarks** low °C sp., aquaculture
- Thalassiosira* sp.
- 0236 Sampling** 1999-02-04, Gwangalli/Busan (35°08'47" N, 129°06'56" E), estuary, surface water, 11°C **Isolator** Lee, GA (1999-06-14) **Identifier** Hur, SB **States** axenic, liquid **Culture** f/2-E, 20°C, 15 psu, 40 PPF, 2 M **Size (µm)** 5-7 (Ø) **Original No.** EB-18
- 0239 Sampling** 1999-02-25, Suyeong River/Busan (35°09'55" N, 129°07'34" E), estuary, surface water, 12°C, 22 psu **Isolator** Lee, GA (1999-06-30) **Identifier** Hur, SB **States** axenic, liquid **Culture** f/2-E, 20°C, 15 psu, 40 PPF, 2 M **Size (µm)** 11-16 (Ø) **Original No.** EB-3
- 0247 Sampling** 1999-03-04, Namgu/Busan (35°07'56" N, 129°06'06" E), pond, surface water, 13°C **Isolator** Lee, GA (1999-07-27) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 20°C, 0 psu, 40 PPF, 2 M **Size (µm)** 2-4 (Ø) **Original No.** FB-1
- 0260 Sampling** 1999-04-03, Namgu/Busan (35°07'56" N, 129°06'06" E), pond, surface water, 17°C **Isolator** Lee, GA (1999-09-16) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** JM, 20°C, 0 psu, 40 PPF, 2 M **Size (µm)** 9-14 (Ø) **Original No.** FB-2
- 0261 Sampling** 1999-07-22, Gwangalli/Busan (35°08'47" N, 129°06'56" E), estuary, surface water, 25°C **Isolator** Lee, GA (1999-11-26) **Identifier** Hur, SB **States** axenic, liquid **Culture** f/2-E, 20°C, 15 psu, 40 PPF, 2 M **Size (µm)** 9-11 (Ø) **Original No.** EB-20
- 0280 Sampling** 1999-10-28, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 17°C **Isolator** Lee, GA (2000-01-04) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 10-11 (Ø) **Original No.** B-454
- 0296 Sampling** 1999-10-23, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 18°C **Isolator** Lee, GA (2000-01-05) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 9-10 (Ø) **Original No.** B-425
- 0320 Sampling** 1999-11-02, Jindong/Gyeongnam (35°06'09" N, 128°29'40" E), coast, surface water **Isolator** Lee, GA (2000-01-27) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 7-10 (Ø) **Original No.** B-440
- 0331 Sampling** 1999-09-22, Gwangalli/Busan (35°08'47" N, 129°06'56" E), estuary, surface water, 25°C **Isolator** Lee, GA (2000-01-30) **Identifier** Hur, SB **States** axenic, liquid **Culture** f/2-E, 20°C, 15 psu, 40 PPF, 2 M **Size (µm)** 8-11 (Ø) **Original No.** EB-22
- 0369 Sampling** 1999-10-14, Suyeong River/Busan (35°09'55" N, 129°07'34" E), estuary, surface water, 21°C **Isolator** Lee, GA (2000-02-27) **Identifier** Hur, SB **States** axenic, liquid **Culture** f/2-E, 20°C, 15 psu, 40 PPF, 2 M **Size (µm)** 11-15 (Ø) **Original No.** EB-23
- 0380 Sampling** 1999-01-14, Gwangalli/Busan (35°08'47" N, 129°06'56" E), estuary, surface water, 11°C, 21 psu **Isolator** Lee, GA (2000-03-26) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2-E, 20°C, 15 psu, 40 PPF, 2 M **Size (µm)** 9-14 (Ø) **Original No.** EB-7
- 0381 Sampling** 1999-01-21, Suyeong River/Busan (35°09'55" N, 129°07'34" E), estuary, surface water, 10°C **Isolator** Lee, GA (2000-03-26) **Identifier** Hur, SB **States** axenic, liquid **Culture** f/2-E, 20°C, 15 psu, 40 PPF, 2 M **Size (µm)** 9-11 (Ø) **Original No.** EB-9
- 0382 Sampling** 1999-01-21, Suyeong River/Busan (35°09'55" N, 129°07'34" E), estuary, surface water, 10°C **Isolator** Lee, GA (2000-03-26) **Identifier** Hur, SB **States** axenic, liquid **Culture** f/2-E, 20°C, 15 psu, 40 PPF, 2 M **Size (µm)** 9-11 (Ø) **Original No.** EB-10

- 0383 Sampling** 1999-03-07, Suyeong River/Busan (35°09'55" N, 129°07'34" E), estuary, surface water, 12°C **Isolator** Lee, GA (2000-03-26) **Identifier** Hur, **SB States** axenic, liquid **Culture** f/2-E, 20°C, 15 psu, 40 PPF, 2 M **Size (µm)** 9-13 (Ø) **Original No.** EB-15
- 0440 Sampling** 2000-04-30, Gampo/Gyeongbuk (35°48'17" N, 129°30'32" E), coast, surface water, 13°C **Isolator** Lee, GA (2000-07-27) **Identifier** Hur, **SB States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 8-10 (Ø) **Original No.** B-506
- 0441 Sampling** 2000-04-05, Uljin/Gyeongbuk (36°57'28" N, 129°25'00" E), coast, surface water, 13°C **Isolator** Lee, GA (2000-08-10) **Identifier** Hur, **SB States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 10-13 (Ø) **Original No.** B-515
- 0457 Sampling** 2000-10-28, West Sea (34°33' N, 124°06' E), open sea, surface water, 19°C **Isolator** Lee, GA (2001-03-02) **Identifier** Hur, **SB States** axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 10-11 (Ø) **Original No.** B-533
- 0458 Sampling** 2000-10-27, West Sea (34°37' N, 124°21' E), open sea, surface water, 18°C **Isolator** Lee, GA (2001-03-02) **Identifier** Hur, **SB States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 9-13 (Ø) **Original No.** B-541
- 0465 Sampling** 2001-02-01, Yoja Bay/Gyeongnam (34°45'21" N, 127°29'41" E), coast, surface water, 9°C **Isolator** Lee, GA (2001-05-12) **Identifier** Hur, **SB States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 26-29 (Ø) **Original No.** B-573
- 0466 Sampling** 2001-02-01, Asan Bay/Chungnam (36°54'51" N, 126°54'16" E), coast, surface water, 9°C **Isolator** Lee, GA (2001-05-12) **Identifier** Hur, **SB States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 6-13 (Ø) **Original No.** B-574
- 0478 Sampling** 2001-02-01, Youngjongdo/Incheon (37°27'13" N, 126°21'59" E), coast, surface water, 8°C **Isolator** Lee, GA (2001-06-20) **Identifier** Hur, **SB States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 25-33 (Ø) **Original No.** B-602
- 0479 Sampling** 2001-02-01, Youngjongdo/Incheon (37°27'13" N, 126°21'59" E), coast, surface water, 8°C **Isolator** Lee, GA (2001-06-20) **Identifier** Hur, **SB States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 8-10 (Ø) **Original No.** B-603
- 0482 Sampling** 2001-03-01, Asan Bay/Chungnam (36°54'51" N, 126°54'16" E), coast, surface water, 12°C **Isolator** Lee, GA (2001-06-26) **Identifier** Hur, **SB States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 5-9 (L), 3-6 (W) **Original No.** B-577
- 0491 Sampling** 2001-03-01, Gamak Bay/Jeonnam (34°43'44" N, 127°43'41" E), coast, surface water, 11°C **Isolator** Lee, GA (2001-07-02) **Identifier** Hur, **SB States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 10-13 (Ø) **Original No.** B-589
- 0668 Sampling** 1998-07-06, Jeju/Jeju (33°31'35" N, 126°31'53" E), coast, surface water, 23°C **Isolator** Hur, SB (1998-10-24) **Identifier** Hur, **SB States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 10-21 (Ø) **Original No.** B-668
- 0706 Sampling** 1999-10-17, Nakdong River/Busan (35°06'17" N, 128°53'42" E), estuary, surface water, 18°C **Isolator** Lee, GA (2000-03-30) **Identifier** Hur, **SB States** non-axenic, liquid **Culture** f/2-E, 20°C, 15 psu, 40 PPF, 2 M **Size (µm)** 5-8 (L), 5-6 (W) **Original No.** EB-28
- 0761 Sampling** 1999-02-08, Jeju/Jeju (33°31'35" N, 126°31'53" E), coast, surface water, 16°C **Isolator** Lee, GA (1999-05-22) **Identifier** Lee, **JH States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 15-25 (L), 10-11 (W) **Original No.** B-332
- 0819 Sampling** 1999-10-17, Nakdong River/Busan (35°06'17" N, 128°53'42" E), estuary, surface water, 18°C **Isolator** Lee, GA (2000-03-30) **Identifier** Hur, **SB States** axenic, liquid, cryopreserved **Culture** f/2-E, 20°C, 15 psu, 40 PPF, 2 M **Size (µm)** 10-15 (L), 8-10 (W) **Original No.** EB-29
- 0855 Sampling** 1999-03-08, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 8°C, 31 psu **Isolator** Lee, GA (1999-06-30) **Identifier** Hur, **SB States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 13-20 (Ø) **Original No.** B-282
- 1042 Sampling** 2002-03-01, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 14°C **Isolator** Lee, GA (2002-12-20) **Identifier** Hur, **SB States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 8-10 (L), 5-8 (W) **Original No.** B-640
- 1043 Sampling** 2002-04-01, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 17°C **Isolator** Lee, GA (2002-12-20) **Identifier** Hur, **SB States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 8-10 (L), 5-9 (W) **Original No.** B-659
- 1107 Sampling** 2004-08-07, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Park, SJ (2004-11-25) **Identifier** Hur, **SB States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M

- Size** (μm) 6-16 (L), 5-8 (W) **Original No.** B-733
- 1160 Sampling** 2004-08-17, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Park, SJ (2004-12-01) **Identifier** Hur, SB **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (μm) 13-28 (L), 13-18 (W) **Original No.** B-706
- 1161 Sampling** 2004-08-11, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Park, SJ (2004-12-01) **Identifier** Hur, SB **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (μm) 15-18 (L), 7-10 (W) **Original No.** B-707
- 1162 Sampling** 2004-08-17, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Park, SJ (2004-12-01) **Identifier** Hur, SB **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (μm) 10-13 (L), 6-13 (W) **Original No.** B-712
- 1163 Sampling** 2004-08-17, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Park, SJ (2004-12-01) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (μm) 16-25 (L), 15-20 (W) **Original No.** B-713
- 1196 Sampling** 2004-04-07, Ulrungdo/Gyeongbuk (37°29'35" N, 130°46'09" E), open sea, bottom water, 6°C, 34 psu **Isolator** Park, SJ (2004-12-11) **Identifier** Hur, SB **States** axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (μm) 9-14 (\emptyset) **Original No.** B-670 **Remarks** low °C sp.
- 1213 Sampling** 2004-12-16, Nakdong River/Busan (35°06'17" N, 128°53'42" E), estuary, surface water, 10°C, 15 psu **Isolator** Park, SJ (2005-03-10) **Identifier** Hur, SB **States** axenic, liquid **Culture** f/2-E, 20°C, 15 psu, 40 PPF, 2 M **Size** (μm) 10-30 (L), 5-15 (W) **Original No.** EB-34
- 1340 Sampling** 2006-07-03, Jinhae Bay/Gyeongnam (35°08'35" N, 128°40'58" E), coast, surface water, 24°C, 31 psu **Isolator** Jeong, EH (2006-11-22) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (μm) 29-31 (\emptyset) **Original No.** B-788
- 1341 Sampling** 2006-09-01, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), surface water, 24°C, 30 psu **Isolator** Jeong, EH (2006-11-22) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (μm) 26-29 (\emptyset) **Original No.** B-803
- 1342 Sampling** 2006-09-03, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), surface water, 24°C, 30 psu **Isolator** Jeong, EH (2006-11-22) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (μm) 17-19 (\emptyset) **Original No.** B-805
- 1381 Sampling** 2006-08-**, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), 23°C, 30 psu **Isolator** Jeong, EH (2007-03-22) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (μm) 9-12 (\emptyset) **Original No.** B-818
- 1421 Sampling** 2008-07-02, Jejusi/Jeju (33°31'51" N, 126°34'20" E), coast, surface water, 15°C, 34 psu **Isolator** Jeong, EH (2008-09-01) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size** (μm) 4-5 (L), 1-2 (W) **Original No.** B-854
- 1675 Sampling** 1996-12-07, Deukryang Bay/Jeonnam (34°45'27" N, 127°13'52" E), coast, surface water **Isolator** Hur, SB (2010-10-24) **Identifier** Lee, JH **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (μm) 5-9 (\emptyset) **Original No.** B-224
- 1706 Sampling** 2010-07-09, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 19°C, 31 psu **Isolator** Jo, MJ (2010-10-15) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 15 psu, 40 PPF, 1 M **Size** (μm) 7-8 (L), 3-6 (W) **Original No.** EB-49
- 1794 Sampling** 2011-06-03, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 17°C, 32 psu **Isolator** Jo, MJ (2011-06-28) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (μm) 25-27 (\emptyset) **Original No.** B-1056
- 1872 Sampling** 2011-12-08, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 15°C, 33 psu **Isolator** Jo, MJ (2011-12-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (μm) 128-133 (\emptyset) **Original No.** B-1084

THALASSIOTHRIX: Bacillariophyceae

Thalassiothrix frauenfeldii (Grunow) Castracane

Syn. *Thalassionema frauenfeldii* (Grunow) Tempère & Peragallo

1344 Sampling 2006-07-01, Gomso Bay/Jeonbuk (35°35'12" N, 126°36'34" E), coast, surface water, 24°C, 25 psu **Isolator** Jeong, EH (2006-11-22) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (μm) 138-140 (L), 3 (W) **Original No.** B-797

1345 Sampling 2006-07-01, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 24°C, 31 psu **Isolator** Jeong, EH (2006-11-22) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size** (μm) 122-126 (L), 4-6 (W) **Original No.** B-789

- 1600 Sampling** 2010-01-08, Namcheon Bay/Busan (35°08'14" N, 129°06'49" E), coast, surface water, 12°C, 34 psu **Isolator** Jo, MJ (2010-02-08) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 107-110 (L), 5-6 (W) **Original No.** B-959
- 1674 Sampling** 2010-08-09, Geomundo/Jeonnam (34°02'42" N, 127°17'49" E), coast, surface water, 29°C **Isolator** Jo, MJ (2010-08-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 308-317 (L), 5-6 (W) **Original No.** B-1005

Thalassiothrix mediterranea var. *pacifica* CuppSyn. *Lioloma pacificum* (Cupp) Hasle

- 1680 Sampling** 2008-11-04, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 17°C, 34 psu **Isolator** Jeong, EH (2009-01-07) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 882-1,058 (L), 7-10 (W) **Original No.** B-900

TRACHELOMONAS: Euglenophyceae*Trachelomonas pulcherrima* PlayfairSyn. *Trachelomonas oblonga* var. *pulcherrima* (Playfair) Popova

- 0887 Sampling** 2000-06-11, Hadong/Gyeongbuk (35°50'32" N, 129°17'00" E), coast, surface water, 21°C **Isolator** Lee, GA (2001-12-12) **Identifier** Lee, OM **States** axenic, agar, liquid **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 10-14 (L), 8-12 (W) **Original No.** Eu-9
- 1075 Sampling** 2004-02-04, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Park, SJ (2004-11-24) **Identifier** Lee, OM **States** axenic, agar, liquid **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 9-15 (L), 7-11 (W) **Original No.** Eu-7
- 1082 Sampling** 2004-07-01, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Park, SJ (2004-11-23) **Identifier** Lee, OM **States** axenic, agar, liquid **Culture** LDM, f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 10-13 (L), 9-10 (W) **Original No.** Eu-8
- 1164 Sampling** 2003-11-04, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Park, SJ (2004-12-01) **Identifier** Lee, OM **States** non-axenic, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 10-14 (L), 5-9 (W) **Original No.** Eu-6

TRACHYNEIS: Bacillariophyceae*Trachyneis aspera* (Ehrenberg) CleveSyn. *Navicula aspera* Ehrenberg

- 0268 Sampling** 1999-10-01, Hansando/Gyeongnam (34°46'07" N, 128°30'47" E), coast, surface water, 24°C **Isolator** Lee, GA (1999-12-22) **Identifier** Lee, JH **States** axenic, agar, liquid **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 18-30 (L), 8-11 (W) **Original No.** B-410 **References** 97, 139
- 0857 Sampling** 1999-08-14, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 28°C, 30 psu **Isolator** Lee, GA (2000-01-20) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 15°C, 33 psu, 20 PPF, 3 M **Size (µm)** 15-25 (L), 8-13 (W) **Original No.** B-310
- 1735 Sampling** 2010-12-02, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 13°C, 33 psu **Isolator** Jo, MJ (2010-12-28) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 15°C, 33 psu, 20 PPF, 1 M **Size (µm)** 77-82 (L), 14-18 (W) **Original No.** B-1031

TRICERATIUM: Bacillariophyceae*Triceratium americanum* Ralfs

- 2083 Sampling** 2012-11-28, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 14°C, 33 psu **Isolator** Jo, MJ (2013-03-12) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 162-170 (Ø) **Original No.** B-1131

Triceratium antediluvianum (Ehrenberg) GrunowSyn. *Biddulphia antediluviana* (Ehrenberg) Van Heurck

- 1564 Sampling** 2009-05-13, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 16°C, 33 psu **Isolator** Jo, MJ (2009-10-26) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 93-101 (L), 65-76 (W) **Original No.** B-931
- 1776 Sampling** 2011-03-23, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 11°C, 32 psu **Isolator** Jo, MJ (2011-05-11) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 61-95 (L), 48-54 (W) **Original No.** B-1053

Triceratium arcticum BrightwellSyn. *Trigonium arcticum* (Brightwell) Cleve

- 1738 Sampling** 2010-11-18, Namcheon Bay/Busan (35°08'14" N, 129°06'49" E), coast, surface water,

14°C, 33 psu **Isolator** Jo, MJ (2010-12-28) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 37-44 (L), 38-44 (W) **Original No.** B-1035

1739 Sampling 2010-11-18, Namcheon Bay/Busan (35°08'14" N, 129°06'49" E), coast, surface water, 14°C, 33 psu **Isolator** Jo, MJ (2010-12-28) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 83-165 (L), 97-105 (W) **Original No.** B-1036

Triceratium dubium Brightwell

Syn. *Biddulphia reticulata* var. *dubia* (T. Brightwell) Cleve

2173 Source KIOST Sampling 2013-10-22, Kosrae, Micronesia (05°20'57" N, 162°57'24" E), coast, surface water, 30°C, 30 psu **Isolator** Jo, MJ (2013-12-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 28-29 (Ø) **Original No.** B-1173 **Remarks** high °C sp.

Triceratium formosum Brightwell

Syn. *Trigonium formosum* (Brightwell) Cleve

1879 Sampling 2011-10-18, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 18°C, 33 psu **Isolator** Jo, MJ (2011-12-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 103-118 (Ø) **Original No.** B-1088

Triceratium gibbosum Harvey & Bailey

1729 Sampling 2010-10-11, Maemuldo/Gyeongnam (34°46'10" N, 128°38'51" E), open sea, surface water, 20°C **Isolator** Jo, MJ (2010-11-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 170-191 (L), 78-80 (W) **Original No.** B-1029

1876 Sampling 2011-11-24, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 15°C, 33 psu **Isolator** Jo, MJ (2011-12-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 150-220 (L), 131-135 (W) **Original No.** B-1085

1885 Sampling 2011-10-27, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 18°C, 33 psu **Isolator** Jo, MJ (2011-12-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 101-227 (L), 44-48 (W) **Original No.** B-1091

2127 Source KIOST Sampling 2012-11-21, Chuuk, Micronesia (07°27'05" N, 151°54'27" E), coast, surface wa-

ter, 30°C, 37 psu **Isolator** Jo, MJ (2013-06-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 100-220 (L), 25 (W) **Original No.** B-1161 **Remarks** high °C sp.

Triceratium junctum A. Schmidt

1993 Sampling 2012-11-21, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 14°C, 33 psu **Isolator** Jo, MJ (2012-12-27) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 120-125 (Ø) **Original No.** B-1126

Triceratium sp.

1495 Sampling 2008-12-08, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 13°C, 34 psu **Isolator** Jeong, EH (2009-02-19) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 65-81 (L), 94-100 (W) **Original No.** B-901

2096 Source KIOST Sampling 2012-11-19, Chuuk, Micronesia (07°27'05" N, 151°53'31" E), coast, surface water, 30°C, 25 psu **Isolator** Jo, MJ (2013-03-12) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 37-40 (Ø) **Original No.** B-1138 **Remarks** high °C sp.

TRICHODESMIUM: Cyanophyceae

Trichodesmium erythraeum Ehrenberg ex Gomont

0180 Sampling 1996-08-27, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Hur, SB (1997-02-10) **Identifier** Lee, SG **States** axenic, agar, liquid, cryopreserved **Culture** LDM, f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 8-11 (L), 5-6 (W) **Original No.** Cy-16 **References** 97, 139

0182 Sampling 1996-07-16, Taehwa River/Ulsan (35°31'01" N, 129°22'44" E), coast, surface water, 17°C **Isolator** Hur, SB (1997-03-07) **Identifier** Lee, SG **States** axenic, agar, liquid, cryopreserved **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 6-9 (L), 5-6 (W) **Original No.** Cy-15

1165 Sampling 2003-05-01, Suyeong River/Busan (35°09'55" N, 129°07'34" E), estuary, substratum, 19°C, 17 psu **Isolator** Park, SJ (2004-12-01) **Identifier** Lee, OM **States** non-axenic, liquid, cryopreserved **Culture** f/2-E, 20°C, 15 psu, 20 PPF, 1 M **Size (µm)** 6-11 (L), 4-9 (W) **Original No.** ECy-2

1272 Sampling 2005-10-04, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 22°C, 26 psu **Isolator** Jeong, EH (2006-03-13) **Iden-**

tifier Hur, SB States non-axenic, liquid, cryopreserved Culture f/2, 20°C, 33 psu, 20 PPF, 1 M Size (µm) 5-10 (W), 4-5 (L) Original No. Cy-44

- 1630 Sampling** 2010-04-06, Yongho Bay/Busan (35°08'01" N, 129°07'15" E), coast, surface water, 13°C, 34 psu **Isolator** Jo, MJ (2010-04-30) **Identifier** Hur, SB States non-axenic, liquid, cryopreserved Culture f/2, 20°C, 33 psu, 20 PPF, 1 M Size (µm) 15-17 (L), 9-15 (W) **Original No.** Cy-64
- 1707 Sampling** 2010-08-06, Nakdong River/Busan (35°06'17" N, 128°53'42" E), coast, surface water, 27°C, 20 psu **Isolator** Jo, MJ (2010-10-15) **Identifier** Hur, SB States non-axenic, liquid, cryopreserved Culture f/2-E, 20°C, 15 psu, 20 PPF, 1 M Size (µm) 5-10 (L), 4-6 (W) **Original No.** ECy-5

Trichodesmium thiebautii Gomont

Syn. *Oscillatoria thiebautii* (Gomont ex Gomont) Geitler

- 1781 Sampling** 2011-02-22, Seonyudo/Jeonbuk (35°48'43" N, 126°25'10" E), coast, surface water, 4°C, 31 psu **Isolator** Jo, MJ (2011-05-11) **Identifier** Hur, SB States non-axenic, liquid, cryopreserved Culture f/2, 20°C, 33 psu, 20 PPF, 1 M Size (µm) 5-8 (Ø) **Original No.** Cy-67

Trichodesmium sp.

- 0202 Sampling** 1996-10-10, South Sea (35°51' N, 130°18' E), open sea, surface water, 21°C **Isolator** Hur, SB (1997-08-02) **Identifier** Hur, SB States axenic, agar, liquid, cryopreserved, cryopreserved Culture f/2, 20°C, 33 psu, 40 PPF, 1 M Size (µm) 6-11 (L), 5-6 (W) **Original No.** Cy-17
- 1467 Sampling** 2008-09-24, Pohang/Gyeongbuk (35°59'58" N, 129°26'16" E), coast, surface water, 25°C, 33 psu **Isolator** Jeong, EH (2008-12-04) **Identifier** Hur, SB States non-axenic, liquid, cryopreserved Culture f/2, 20°C, 33 psu, 40 PPF, 1 M Size (µm) 4-7 (L), 5 (W) **Original No.** Cy-61
- 1236 Sampling** 2005-04-08, Nakdong River/Busan (35°06'17" N, 128°53'42" E), estuary, surface water, 14°C, 17 psu **Isolator** Jeong, EH (2005-09-01) **Identifier** Hur, SB States non-axenic, liquid Culture f/2-E, 20°C, 15 psu, 20 PPF, 2 M Size (µm) 5-7 (L), 4-5 (W) **Original No.** ECy-7

TROPIDONEIS: Bacillariophyceae

Tropidoneis lepidoptera (Gregory) Cleve

Syn. *Plagiotropis lepidoptera* (Gregory) Kuntze

- 1978 Sampling** 2012-10-24, Namcheon Bay/Busan

(35°08'14" N, 129°06'49" E), coast, surface water, 13°C, 33 psu **Isolator** Jo, MJ (2012-12-27) **Identifier** Hur, SB States non-axenic, liquid Culture f/2, 18°C, 33 psu, 20 PPF, 1 M Size (µm) 179-182 (W), 16-33 (L) **Original No.** B-118

ULOTHRIX: Chlorophyceae

Ulothrix cylindricum Prescott

- 1895 Sampling** 2012-12-08, Nakdong River/Busan (35°06'17" N, 128°53'42" E), estuary, surface water, 12°C, 16 psu **Isolator** Jo, MJ (2012-02-08) **Identifier** Hur, SB States non-axenic, liquid, cryopreserved Culture f/2-E, 20°C, 15 psu, 40 PPF, 1 M Size (µm) 7-8 (Ø) **Original No.** EC-41

Ulothrix subtilissima Rabenhorst

Syn. *Klebsormidium subtilissimum* (Rabenhorst) P. C. Silva, K. R. Mattox & W. H. Blackwell

- 1083 Sampling** 2004-01-04, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Park, SJ (2004-11-24) **Identifier** Lee, OM States non-axenic, liquid, cryopreserved Culture f/2, 23°C, 33 psu, 40 PPF, 4 M Size (µm) 9-16 (L), 6-10 (W) **Gene data** 18S rRNA (JQ315653) **Original No.** C-263

UROGLENA: Chrysophyceae

Uroglena volvox Ehrenberg

- 2124 Sampling** 2013-03-19, Nakdong River/Busan (35°06'17" N, 128°53'42" E), reservoir, surface water, 12°C, 18 psu **Isolator** Jo, MJ (2013-06-30) **Identifier** Hur, SB States non-axenic, liquid Culture f/2, 18°C, 33 psu, 40 PPF, 1 M Size (µm) 9-12 (L), 4-7 (W) **Original No.** Ch-12

VOLVOX: Chlorophyceae

Volvox aureus Ehrenberg

Syn. *Janetosphaera aurea* (Ehrenberg) W. R. Shaw

- 1912 Sampling** 2012-02-27, Gunsan/Jeonbuk (35°55'45" N, 126°38'47" E), reservoir, surface water, 8°C **Isolator** Jo, MJ (2012-03-29) **Identifier** Hur, SB States non-axenic, liquid Culture JM, 20°C, 0 psu, 40 PPF, 1 M Size (µm) 112-281 (Ø) **Original No.** FC-211
- 2161 Sampling** 2013-10-11, Chungju/Chungbuk (36°58'13" N, 128°00'58" E), reservoir, surface water, 23°C **Isolator** Jo, MJ (2013-12-24) **Identifier** Hur, SB States non-axenic, liquid Culture JM, 20°C, 0 psu, 40 PPF, 1 M Size (µm) 142-359 (L) 7-11 (W) **Original No.** FC-258

XANTHIDIUM: Chlorophyceae**Xanthidium** sp.

1822 Sampling 2011-06-07, Seogwipo/Jeju (33°22'08" N, 126°41'36" E), swamp, surface water, 24°C **Isolator** Jo, MJ (2011-07-28) **Identifier** Hur, SB **States** non-axenic, liquid, cryopreserved **Culture** JM, 20°C, 0 psu, 40 PPF, 1 M **Size (µm)** 38-41 (L), 28-35 (W) **Original No.** FC-186

Unidentified Bacillariophyceae

1044 Sampling 2001-10-31, West Sea (36°46' N, 124°22' E), open sea, surface water, 18°C **Isolator** Lee, GA (2002-12-20) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 3-5 (L), 1-2 (W) **Original No.** B-638

1198 Sampling 2004-04-07, Ulrungdo/Gyeongbuk (37°29'35" N, 130°46'09" E), open sea, bottom water, 0°C, 34 psu **Isolator** Lee, GA (2004-12-11) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 4-6 (L), 3-5 (W) **Original No.** B-673 **Remarks** low °C sp.

2194 Source KIOST Sampling 2013-10-22, Kosrae, Micronesia (05°19'14" N, 162°55'28" E), coast, surface water, 30°C, 30 psu **Isolator** Jo, MJ (2014-02-17) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 5-7 (Ø) **Original No.** B-1183

Unidentified Chlamydomonadaceae

0203 Sampling 1996-08-16, Gimhae/Gyeongnam (35°12'38" N, 128°59'47" E), reservoir, surface water **Isolator** Hur, SB (1997-08-02) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 5-13 (Ø) **Original No.** FC-23

0370 Sampling 1999-09-09, Haeundae/Busan (35°07'56" N, 129°06'06" E), hatchery, surface water, 28°C **Isolator** Lee, GA (2000-02-27) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 3-8 (Ø) **Original No.** FC-34

0371 Sampling 1999-09-09, Haeundae/Busan (35°07'56" N, 129°06'06" E), hatchery, surface water, 28°C **Isolator** Lee, GA (2000-02-27) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 9-25 (Ø) **Original No.** FC-47

0372 Sampling 1999-09-09, Haeundae/Busan (35°07'56" N, 129°06'06" E), hatchery, surface water, 28°C **Isolator** Lee, GA (2000-02-27) **Identifier** Hur, SB **States**

axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 5-25 (Ø) **Original No.** FC-49

1051 Sampling 2001-12-01, Nakdong River/Busan (35°06'17" N, 128°53'42" E), surface water, 13°C **Isolator** Lee, GA (2003-01-04) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 5-8 (Ø) **Original No.** FC-77

1052 Sampling 2001-12-01, Nakdong River/Busan (35°06'17" N, 128°53'42" E), surface water, 13°C **Isolator** Lee, GA (2003-01-04) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 6-10 (Ø) **Original No.** FC-82

1166 Sampling 2003-05-01, Haeundae/Busan (35°09'55" N, 129°07'34" E), estuary, substratum, 19°C **Isolator** Lee, GA (2004-12-01) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** LDM-E, f/2-E, 23°C, 15 psu, 60 PPF, 4 M **Size (µm)** 1-4 (Ø) **Original No.** EC-34

1214 Sampling 2004-12-15, Upo/Gyeongnam (35°32'53" N, 128°24'25" E), swamp, surface water, 8°C **Isolator** Bae, JH (2005-03-10) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 4-14 (L), 4-12 (W) **Original No.** FC-97

1215 Sampling 2004-12-15, Upo/Gyeongnam (35°32'53" N, 128°24'25" E), swamp, surface water, 6°C **Isolator** Bae, JH (2005-03-10) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM-agar, JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 2-10 (Ø) **Original No.** FC-94

1219 Sampling 2004-12-15, Upo/Gyeongnam (35°32'53" N, 128°24'25" E), swamp, surface water, 8°C **Isolator** Bae, JH (2005-05-12) **Identifier** Hur, SB **States** axenic, agar, liquid, cryopreserved **Culture** JM, 23°C, 0 psu, 60 PPF, 4 M **Size (µm)** 10-15 (L), 5-10 (W) **Original No.** FC-99

2114 Source KIOST Sampling 2012-11-19, Chuuk, Micronesia (07°27'02" N, 151°53'20" E), coast, surface water, 30°C, 24 psu **Isolator** Jo, MJ (2013-04-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 60 PPF, 1 M **Size (µm)** 7-10 (Ø) **Original No.** C-288 **Remarks** high °C sp.

2144 Sampling 2013-05-07, Donghae/Gangwon (35°54'90" N, 129°43'04" E), open sea, surface water, 14°C, 31 psu **Isolator** Jo, MJ (2013-08-28) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 60 PPF, 1 M **Size (µm)** 10-14 (L), 8-11 (W)

Original No. C-290**Unidentified Chlorophyceae**

1970 Sampling 2012-07-25, Upo/Gyeongnam (35°32'53" N, 128°24'25" E), swamp, surface water, 30°C **Isolator** Jo, MJ (2012-10-23) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** JM, 20°C, 0 psu, 20 PPF, 1 M **Size (µm)** 3-4 (Ø) **Original No.** FC-267

Unidentified Cyanophyceae

2166 Source KIOST **Sampling** 2013-10-25, Kosrae, Micronesia (05°19'55" N, 163°01'15" E), coast, surface water, 30°C, 30 psu **Isolator** Jo, MJ (2013-12-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 8-12 (Ø) **Original No.** Cy-75 **Remarks** high °C sp.

Unidentified Euglenophyceae

1601 Sampling 2010-01-08, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 12°C, 33 psu **Isolator** Jo, MJ (2010-02-08) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 15-17 (L), 5-9 (W) **Original No.** Eu-20

Unidentified Prasinophyceae

1383 Sampling 2007-01-30, Namhae/Gyeongnam (34°42'47" N, 127°59'13" E), coast, surface water, 12°C **Isolator** Jeong, EH (2007-03-22) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 6-10 (L), 4-8 (W) **Original No.** P-93

1439 Sampling 2008-07-10, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water, 25°C, 25 psu, **Isolator** Jeong, EH (2008-10-13) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 5-7 (Ø) **Original No.** P-94

Unidentified Raphidophyceae

1846 Sampling 2011-07-08, Gadeokdo/Busan (35°04'05" N, 128°51'20" E), coast, surface water, 19°C, 32 psu **Isolator** Jo, MJ (2011-08-31) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 40 PPF, 1 M **Size (µm)** 1-2 (Ø) **Original No.** Ra-34

Unidentified Rhodophyceae

0417 Sampling 2000-02-07, Gijang/Busan (35°16'55" N, 129°15'30" E), coast, surface water, 11°C **Isolator**

Lee, GA (2000-04-30) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 5-28 (Ø) **Original No.** Rh-13

0518 Sampling 2001-03-01, Wando/Jeonnam (34°18'33" N, 126°51'18" E), hatchery, substratum **Isolator** Lee, GA (2001-08-01) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 4-13 (L), 4-10 (W) **Original No.** Rh-14

1084 Sampling 2004-05-15, East Sea (27°58' N 127°34' E), open sea, surface water **Isolator** Park, SJ (2004-11-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 11-45 (L), 5-12 (W) **Original No.** Rh-15

1085 Sampling 2004-12-04, Haeundae/Busan (35°09'06" N, 129°09'07" E), coast, surface water **Isolator** Park, SJ (2004-11-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 16-60 (L), 4-6 (W) **Original No.** Rh-16

1298 Sampling 1999-08-14, Buan/Jeonbuk (35°49'17" N, 126°38'29" E), coast, surface water, 27°C, 30 psu **Isolator** Lee, GA (2000-01-20) **Identifier** Hur, SB **States** axenic, agar, liquid **Culture** LDM, f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 3-5 (L), 1-2 (W) **Original No.** Rh-17

1311 Sampling 2006-05-27, Wando/Jeonnam (34°19'34" N, 126°45'09" E), mud, 17°C, 30 psu **Isolator** Jeong, EH (2006-07-10) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 5-8 (Ø) **Original No.** Rh-18

1312 Sampling 2006-03-16, Jinhae Bay/Gyeongnam (35°08'35" N, 128°40'58" E), coast, surface water, 8°C, 35 psu **Isolator** Jeong, EH (2006-07-10) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 20°C, 33 psu, 20 PPF, 1 M **Size (µm)** 10-28 (L), 1-2 (W) **Original No.** Rh-19

2108 Source KIOST **Sampling** 2012-11-19, Chuuk, Micronesia (07°38'55" N, 151°53'15" E), open sea, surface water, 30°C, 35 psu **Isolator** Jo, MJ (2013-04-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 5-7 (Ø) **Original No.** Rh-20 **Remarks** high °C sp.

2174 Source KIOST **Sampling** 2013-10-22, Kosrae, Micronesia (05°19'03" N, 162°56'42" E), coast, surface water, 30°C, 30 psu **Isolator** Jo, MJ (2013-12-24) **Identifier** Hur, SB **States** non-axenic, liquid **Culture** f/2, 18°C, 33 psu, 20 PPF, 1 M **Size (µm)** 7-9 (Ø) **Original No.** Rh-21 **Remarks** high °C sp.

LIST OF SYNONYMS

Synonym → Current name

- Achnantheidium minutissimum* (Kützing) Czarnecki → *Achnanthes minutissima* Kützing
- Amphidinium schröderi* Schiller → *Amphidinium lacustre* Stein
- Amphipleura micans* var. *fragilis* (Greville) Cleve → *Berkeleya fragilis* Greville
- Amphiprora sulcata* O' Meara → *Amphiprora gigantea* var. *sulcata* (O' Meara) Cleve
- Amphora affinis* var. *proteus* (Gregory) Tempère & Peragallo → *Amphora proteus* Gregory
- Ankistrodesmus contortus* Thuret → *Monoraphidium contortum* (Thuret) Komárková-Legnerová
- Asterionella glacialis* (Castracane) Round → *Asterionellopsis glacialis* (Castracane) Round
- Bacillaria obtusa* (W. Smith) Elmore → *Nitzschia obtusa* W. Smith
- Balticola capensis* (Pocock) Droop → *Haematococcus capensis* Pocock
- Cerataulina bergonii* (H. Peragallo) Schütt → *Cerataulina pelagica* (Cleve) Hendey
- Cerataulina pelagica* (Cleve) Hendey → *Cerataulina bergonii* (H. Peragallo) Schütt
- Ceratoneis closterium* Ehrenberg → *Cylindrotheca closterium* (Ehrenberg) Reimann et Levin
- Chaetoceros calcitrans* (Paulsen) Takano → *Chaetoceros simplex* var. *calcitrans* Paulsen
- Chaetoceros distans* Cleve → *Chaetoceros dictyota* Ehrenberg
- Chaetoceros tetrachaeta* Ehrenberg → *Chaetoceros atlanticus* Cleve
- Chattonella japonica* (S. Toriumi & H. Takano) Loeblich III & K. E. Fine → *Fibrocapsa japonica* S. Toriumi & H. Takano
- Chlamydomonas fusiformis* J. Schiller → *Hillea fusiformis* (Schiller) Schiller
- Chroococcus minor* var. *dispersus* Keissler → *Chroococcus dispersus* (Keissler) Lemmermann
- Closteriopsis acicularis* (Chodat) J. H. Belcher & Swale → *Ankistrodesmus falcatus* var. *tumidus* (West & West) G. S. West
- Cocconeis scutellum* Ehrenberg → *Cocconeis placentula* Ehrenberg
- Conferva aestuarii* Mertens → *Lyngbya aestuarii* Lieberman ex Gomont
- Conferva biddulphiana* J. E. Smith → *Biddulphia biddulphiana* (J. E. Smith) Boyer
- Corethron criophilum* f. *inermis* (Karsten) G. R. Hasle → *Corethron inermis* Karsten
- Corethron pennatum* (Grunow) Ostefeld → *Corethron criophilum* Castracane
- Corethron pennatum* (Grunow) Ostefeld → *Corethron pelagicum* Brun
- Coscinodiscus asteromphalus* var. *conspicua* Grunow ex Van Heurck → *Coscinodiscus asteromphalus* Ehrenberg
- Coscinodiscus neocrenulatus* S. L. VanLandingham → *Azpeitia neocrenulata* (VanLandingham) G. Fryxell & T. P. Watkins
- Coscinodiscus striatus* Kützing → *Cyclotella striata* (Kützing) Grunow
- Coscinodiscus trioculatus* F. J. R. Taylor → *Minidiscus trioculatus* (F. J. R. Taylor) Hasle
- Cosmarium contractum* f. *jacobsenii* (J. Ray) West & G. S. West → *Cosmarium contractum* Kirchner
- Cosmarium striatum* Boldt → *Cosmarium humile* var. *striatum* (Boldt) Schmidle
- Crucigenia quadrata* (Morren) Gaillon → *Crucigenia quadrata* Morren
- Cryptochrysis fulva* Butcher → *Rhinomonas fulva* (Butcher) Hill & Wetherbee
- Cryptoglena erosa* (Ehrenberg) T. G. Popova → *Cryptomonas erosa* Ehrenberg
- Cryptomonas lima* Ehrenberg → *Prorocentrum lima* (Ehrenberg)
- Cryptomonas marina* Büttner → *Chroomonas marina* (Büttner) Butcher
- Cryptomonas salina* Wislouch → *Rhodomonas salina* (Wislouch) Hill & Wetherbee
- Cylindrotheca closterium* (Ehrenberg) Reimann & J. C. Lewin → *Nitzschia closterium* (Ehrenberg) W. Smith
- Cymbella pediculus* Kützing → *Amphora pediculus* (Kützing) Grunow ex A. Schmidt
- Denticula kuetzingii* Grunow → *Nitzschia denticula* Grunow
- Denticula staurophora* Gregory → *Plagiogramma staurophorum* (Gregory) Heiberg
- Desmidium swartzii* var. *quadrangulatum* (Ralfs) J. Roy → *Desmidium swartzii* C. Agardh ex Ralfs
- Diacronema lutheri* (Droop) Bendif & Véron → *Pavlova lutheri* (Droop) J. C. Green
- Diacronema viridis* (C. K. Tseng, Chen & Zhang) Bendif & Véron → *Pavlova viridis* C. K. Tseng, J. Chen & X. Zhang
- Diatoma aurita* Lyngbye → *Odontella aurita* (Lyngbye) C. Agardh
- Diatoma marina* Lyngbye → *Grammatophora marina*

- (Lyngbye) Kützing
Docidium nodosum Bailey ex Ralfs → *Pleurotaenium nodosum* (Bailry) Lundell
Dunaliella salina (Dunal) Teodoresco → *Dunaliella bardawil* Ben-Amotz & Avron
Entomoneis alata (Ehrenberg) Reiner → *Amphiprora alata* (Ehrenberg) Kützing
Entomoneis paludosa (W. Smith) Reiner → *Amphiprora paludosa* W. Smith
Entomosigma akashiwo Y. Hada → *Heterosigma akashiwo* (Hada) Hada
Eucampia striata Stolterfoth → *Guinardia striata* (Stolterfoth) Hasle
Eudorina elegans Chodat → *Eudorina unicocca* G. M. Smith
Eunotia amphioxys Ehrenberg → *Hantzschia amphioxys* (Ehrenberg) Grunow
Euodia cuneiformis (Wallich) Schütt → *Hemidiscus cuneiformis* Wallich
Exilaria flabellata Greville → *Licmophora flabellata* (Greville) Agardh
Frustulia ovalis Kützing → *Amphora ovalis* (Kützing) Kützing
Frustulia vermicularis Kützing → *Nitzschia vermicularis* (Kützing) Grunow
Geitlerinema splendidum (Greville ex Gomont) Anagnostidis → *Oscillatoria splendida* Greville
Glenodinium triquetrum Ehrenberg → *Heterocapsa triquetra* (Ehrenberg) Stein
Golenkinia radiata var. *paucispina* (West & G. S. West) Playfair → *Golenkinia paucispina* West & G. S. West
Gonium glaucum Ehrenberg → *Merismopedia glauca* (Ehrenberg) Kützing
Gonyaulax catenella Whedon & Kofoid → *Alexandrium catenella* (Whedon et Kofoid) Balech
Gonyaulax schuettii Lemmermann → *Gonyaulax polygramma* Stein
Gonyaulax tamarensis Lebour → *Alexandrium tamarense* (Lebour) Balech
Guinardia blavyana H. Peragallo → *Dactyliosolen blavyanus* (H. Peragallo) Hasle
Guinardia delicatula (Cleve) Hasle → *Rhizosolenia delicatula* Cleve
Gymnodinium aureolum (E. M. Hulburt) Gert Hansen → *G. aureolum* E. M. Hulburt
Gymnodinium bicorne Kofoid & Swezy → *Dissodinium bicorne* (Kofoid & Swezy)
Gymnodinium impudicum (S. Fraga & I. Bravo) Gert Hansen & Ø. Moestrup → *Gyrodinium impudicum* S. Fraga & I. Bravo
Gymnodinium sanguineum K. Hirasaka → *Akashiwo sanguinea* (K. Hirasaka) Hansen & Moestrup
Gymnodinium sanguineum K. Hirasaka → *Gymnodinium nelsonii* Martin
Gyrosigma delicatulum (W. Smith) Griffith & Henfrey → *Pleurosigma delicatulum* W. Smith
Gyrosigma elongatum (W. Smith) Griffith & Henfrey → *Pleurosigma elongatum* W. Smith
Haematococcus pluvialis Flotow → *Haematococcus lacustris* (Girodot) Rostafinski
Halamphora coffeaeformis (C. Agardh) Levkov → *Amphora coffeaeformis* (C. Agardh) Kützing
Halamphora granulata (Gregory) Levkov → *Amphora granulata* Gregory
Haplotaenium rectum (Delponte) Bando → *Pleurotaenium trabecula* var. *rectum* (Delponte) West & G. S. West
Hemiaulus delicatulus Lemmermann → *Hemiaulus hauckii* Grunow ex Van Heurck
Heterocapsa rotundata (Lohmann) G. Hansen → *Katodinium rotundatum* (Lohmann) Loeblich III
Jaaginema angustissimum (West & G. S. West) Anagnostidis & Komárek → *Oscillatoria angustissima* West & G. S. West
Karayevia laterostrata (Hustedt) Round & Bukhtiyarova → *Achnanthes laterostata* Hustedt
Karenia brevis (C. C. Davis) Gert Hansen & Ø. Moestrup → *Gymnodinium breve* C. C. Davis
Karenia mikimotoi (Miyake & Kominami ex Oda) Gert Hansen & Ø. Moestrup → *Gymnodinium mikimotoi* Miyake & Kominami ex Oda
Keratococcus raphidioides (Hansgirg) Pascher → *Dactylococopsis raphidioides* Hansgirg
Kirchneriella irregularis (G. M. Smith) Korshikov → *Kirchneriella lunaris* var. *irregularis* G. M. Smith
Klebsormidium subtile (Kützing) Tracanna ex Tell → *Hor-midium subtile* (Kützing) Heering
Lauderia annulata Cleve → *Lauderia borealis* Gran
Lauderia pumila Castracane → *Detonula pumila* (Castracane) Schütt
Lyngbya lucida (Kützing ex Gomont) Hansgirg → *Phormidium lucidum* Kützing ex Gomont
Micractinium radiatum (Chodat) Wille → *Golenkinia radiata* Chodat
Micraloa aeruginosa Kützing → *Microcystis aeruginosa* (Kützing) Kützing
Micrasterias falcatus Corda → *Ankistrodesmus falcatus* (Corda) Ralfs
Microcystis smithii Komárek & Anagnostidis → *Aphanocapsa pulchra* (Kützing) Rabenhorst

- Moelleria cornuta* Cleve → *Eucampia cornuta* (Cleve) Grunow
- Monodopsis subterranea* (J. B. Petersen) → *Monodus subterraneus* J. B. Petersen
- Monomorphina pyrum* (Ehrenberg) Mereschkowsky → *Phacus pyrum* (Ehrenberg) Stein
- Mucidosphaerium pulchellum* (H. C. Wood) C. Bock, Proschold & Krienitz → *Dictyosphaerium pulchellum* Wood
- Navicula crassa* Gregory → *Caloneis crassa* (Gregory) Ross
- Navicula cryptocephala* var. *perminuta* (Grunow) Cleve → *Navicula perminuta* Grunow
- Navicula littoralis* Donkin → *Diploneis littoralis* (Donkin) Cleve
- Navicula membranacea* Cleve → *Meuniera membranacea* (Cleve) P. C. Silva
- Navicula retusa* var. *cancellata* (Donkin) R. Ross → *Navicula cancellata* Donkin
- Navicula salinicola* Hustedt → *Navicula incerta* Grunow
- Navicula trompii* Cleve → *Haslea trompii* (Cleve) Simonsen
- Navicula wawrikan* Hustedt → *Haslea wawrikan* (Hustedt) Simonsen
- Neocalyptrella robusta* (G. Norman ex Ralfs) Hernández-Becerril & Meave del Castillo → *Rhizosolenia robusta* Norman
- Nephroselmis gilva* M. Parke & D. G. Rayns → *Mamiella gilva* (Parke & Rayns) Moestrup
- Nitzschia closterium* f. *minutissima* Allen & Nelson → *Phaeodactylum tricornerum* Bohlin
- Nitzschia frustulum* var. *hantzschiana* (Rabenhorst) Grunow → *Nitzschia hantzschiana* Rabenhorst
- Nitzschia frustulum* var. *inconspicua* (Grunow) Grunow → *Nitzschia inconspicua* Grunow
- Nitzschia palea* var. *fonticola* Grunow → *Nitzschia fonticola* (Grunow) Grunow
- Nitzschia paxillifer* (O. F. Müller) Heiberg → *Bacillaria paxillifer* (O. F. Müller) T. Marsson
- Nitzschia pungens* Grunow ex Cleve → *Pseudo-nitzschia pungens* (Grunow ex Cleve) G. R. Hasle
- Nitzschia sigma* var. *fasciculata* Grunow → *Nitzschia fasciculata* Grunow
- Nitzschia subtilis* var. *intermedia* (Hantzsch) Schonfeldt → *Nitzschia intermedia* Hantzsch ex Cleve & Grunow
- Odontella longicruris* (Greville) M. A. Hoban → *Biddulphia longicruris* Greville
- Odontella obtusa* Kützing → *Biddulphia obtusa* (Kützing) Ralfs
- Oocystella lacustris* (Chodat) Hindák → *Oocystis lacustris* Chodat
- Oocystella parva* (West & G. S. West) Hindák → *Oocystis parva* West & G. S. West
- Ostreopsis monotis* (Meunier) Lindemann → *Coolia monotis* Meunier
- Ostreopsis* sp. → *Coolia* sp.
- Palmella grevillei* Berkeley → *Aphanocapsa grevillei* (Hassall) Rabenhorst
- Palmella rivularis* Carmichael → *Aphanocapsa rivularis* (Carmichael) Rabenhorst
- Palmerina hardmaniana* (Greville) G. R. Hasle → *Palmeria hardmaniana* Greville
- Pandorina elegans* (Ehrenberg) Dujardin → *Eudorina elegans* Ehrenberg
- Paralia sulcata* (Ehrenberg) Cleve → *Melosira sulcata* (Ehrenberg) Kützing
- Pediastrum napoleonis* Ralfs → *Pediastrum duplex* Meyen
- Peridiniopsis polonica* (Woloszynska) Bourrelly → *Glenodinium gymnodinium* Penard
- Peridinium spiniferum* Claparède & Lachmann → *Gonyaulax spinifera* (Claparède & Lachmann) Diesing
- Phormidium aerugineocaeruleum* (Gomont) Anagnostidis & Komárek → *Lyngbya aerugineocaerulea* Gomont
- Phormidium nigrum* (Vaucher ex Gomont) Anagnostidis & Komárek → *Oscillatoria nigra* Vaucher
- Phytoconis purpurea* Bory de Saint-Vincent → *Porphyridium purpureum* (Bory de Saint-Vincent) K. M. Drew & R. Ross
- Pinnularia distans* W. Smith → *Navicula distans* (W. Smith) Ralfs
- Pinnularia elegans* (W. Smith) K. Krammer → *Navicula elegans* W. Smith
- Pinnularia schroederi* (Hustedt) B. J. Chohnoky → *Caloneis schroederi* Hustedt
- Pinnularia viridis* (Nitzsch) Ehrenberg → *Navicula viridis* (Nitzsch) Kützing
- Planktolingbya contorta* (Lemmermann) Anagnostidis & Komárek → *Lyngbya contorta* Lemmermann
- Planorhynchium hauckianum* (Grunow) Round & Bukhtiyarova → *Achnanthes hauckiana* Grunow
- Podosira stelligera* (Bailey) A. Mann → *Hyalodiscus stelliger* Bailey
- Podosphenia gracilis* Ehrenberg → *Licmophora gracilis* (Ehrenberg) Grunow
- Polykrikos schwartzii* Bütschli → *Polykrikos schwartzii* Bütschli
- Porosira glacialis* (Grunow) Jörgensen → *Lauderia glacialis* (Grunow) Gran

- Porphyridium griseum* Geitler → *Dixoniella grisea* (Geitler) J. L. Scott, S.T. Broadwater, B. D. Saunders, J. P. Thomas & P.W. Gabrielson
- Porphyridium purpureum* (Bory de Saint-Vincent) K. M. Drew & R. Ross → *Porphyridium cruentum* (S. F. Gray) Nägeli
- Proboscia indica* (H. Peragallo) Hernández-Becerril → *Rhizosolenia indica* (Peragallo) Ostefeld
- Prorocentrum cordatum* (Ostefeld) J. D. Dodge → *Prorocentrum minimum* (Pavillard) Schiller
- Prorocentrum lima* (Ehrenberg) F. Stein → *Exuviaella marina* Cienkowski
- Prorocentrum redfieldii* Bursa → *Prorocentrum triestinum* Schiller
- Prorocentrum schilleri* Böhrn → *Prorocentrum micans* Ehrenberg
- Protococcus minutus* Kützing → *Chroococcus minutus* (Kützing) Nägeli
- Protococcus salinus* Dunal → *Dunaliella salina* (Dunal) Teodoresco
- Protococcus turgidus* Kützing → *Chroococcus turgidus* (Kützing) Nägeli
- Protodinium simplex* Lohmann → *Gymnodinium simplex* (Lohmann) Kofoid & Swezy
- Prymnesium parvum* f. *patelliferum* (J. C. Green, D. J. Hibberd & R. N. Pienaar) A. Larsen → *Prymnesium patelliferum* Green, Hibberd & Pienaar
- Pseudoholopedia convoluta* (Brébisson) Elenkin → *Merismopedia convoluta* Brébisson
- Pseudo-nitzschia pungens* (Grunow ex Cleve) G. R. Hasle → *Nitzschia pungens* Grunow
- Pseudo-nitzschia seriata* (Cleve) H. Peragallo → *Nitzschia seriata* Cleve
- Pseudo-nitzschia subpacifica* (Hasle) Hasle → *Nitzschia subpacifica* Hasle
- Pseudopediastrum boryanum* (Turpin) E. Hegewald → *Pediastrum boryanum* (Turpin) Meneghini
- Pseudopedinella thomsenii* Sekiguchi, Kawachi, Nakayama & Inouye → *Pseudopedinella tricostata* (M. I. Roukhiyajnen) H. A. Thomsen
- Pyramimonas plurioculata* Butcher → *Pyramimonas orientalis* McFadden, Hill & Wetherbee
- Pyrocystis lunula* (J. Schütt) J. Schütt → *Dissodinium lunula* (Schütt) Schütt
- Pyrophacus horologicum* var. *steinii* Schiller → *Pyrophacus steinii* (Schiller) Wall & Dale
- Rhaphidium chodatii* Tanner-Füllemann → *Quadrigula chodatii* (Tanner-Füllemann) G. M. Smith
- Rhaphidium minutum* Nägeli → *Monoraphidium minutum* (Nägeli) Komárková-Legnerová
- Rhizosolenia alata* Brightwell → *Proboscia alata* (Brightwell) Sundstrom
- Rhizosolenia flaccida* Castracane → *Guinardia flaccida* (Castracane) Peragallo
- Rhizosolenia imbricata* Brightwell → *Rhizosolenia imbricata* var. *shrubsolei* (Cleve) Schröder
- Rhizosolenia imbricata* Brightwell → *Rhizosolenia shrubsolei* Cleve
- Rhizosolenia japonica* Castracane → *Rhizosolenia setigera* Brightwell
- Rhizosolenia setigera* f. *pungens* (Cleve-Euler) Brunel → *Rhizosolenia pungens* Cleve-Euler
- Rhizosolenia shrubsolei* Cleve → *Rhizosolenia imbricata* Brightwell
- Rivularia elegans* Roth → *Chaetophora elegans* (Roth) C. Agardh
- Selenastrum gracile* Reinsch → *Ankistrodesmus gracilis* (Reinsch) Korshikov
- Selenastrum obesum* W. West → *Kirchneriella obesa* (West) West & G. S. West
- Spatangidium heptactis* Brébisson → *Asteromphalus heptactis* (Brébisson) Ralfs in Pritchard
- Sphaerello cystis ampla* (Kützing) Nováková → *Gloeocystis ampla* (Kützing) Lagerheim
- Stauridium tetras* (Ehrenberg) E. Hegewald → *Pediastrum tetras* (Ehrenberg) Ralfs
- Staurosira construens* Ehrenberg → *Fragilaria construens* (Ehrenberg) Grunow
- Staurosirella pinnata* (Ehrenberg) D. M. Williams & Round → *Fragilaria pinnata* Ehrenberg
- Synedra dissipata* Kützing → *Nitzschia dissipata* (Kützing) Grunow
- Synedra palea* Kützing → *Nitzschia pales* (Kützing) W. Smith
- Synedra sigma* Kützing → *Nitzschia sigma* (Kützing) W. Smith
- Syracosphaera carterae* Braarud & Fargerland → *Pleurochrysis carterae* (Braarud & Fargerland) T. Christensen
- Tetraselmis hazeni* Butcher → *Platymonas subcordiformis* (Wille) Hazen
- Thalassiosira punctigera* (Castracane) Hasle → *Coscinodiscus angstii* Gran
- Triceratium brightwellii* T. West → *Ditylum brightwellii* (T. West) Grunow
- Trichophorus princeps* (Vaucher) Desvaux → *Oscillatoria princeps* Vaucher
- Trichormus azollae* (Strasburger) Komárek & Anagnostidis → *Anabaena azollae* Strasburger
- Tripodiscus kittonii* (Arnott ex Ralfs in Pritchard) Kuntze

→ *Aulacodiscus kittoni* Arnott ex Ralfs

Tryblionella apiculata Gregory → *Nitzschia apiculata*
(Gregory) Grunow

Volvox morum O. F. Müller → *Pandorina morum* (Müller) Bory

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