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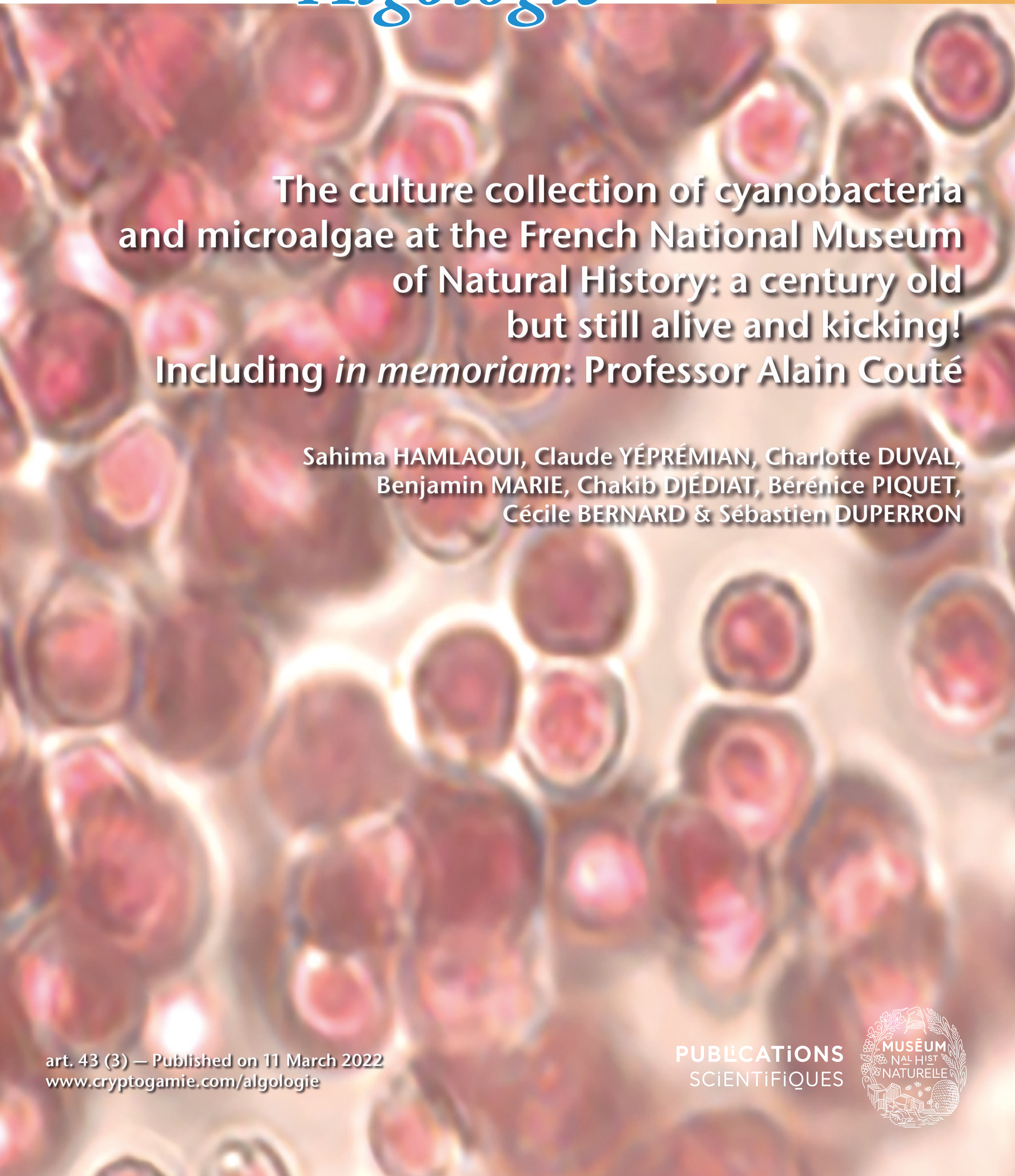

The culture collection of cyanobacteria and microalgae at the French National Museum of Natural History: a century old but still alive and kicking! Including *in memoriam*: Professor Alain Couté

Sahima HAMLAOUI, Claude YÉPRÉMIAN, Charlotte DUVAL, Benjamin MARIE, Chakib DJÉDIAT, Bérénice PIQUET, Cécile BERNARD & Sébastien DUPERRON

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ABSTRACT
Cyanobacteria and eukaryotic microalgae are key players in life on Earth. They have adapted to a broad diversity of ecosystems, and ensure roughly half of the primary production. Their detailed study greatly benefits from isolated strains, deposited and maintained *ex situ* in culture collections, and made available to the scientific community along with expert knowledge. Established in the late 1920s, the culture collection of cyanobacteria and microalgae at the French National Museum of Natural History (MNHN) now comprises over 1350 non-axenic live strains isolated mostly from freshwater ecosystems in France. As a research-oriented collection, it contributes to biodiversity, taxonomy, genomics, and bioactive compounds research. Notably, the collection contains multiple strains of various genera of bloom-forming cyanobacteria that are of ecological concern, some of which produce cyanotoxins. Novel strategies for strain identification, conservation and accessibility are being implemented to provide an up-to-date resource to the community. Through research, expertise for ecotoxicology, partnerships with the industry or with artists, the MNHN collection appears at both a repository of biodiversity as well as resource for life sciences.

KEY WORDS
Ecotoxicology,
bloom-forming,
cyanobacteria,
biodiversity,
non-axenic strains.

RÉSUMÉ
La collection de cyanobactéries et microalgues eucaryotes du Muséum national d'Histoire naturelle : âgée de près d'un siècle mais bien vivante ! Comportant in memoriam *: Professeur Alain Couté.*
Les cyanobactéries et microalgues eucaryotes sont des acteurs clés de la vie sur Terre. Elles se sont adaptées à une large diversité d'écosystèmes et assurent près de la moitié de la production primaire. Leur étude bénéficie grandement de l'isolement de souches et leur conservation *ex situ* dans des collections spécialisées accessibles à la communauté scientifique. Établie à la fin des années 1920,

la collection de cyanobactéries et microalgues eucaryotes du Muséum national d'Histoire naturelle (MNHN) abrite plus de 1350 souches non-axéniques provenant principalement d'écosystèmes d'eau douce en France. Tournée vers la recherche, elle contribue à des travaux autour de la biodiversité, de la taxonomie, de la génomique et de l'identification de substances bioactives. La collection abrite en particulier de nombreuses souches de cyanobactéries responsables d'efflorescences, certaines produisant des toxines. La mise en place de stratégies modernes pour l'identification et la conservation des souches en fait une ressource efficace pour la communauté scientifique. À travers sa participation à la recherche, à l'expertise en écotoxicologie et à des partenariats avec l'industrie ou même avec des artistes, la collection du MNHN est un conservatoire de biodiversité autant qu'une ressource pour les sciences de la vie.

MOTS CLÉS
Écotoxicologie, efflorescence, cyanobactéries, biodiversité, souches non-axéniques.

INTRODUCTION

The rise of oxygenic photoautotrophy was a game-changer on planet Earth. Massive production of oxygen as a by-product of photosynthesis by cyanobacteria triggered the Great Oxidation Event around 2.4 billion years ago, which ultimately resulted in the oxygenation of oceans and the atmosphere (Canfield 2005; Demoulin *et al.* 2019). Later, around 1 billion years ago, primary endosymbiosis of a member of the cyanobacteria within a eukaryotic cell allowed eukaryotes to directly benefit from photoautotrophy for the first time (Ponce-Toledo *et al.* 2017). This new group named Archaeplastida diversified, and ultimately led to the emergence of land plants that currently dominate the continental biomass (Leliaert *et al.* 2012). Despite that primary endosymbiosis is thought to have occurred only once (although some authors suggest a second event may have occurred in *Paulinella amoeboids*, (Keeling & Archibald 2008)), photoautotrophic eukaryotes have repeatedly and independently been themselves integrated as endosymbionts by other eukaryotes, leading to an additional diversity of unrelated lineages that do not belong to the Archaeplastida clade (Adl *et al.* 2019). Traditionally, the various lineages of microbial photosynthetic eukaryotes are gathered under the name "microalgae", a term that thus holds no taxonomic value.

Today, cyanobacteria and microalgae ensure roughly half of the primary production on Earth, the rest being performed by land plants (Borowitzka *et al.* 2016; Hamilton *et al.* 2016), and have adapted to nearly all ecological niches reached by light, even in the most extreme environments including hyper acidic and soda lakes, thermal ponds, and Antarctic dry valleys (Whitton & Potts 2002). Their influence on ecosystems is not restricted to primary production. Some species have important roles in biomineralization (e.g. coccolithophorids), while others produce toxic compounds during bloom events that may threaten other life forms (e.g. toxin-producing cyanobacteria and dinoflagellate). For all these reasons, intense research focuses on cyanobacteria and microalgae. This research requires taxa to be made available in public collections for detailed study and reference. Numerous repositories exist around the world with different contents, objectives and enrichment strategies (e.g. Friedl & Lorenz 2012; Ramos *et al.* 2018).

In this manuscript, we introduce the culture collection of cyanobacteria and microalgae at the French National Museum of Natural History in Paris. There, a collection of live freshwater microalgae strains, or "algotheca", was established as early as 1928 under the impetus of Pierre Allorge (1891-1944, professor of Cryptogamy), and of Marcel Lefèvre (1897-1975) who started cultivating microalgae (Fig. 1). M. Lefèvre studied phytoplankton taxonomy using various cytology techniques, as well as the plasticity of morphological characteristics, and the effect of fertilization on phytoplankton growth in ponds, and he developed culture media still in use to this day (ACOI 2021, http://acoi.ci.uc.pt/index.php). A pioneer phycologist, his studies included investigation of phytoplankton blooms, antagonism between strains, and chemistry (Lefèvre 1960). Since 1935, the collection is maintained in the botany building in the Jardin des Plantes in Paris (Fig. 2) (Anonymous 1935). It contained 100 species in 1936, of which many strains were subsequently lost during World War II. Pierre Bourrelly (1910-1995) who took over as a curator in 1945, published the first catalogue in 1948, listing 122 strains belonging to 90 species (of which only 6 belong to the actual cyanobacteria) (Bourrelly 1948). He completed the collection which, in 1953, included 230 species in clonal culture ("Cyanophycées", Vovocales, Chlorococcales, "Conjuguées", "Eugléniens"…) (Anonymous 1954; Bourrelly 1954). In 1997, the structure of the collection was modified to separate cyanobacteria from eukaryotic microalgae, of which isolation, cultivation and maintenance may require distinct taxonomic and technical expertise.

The last decade has witnessed a steep increase in the number of strains available in collection through different research projects and collaborative work, making the cyanobacteria and microalgae collection at the MNHN the largest freshwater phytoplanktonic strains collection available in France. Collection also contains benthic and terrestrial strains. It complements collections available from other French institutions such as INRAE Thonon-les-Bains (Rimet *et al.* 2018) for freshwater microalgae, University of Nantes (Gaudin *et al.* 2012) for microphytobenthos (mostly consisting of benthic strains), University of Caen-Normandie (https://algobank.unicaen.fr/accueil/) for aquatic microalgae, the Pasteur Institute in Paris for axenic cyanobacterial strains (https://www.pasteur.fr/fr/sante-publique/crbip/les-collections/collection-cyanobacteries-pcc) and

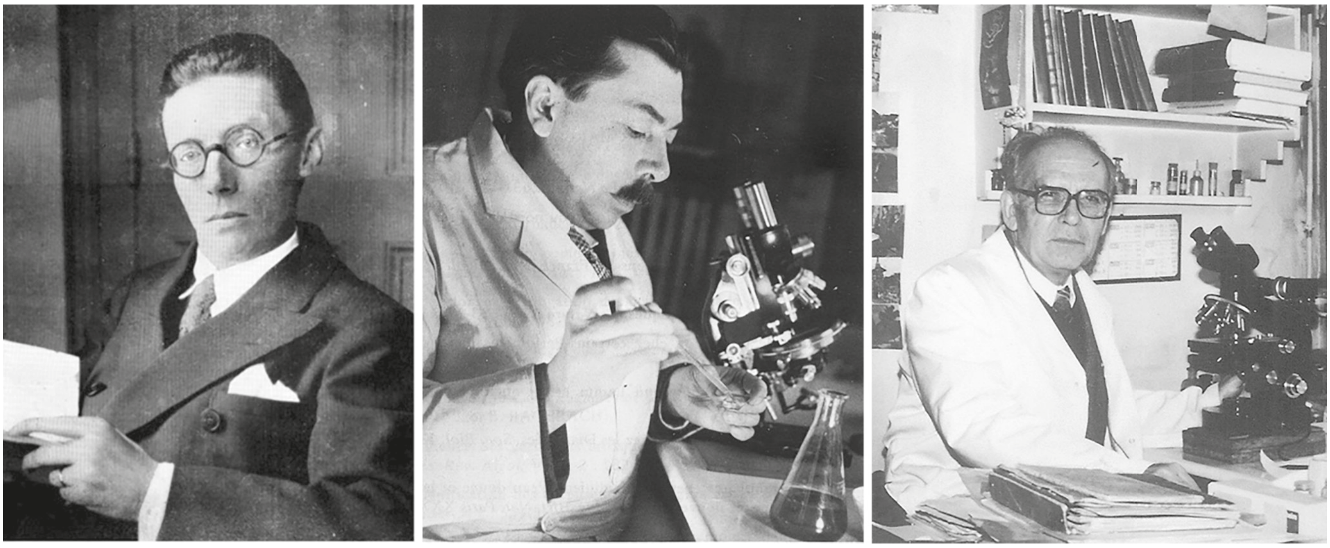

Fig. 1. — From left to right: Pierre Allorge (1891-1944), Marcel Lefèvre (1897-1975) & Pierre Bourrelly (1910-1995).

Fig. 2. — The “algothèque” in the Cryptogamy laboratory of the French National Museum of Natural History in Paris in 1935 and in 2021.

the Roscoff Marine Station (https://roscoff-culture-collection.org/) for marine strains. This paper presents the contents of the collection, the methodologies used to isolate, characterize and maintain the strains, the strategies shaping the development of the collection, and reviews the current uses of strains in a variety of applied and fundamental research projects.

MATERIAL AND METHODS

Strains isolation procedures and strains registration in the collection

Strains have been isolated from very diverse ecosystems. The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization applies and provides a legal framework for the utilization of biological resources (convention on Biological Diversity, https://www.cbd.int/abs/). Sampling permits thus have to be obtained prior to field work.

Samples are typically collected manually or using a 20 µm membrane filter. Appropriate isolation protocol is applied depending on preliminary observation. Phototactic isolation is for example used for mobile microorganisms; sample is deposited, at one end of a petri dish, on semi-solid medium (5 g.L^{-1} agar). The petri dish is covered with aluminum foil so that only one area is exposed to light. After 24 hours, filaments are isolated one by one under inverted microscope (Nikon ECLIPSE TS100, Japan) with a tapered Pasteur pipette and deposited in a liquid media. For non-motile microorganisms, samples are inoculated on solid medium (10 g·L^{-1} agar) containing medium; single cells of filaments are then isolated by repeated transfers on solid or liquid media under an inverted microscope. Isolation success depends on the physiological status of organisms and appropriate sample conservation. The choice of culture medium is also important, especially for microorganisms isolated from extreme environments, and several culture media are usually employed to increase the isolation success rates (Andersen 2005). Over 14 recipes are used, all hypereutrophic for N and P compared to freshwater lakes (Nürnberg 2001). Recipes of the main media used are summarized in Appendix 3. Various media are used for both microalgae and cyanobacteria (e.g. medium BG11 aimed at Cyanobacteria is also used to grow eukaryotes such as *Chlorella* or *Scenedesmus*).

Isolated strains and cultures are monoclonal but non-axenic. They thus comprise one isolate, cyanobacterium or microalgae of interest, with all the cohort of eukaryotes, prokaryotes and viruses that live in physical contact with it, i.e., its associated phycosphere (Louati *et al.* 2015).

Cyanobacterial strains identifiers are standardized with the acronym MNHN (Muséum national d'Histoire naturelle) followed by the acronym PMC (Paris Muséum Collection), then the year collected and finally, the unique identifier of strains within the collection (e.g. MNHN-PMC-2012-821, Appendix 1). Eukaryotic strains identifiers are standardized with the acronym MNHN, followed by the acronym ALCP (Algothèque du laboratoire de Cryptogamie Paris), then the isolation year (coded 0000 if unknown) and a sequential number as identifier (e.g. MNHN-ALCP-2019-877.1 for *Synura petersenii*). Each strain is also registered in the global MNHN collection catalogue under a unique accession number by the host institution. The databases available on the MNHN website are managed with JACIM software, an application allowing to access data stored in relational databases (input, search, modification, import, export) and to format these data (PDF, HTML, printing…).

Strain characterization and taxonomic framework

The classification scheme for cyanobacteria follows that recommended by Komárek (Komárek *et al.* 2014), and eukaryotic microalgae classification is based on Adl *et al.* 2019 (Ruggiero *et al.* 2015; Adl *et al.* 2019; Guiry & Guiry 2019). For cyanobacteria, first identification is based on morphological features (light and, eventually, electron microscopy) on cultures in their exponential growth phase, including cell width and length, cell filament morphology and motility presence, shape, presence of heterocytes or akinetes, sheath… Identification is further ascertained using comparative 16S rRNA gene sequence analysis following recommended standards of polyphasic approach for taxonomical classification (Komárek *et al.* 2014). DNA is extracted using standard kits (e.g. ZymoBIOMICS DNA mini kit, Zymo Research, CA) after mechanical cell disruption. The 16S rRNA-encoding gene is amplified with PCR primers and programs described previously (Gugger & Hoffmann 2004). For the tree presented in Figure 3, sequences were assembled using CodonCode and were aligned using MAFFT online service (Katoh *et al.* 2019). Phylogenetic analyses using maximum likelihood (ML), neighbor-joining (NJ), and maximum parsimony (MP) were conducted using MEGA 7.0 (Kumar *et al.* 2016). Identification of eukaryotic strains is currently based on morphology-based criteria only, using light and electron microscopy.

In the case of uncertain taxonomic affiliation (e.g. new genus or species), strains are imaged by scanning and transmission electron microscopy (SEM and TEM) (Parveen *et al.* 2013). Cells or filaments harvested from a growing culture are fixed with 2 % glutaraldehyde, 2 % formaldehyde, 0.18 M sucrose, and 0.1 % picric acid in 0.1 M Sorensen phosphate buffer (pH 7.4) for 1 hour. The specimens are then post-fixed with 1 % osmium tetroxide for 1 hour, rinsed, and finally dehydrated in ethanol series (up to 100 %). For SEM, samples are pipetted onto glass coverslips on SEM stubs and air dried. They are coated with platinum (Leica EM ACE600 coater, Germany) and examined using a scanning electron microscope. For TEM, samples are embedded in epon resin, sectioned at 0.5 µm, and transferred onto 150-mesh copper grids. Grids are stained with 2 % uranyl acetate in 50 % ethanol for 15 min washed, dried and then examined under a transmission electron microscope.

Culture conditions, maintenance and conservation modes

Eukaryotic strains and temperate cyanobacterial strains are maintained in a culture room under controlled light and temperature (5 ± 2 µmol photons.m^{-2}.s^{-1}, 10h light/14h dark, 19 ± 0.5°C, HR 45 ± 5 %) to increase transfer intervals. A second culture room is available for liter-scale biomass production (24°C, 16h light/8h dark). Both chambers are equipped with white LED-powered lights, the presence of dimmers allows a fine irradiance tuning between 3-105 µmol.m^{-2}.s^{-1} (PAR),

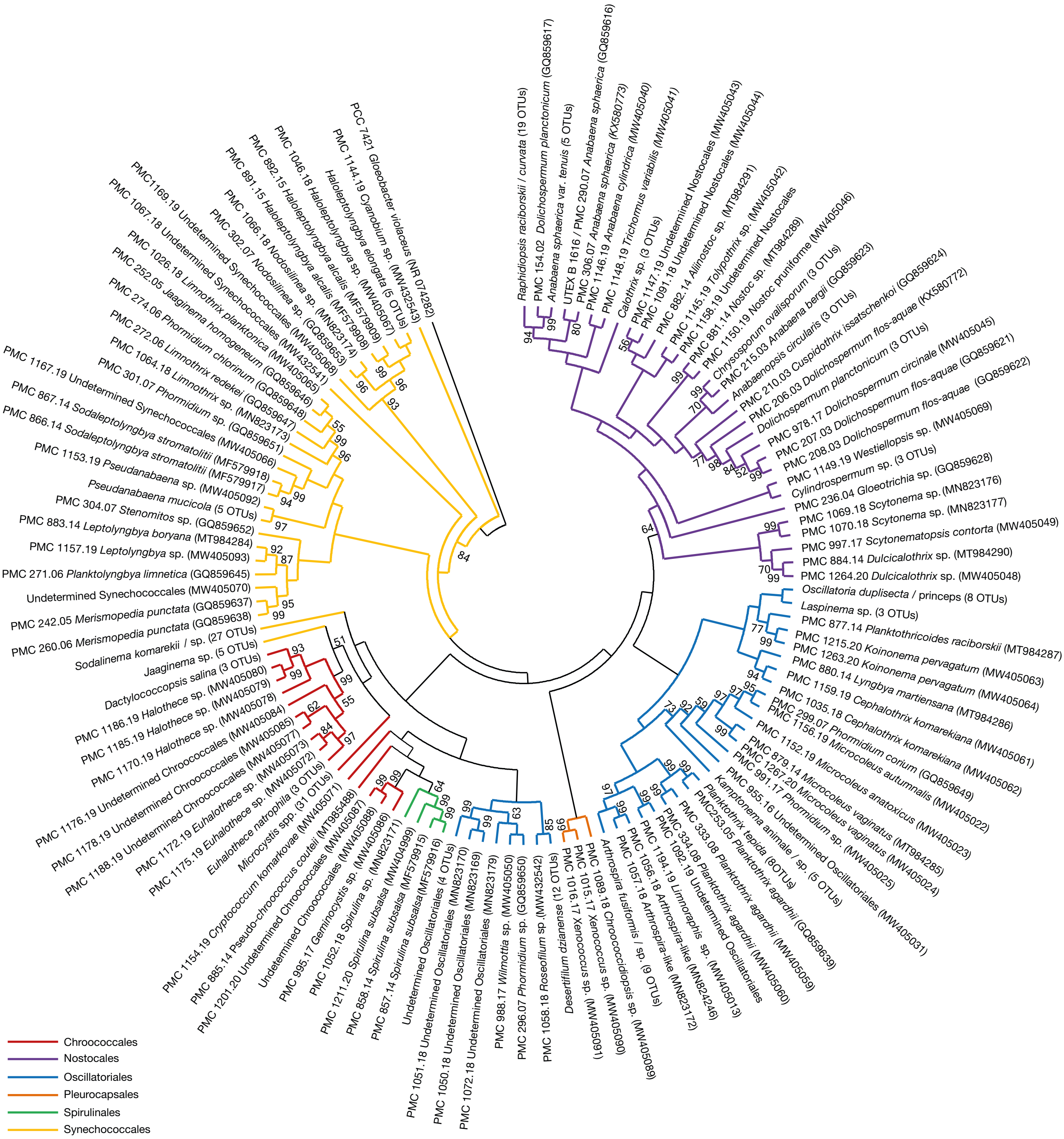

Fig. 3. — Phylogeny of the 265 cyanobacterial strains for which a 16S rRNA sequence was obtained (see Appendix 1 for Genbank accession numbers and PMC identifiers). Phylogenetic reconstruction was based on Maximum likelihood with a GTR+G+I Model (5 categories and invariants) based on 1284 nucleotide positions, values at nodes were based on 100 bootstrap replicates. The number of strains (OTUs) is added when more than a single strain is available.

and a light spectrum equivalent to fluorescent tubes (Fig. 4). The biomass-production room is also equipped with LED-powered lights allowing high quality monochromatic radiation (red, green and blue) with bandwiths of about 20 nm, as well as a mix of adjustable primary RGB colors for physiology studies. Tropical cyanobacterial strains are maintained in growth chamber (Binder™, Germany) using cool-daylight fluorescent tubes (12 µmol photons.m^{-2}.s^{-1}, 16h light/8h dark, 25°C). Ten thermostatically controlled cabinets are available for experiments (e.g. testing different combinations of light intensity and temperature).

Cyanobacterial strains are replicated every two (tropical strains maintained at 25°C) and four months (temperate strains at 19°C). They are preserved in triplicate in flasks

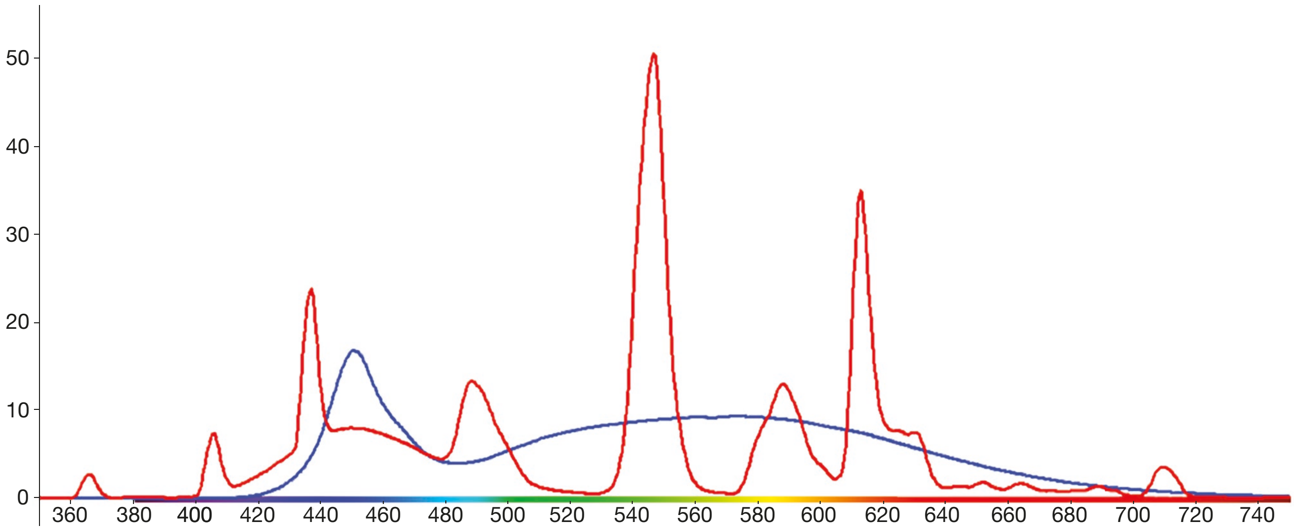

Fig. 4. — Emission spectra produced by Cool Daylight FLUO MAZDA (**red**) and White LEDs SLV (**blue**), both at a 85 µmol.m-2.s-1 (PAR) irradiance.

with filter caps (Nunc®) containing 10 mL culture media. A duplicate is kept in the culture room or phytotron. The third flask is conserved at room temperature and natural light. Eukaryotic microalgae strains are preserved in duplicate in Erlenmeyer flasks with silicone sponge plug (Silicosen®, Germany). Cultures, maintained at 20°C, are replicated once a year; while newly isolated strains are replicated every two months. Cultures of the previous year are kept as back up.

Culture transfers present a significant risk of contamination and strain loss. Alternative and complimentary conservation modes are thus being implemented, including cryopreservation of 200 of the cyanobacterial strains (in particular within genus *Planktothrix*) (Gaget *et al.* 2017). In parallel, DNA extracts from 867 cyanobacterial and 140 eukaryotic (86 % and 40 % of all strains of the respective groups) are stored frozen at -24°C, which preserves the original genotype of isolated strains. Since 2015, for each new cyanobacterial strain deposited in collection, a DNA extract is stored. Given the many generations that have occurred in live cultures over the years, genotypes may not have remained fully stable and may have somehow derived from those of the initially-isolated strain through genetic drift and eventually culture conditions-based selection (e.g. Lakeman *et al.* 2009; Gaget *et al.* 2017). In the long run, genetic drift and in-culture evolution can result in physiological differences with wild strains. A study of *Raphidiopsis raciborskii* maintained 23 years in culture for example revealed significant changes in genome content, cell morphotypes, nitrogen fixation and toxin production (Willis *et al.* 2020). This can be problematic, but is certainly also a great opportunity for experimental evolutionary research (Lakeman *et al.* 2009). Tests are currently being done to also implement long-term conservation at room temperature by encapsulation of cyanobacteria akinetes and microalgae cysts.

RESULTS AND DISCUSSION

Contents, taxonomic and geographical coverage

As of December 2021, the collection overall comprises 1355 live strains, split between 1010 cyanobacteria and 345 microalgae. Cyanobacterial strains are split between 7 orders, 65 genera and 130 species (Fig. 5; Table 1). Oscillatoriales represent 484 strains of which 220 and 53 belong to the genera *Planktothrix* and *Phormidium*, respectively. Nostocales are the second most represented order (242 strains), including genera *Raphidiopsis* (fka *Cylindrospermopsis*) and *Aphanizomenon* (92 and 45 strains, respectively). Of the 133 Chroococcales strains, 105 belong to the sole genus *Microcystis*. Notably, the collection harbors a strain of the Gloeomargaritales genus *Gloeomargarita*, reported to be sister-group to the chloroplasts and thus of major interest to evolutionary biologists (Couradeau *et al.* 2012; Ponce-Toledo *et al.* 2017). Only 22 cyanobacterial strains (2 %) are not firmly identified. All strains were characterized using morphological features (Fig. 6) while at this stage, 16S rRNA sequences are available for 265 strains (Fig. 3; Appendix 1). Most strains of cyanobacteria were isolated from metropolitan France (58 % of strains, see detail in Fig. 7), from Europe outside France (3 %), and Africa (27 %). Regarding habitats, 77 % of strains were isolated from freshwater, 14 % from marine habitats, and 9 % from hypersaline habitats.

All of the 345 eukaryotic live strains are identified at the genus or species level based on morphological features, belonging to 7 distinct phyla (Fig. 5; Table 1). They represent a diversity of distinct groups, requiring expert taxonomist skills (Figs 8; 9). Interestingly, the most ancient strain that has been continuously in collection is *Cosmarium impressulum* isolated in 1930 by M. Lefèvre, and several strains are present for decades, for example *Onychonema filiforme* isolated by P. Bourrelly in 1947 (Fig. 10). Phylum Chlorophyta represents 68 % of the ALCP strains distributed between Chlorophyceae (72 % as

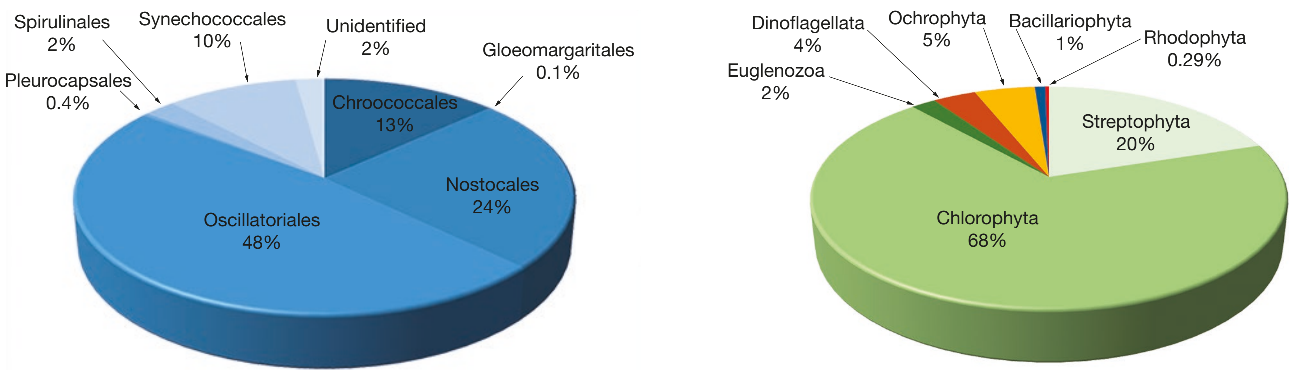

Fig. 5. — Relative abundances of the different orders among the 1010 live strains represented in the cyanobacteria collection (**left**) and of the different phyla among the 345 live strains represented in the eukaryotic microalgae collection (**right**).

Pediastrum, *Haematococcus*, *Scenedesmus*, *Chlamydomonas*, *Coelastrum*…), Trebouxiophyceae (21.2% as *Chlorella*, *Stichococcus*, *Oocystis*…), Picocystophyceae (2.1% as *Picocystis*) and Ulvophyceae (4.6% as *Ostreobium*, *Phaeophila*, and *Trentepohlia*). Streptophyta (20%) is the second phylum of eukaryotes with 69 strains represented by Zygnematophyceae (89.8%) and Klebsormidiophyceae (10.1%). Phyla Ochrophyta (5%), Euglenozoa (2%), Dinoflagellata (4%) and Bacillariophyta (1%) are less represented while the red algae phylum Rhodophyta is represented by a single strain of *Porphyridium*. Among eukaryotic microalgae strains, 98.4% were isolated from metropolitan France, 0.7% from French overseas districts and territories, 0.4% from Africa, 0.3% from Europe and 0.1% from Australia. Most strains were isolated from aquatic, freshwater (95%) and marine (1.1%) environments. Hypersaline environment (0.8%) are represented by 5 strains of *Picocystis* isolated from the hypersaline lake Dziani in Mayotte and one strain of *Dunaliella* from Hutt Lagoon in Western Australia. Strains of terrestrial origin (3.1%) were isolated from walls and include Trebouxiophyceae (5 genera) and the Klebsormidiophyceae *Klebsormidium* (Barberousse *et al.* 2006, 2007).

Between 2015 and 2019, the collection was enriched by 48 to 166 new strains a year (97 ± 53); of which between 36 and 132 were cyanobacterial strains (69 ± 38); and between 1 and 93 were microalgae strains (27 ± 38).

A primarily research-driven collection

Since its origin, the MNHN collection of cyanobacteria and microalgae has been dedicated to research. The inclusion of new strains is most often associated with specific research projects, which explains the actual structure of the collection. Many of the cyanobacterial strains were for example isolated within the framework of various lake ecotoxicology projects addressing the diversity of cyanotoxin-producing taxa involved in bloom events (e.g. Gugger *et al.* 2005; Yéprémian *et al.* 2007; Catherine *et al.* 2008; Ledreux *et al.* 2010; Escalas *et al.* 2019). This explains the high number of strains of toxin-producing genera *Planktothrix* (220), *Raphidiopsis* (fka *Cylindrospermopsis*) (92) or *Microcystis* (105 strains). For this reason, this collection may be among the most strain-rich for some of these genera. The important research and expertise activities associated with the Greater Paris area translates into the high number of strains isolated from the districts of Paris and its immediate surroundings (Essonne, Yvelines, Seine-et-Marne, Val d'Oise, Seine Saint Denis, Hauts-de-Seine; Fig. 7B).

Within the framework of recent research projects, increasing effort is devoted to explore the diversity of under-sampled habitats including mangroves and hypersaline lakes. Mangroves from French overseas in Guadeloupe and Mayotte for example yielded 27 and 45 strains, respectively, of mostly benthic cyanobacteria which are little known compared to pelagic species (Alvarenga *et al.* 2015; Duperron *et al.* 2020). Exploration of the hypersaline and alkaline lake Dziani Dzaha in Mayotte provided 104 strains, including the cyanobacterium *Arthrospira fusiformis* and the picoeukaryote *Picocystis salinarum* (Chlorophyta) that co-dominate in this peculiar ecosystem (Bernard *et al.* 2019). Effort were also specifically invested in African countries where toxic blooms represent major threats to human activities (Olokotum *et al.* 2020).

The prospecting of underexplored environments made it possible to propose new reference frames of the current diversity and to safeguard the resources. It led to the description of new species of cyanobacteria (Cellamare *et al.* 2018; Duval *et al.* 2020). The isolation of strains from these little studied regions also informs classification schemes. For example, the molecular analysis of new strains isolated from freshwater bodies in sub-Saharan West Africa (Senegal and Burkina Faso) allowed to better inform phylogenetic reconstructions and to reexamine the delineation of orders and genera of cyanobacteria and their evolutionary relationships (Thomazeau *et al.* 2010; Duval *et al.* 2018).

Accessibility and uses

The collection of cyanobacteria and microalgae (https://www.mnhn.fr/en/microalgae-and-cyanobacteria) is a public culture collection accessible to research scientists worldwide. It is a member of the World Data Centre for Microorganisms (#792). Sample or strain requests have to be submitted through the COLHELPER portal (http://colhelper.mnhn.fr/requests?segments=) on which users must create an account.

Table 1. — List of genera present in the collection. Habitats: **f**, freshwater; **m**, marine; **h**, hypersaline; **t**, terrestrial. Geographical origin: **ATA**, Antarctica; **AUS**, Australia; **BFA**, Burkina Faso; **BRA**, Brazil; **CIV**, Côte d'Ivoire; **DEU**, Germany; **ESP**, Spain; **FIN**, Finland; **FRA**, France; **GBR**, United Kingdom of Great Britain and Northern Ireland; **GLP**, Guadeloupe; **HUN**, Hungary; **IDN**, Indonesia; **ISR**, Israel; **ITA**, Italy; **LAO**, Lao People's Democratic Republic; **MEX**, Mexico; **MLI**, Mali; **MYT**, Mayotte; **NC**, New Caledonia; **nd**, not determined; **NLD**, Netherlands; **ROU**, Romania; **SEN**, Senegal; **THA**, Thailand; **TUN**, Tunisia; **TUR**, Turkey; **TZA**, Tanzania; **UGA**, Uganda; **USA**, United States of America.

Phylum	Subphylum	Class	Order	Genus	Number of strains	Origin	Ecology
CYANOBACTERIA	–	Cyanophyceae	Chroococcales	*Cryptococcum*	1	nd	f
–	–	–	–	*Dactylococcopsis*	3	ESP, FRA	h
–	–	–	–	*Euhalothece*	10	FRA, ESP	h, m
–	–	–	–	*Geminocystis*	1	nd	f
–	–	–	–	*Halothece*	1	FRA	h
–	–	–	–	*Microcystis*	105	BFA, FRA, GBR, NLD, UGA, SEN	f
–	–	–	–	*Pseudochroococcus*	1	FRA	f
–	–	–	–	unidentified	11	FRA, GLP	f, h, m
–	–	–	Gloeomargaritales	*Gloeomargarita*	1	MEX	f
–	–	–	Nostocales	*Aliinostoc*	1	FRA	f
–	–	–	–	*Anabaena*	17	AUS, BFA, GBR, IRL, MYT, SEN	f
–	–	–	–	*Anabaenopsis*	3	SEN	f
–	–	–	–	*Aphanizomenon*	45	FRA	f
–	–	–	–	*Brasilonema*	1	MYT	f
–	–	–	–	*Calothrix*	11	BFA, FRA, MYT, SEN	f
–	–	–	–	*Chrysosporum*	4	ISR, MYT	f
–	–	–	–	*Cuspidothrix*	1	SEN	f
–	–	–	–	*Cylindrospermum*	5	MYT, SEN	f
–	–	–	–	*Dolichospermum*	26	AUS, FRA, SEN, USA	f
–	–	–	–	*Dulcicalothrix*	4	FRA	f
–	–	–	–	*Gloeotrichia*	3	SEN	f
–	–	–	–	*Hapalosiphon*	2	MYT	f
–	–	–	–	*Nostoc*	4	FRA	f
–	–	–	–	*Raphidiopsis*	92	AUS, BRA, CIV, DEU, FRA, HUN, MEX, MYT, SEN, THA, TUN	f
–	–	–	–	*Scytonema*	5	GLP, NCL, nd	f, m
–	–	–	–	*Scytonematopsis*	2	NCL	f
–	–	–	–	*Sphaerospermopsis*	4	AUS, FRA	f
–	–	–	–	*Tolypothrix*	2	USA, nd	f
–	–	–	–	*Trichormus*	2	NLD, nd	f
–	–	–	–	*Westiellopsis*	1	nd	f
–	–	–	–	*Wollea*	4	MYT	m
–	–	–	–	unidentified	3	ROU, nd	f
–	–	–	Oscillatoriales	*Arthrospira*	91	FRA, MYT, TUR, TZA	h, m
–	–	–	–	*Cephalothrix*	3	FRA	f
–	–	–	–	*Coleofasciculus*	1	MYT	m
–	–	–	–	*Desertifilum*	12	MYT	h, m
–	–	–	–	*Geitlerinema*	8	FRA	f
–	–	–	–	*Kamptonema*	8	FRA	f
–	–	–	–	*Koinonema*	2	FRA	f
–	–	–	–	*Laspinema*	3	FRA	f
–	–	–	–	*Limnoraphis*	3	FRA	f
–	–	–	–	*Lyngbya*	14	FRA, GLP, MLI	f
–	–	–	–	*Microcoleus*	6	FRA	f
–	–	–	–	*Oscillatoria*	17	FRA, GBR	f
–	–	–	–	*Phormidium*	53	ATA, BFA, FRA, IDN	f
–	–	–	–	*Planktothricoides*	1	FRA	f
–	–	–	–	*Planktothrix*	220	BFA, CIV, FIN, FRA, MYT, TUN	f
–	–	–	–	*Roseofilum*	1	GLP	m
–	–	–	–	*Symploca*	1	MYT	m
–	–	–	–	*Wilmottia*	5	FRA	f
–	–	–	–	unidentified	35	FRA, GLP, MYT, ROU	f, h, m
–	–	–	Pleurocapsales	*Chroococcidiopsis*	1	RUS	f
–	–	–	–	*Dermocarpa*	1	USA	m

Table 1. — Continuation.

Phylum	Subphylum	Class	Order	Genus	Number of strains	Origin	Ecology
–	–	–	–	*Xenococcus*	2	MYT	h
–	–	–	Spirulinales	*Spirulina*	24	FRA, GLP, MYT	f, h, m
–	–	–	Synechococcales	*Aphanocapsa*	1	nd	m
–	–	–	–	*Cyanobium*	1	FRA	f
–	–	–	–	*Haloleptolyngbya*	13	MYT, TZA	h
–	–	–	–	*Jaaginema*	7	BFA, GLP, MYT	f, m
–	–	–	–	*Leptolyngbya*	9	FRA, GLP, UGA	f
–	–	–	–	*Limnothrix*	8	BFA, CIV, FRA, GLP	f, m
–	–	–	–	*Merismopedia*	5	BFA, MYT, SEN	f
–	–	–	–	*Nodosilinea*	3	FRA, GLP	f, m
–	–	–	–	*Planktolyngbya*	4	BFA, TUN	f
–	–	–	–	*Pseudanabaena*	7	BFA, FRA, ITA, SEN	f, h
–	–	–	–	*Sodaleptolyngbya*	2	MYT	h
–	–	–	–	*Sodalinema*	29	ESP, FRA, MYT	m, h
–	–	–	–	*Stenomitos*	1	FRA	f
–	–	–	–	*Synechococcus*	1	FRA	f
–	–	–	–	unidentified	9	FRA, GLP, MYT	f, m
–	–	–	unidentified	unidentified	22	FRA, IRL, MYT	f, m
EUGLENOZOA	Euglenozoa	Euglenophyceae	Euglenales	*Euglena*	4	FRA, NCL	f
–	–	–	–	*Phacus*	3	FRA	f
BACILLARIOPHYTA	Bacillariophytina	Bacillariophyceae	Fragilariales	*Centronella*	3	FRA	f
ALVEOLATA	Dinoflagellata	Dinophyceae	Gymnodiniales	*Gymnodinium*	3	FRA	f
–	–	–	Peridiniales	*Peridinium*	9	FRA	f
OCHROPHYTA	–	Eustigmatophyceae	Eustigmatales	*Chlorobotrys*	1	FRA	f
–	–	Synurophyceae	Synurales	*Synura*	11	FRA	f
–	–	Xanthophyceae	Botrydiales	*Botrydium*	1	FRA	f
–	–	–	Mischococcales	*Characiopsis*	1	FRA	f
–	–	–	–	*Nephrodiella*	1	FRA	f
–	–	–	–	*Ophiocytium*	1	FRA	f
–	–	–	Tribonematales	*Tribonema*	1	FRA	f
RHODOPHYTA	–	Porphyridiophyceae	Porphyridiales	*Porphyridium*	1	FRA	m
CHLOROPHYTA	–	Chlorophyceae	Chaetophorales	*Chaetophora*	1	FRA	f
–	–	–	–	*Stigeoclonium*	2	FRA	f
–	–	–	Oedogoniales	*Oedogonium*	1	FRA	f
–	–	–	Chlamydomonadales	*Chlamydomonas*	21	FRA	f
–	–	–	–	*Chlorococcum*	2	GBR	f
–	–	–	–	*Chlorogonium*	1	DEU	f
–	–	–	–	*Dunaliella*	2	AUS, nd	h
–	–	–	–	*Gonium*	4	FRA	f
–	–	–	–	*Haematococcus*	29	FRA	f
–	–	–	–	*Pandorina*	3	FRA	f
–	–	–	–	*Sphaerocystis*	1	FRA	f
–	–	–	Sphaeropleales	*Actidesmium*	1	FRA	f
–	–	–	–	*Ankistrodesmus*	5	FRA	f
–	–	–	–	*Botryosphaera*	2	FRA	f
–	–	–	–	*Bracteacoccus*	2	FRA	t
–	–	–	–	*Coelastrella*	6	FRA	t
–	–	–	–	*Coelastrum*	14	FRA, CIV	f
–	–	–	–	*Desmodesmus*	1	FRA	f
–	–	–	–	*Dimorphococcus*	1	FRA	f
–	–	–	–	*Enallax*	1	FRA	f
–	–	–	–	*Kirchneriella*	5	FRA	f
–	–	–	–	*Monoraphidium*	3	FRA	f
–	–	–	–	*Pediastrum*	31	FRA	f
–	–	–	–	*Scenedesmus*	26	FRA, UGA	f
–	–	–	–	*Selenastrum*	1	FRA	f
–	–	–	–	*Tetradesmus*	2	FRA	f
–	–	–	–	*Tetrallantos*	1	FRA	f
–	–	–	–	*Westella*	1	FRA	f
–	–	Picocystophyceae	Picocystales	*Picocystis*	5	MYT	h

Table 1. — Continuation.

Phylum	Subphylum	Class	Order	Genus	Number of strains	Origin	Ecology
–	–	Trebouxiophyceae	Chlorellales	*Chlorella*	16	FRA	f, t
–	–	–	–	*Dictyosphaerium*	1	CIV	f
–	–	–	–	*Muriella*	1	FRA	f
–	–	–	–	*Oocystis*	4	FRA	f
–	–	–	Microthamniales	*Microthamnion*	2	FRA	f
–	–	–	Prasiolales	*Deuterostichococcus*	1	FRA	t
–	–	–	–	*Diplosphaera*	3	FRA	f
–	–	–	–	*Hormidium*	1	FRA	f
–	–	–	–	*Protostichococcus*	2	FRA	t
–	–	–	–	*Stichococcus*	5	FRA	f, t
–	–	–	Trebouxiophyceae incertae sedis	*Choricystis*	4	FRA	f, t
–	–	–	–	*Coccomyxa*	3	FRA	f, t
–	–	–	–	*Crucigenia*	1	FRA	f
–	–	–	–	*Leptosira*	1	FRA	f
–	–	–	Trebouxiales	*Botryococcus*	4	FRA	f
–	–	–	Watanabeales	*Chloroidium*	1	FRA	t
–	–	Ulvophyceae	Trentepohliales	*Trentepohlia*	1	FRA	f
–	–	–	Bryopsidales	*Ostreobium*	8	FRA	m
–	–	–	Ulvales	*Phaeophila*	1	FRA	m
–	–	–	Ulotrichales	*Chlorhormidium*	1	FRA	f
STREPTOPHYTA	–	Zygnematophyceae	Desmidiales	*Closterium*	14	FRA	f
–	–	–	–	*Cosmarium*	12	FRA	f
–	–	–	–	*Micrasterias*	6	FRA	f
–	–	–	–	*Onychonema*	1	FRA	f
–	–	–	–	*Pleurotaenium*	3	FRA	f
–	–	–	–	*Staurastrum*	11	FRA	f
–	–	–	–	*Staurodesmus*	5	FRA	f
–	–	–	–	*Xanthidium*	1	FRA	f
–	–	–	Zygnematales	*Spirogyra*	5	FRA	f
–	–	–	–	*Zygnema*	4	FRA	f
–	–	Klebsormidiophyceae	Klebsormidiales	*Klebsormidium*	7	FRA	f, t

For each request, a Material Transfert Agreement (MTA) is established which defines the conditions for use of the material (financial, confidentiality, how to cite strains in publications…). The recipient agrees not to use the strains outside the conditions established in the MTA and to not redistribute the strains. A minimum delay of 2 weeks is expected for expedition of cultures preserved in liquid medium, and of 1 month for cryopreserved strains. A 10 mL culture is sent to the recipient. A database of all MNHN collections can be reached from this page (https://science.mnhn.fr/institution/mnhn/search?lang=en_US).

Besides research projects hosted at the MNHN (see below), between 2015 and 2019, between 125 and 366 strains (246 ± 92) were transferred annually to external academic and non-academic end-users to be used in various activities including teaching, expertise and various projects in basic research.

Genomic studies

Given the ecotoxicological significance of certain genera of cyanobacteria present in the collection, increasing effort is put into genome sequencing of strains. The first genome sequence has been published for *Microcystis aeruginosa* strain (MNHN-PMC-2011-728), a toxin-producing strain isolated form a freshwater reservoir near Valence, France (Halary *et al.* 2020). This genomic dataset revealed the strain's high potential for production of various bioactive secondary metabolites, including cyanotoxins, and it is now used in various ecotoxicological experiments. It was for example used to test the effect of cyanobacterial extracts on the gut microbiome associated with the teleost *Oryzias latipes*, a model fish in freshwater ecotoxicology (Duperron *et al.* 2019). Genomes of other strains of particular ecological or taxonomic relevance are currently being sequenced. These include new benthic cyanobacteria from thermal muds of Balaruc-les-Bains (South of France) and mangroves of Guadeloupe, and picoeukaryotes from the Dziani lake (Bernard *et al.* 2019; Duperron *et al.* 2020; Demay *et al.* 2020).

The PMC/ALCP strains are not axenic, which means that a strain is usually isolated and co-cultured with a cohort of associated microorganisms. This complex symbiotic (in the broad sense of organisms living together, Duperron 2017) microbial community is now referred to as the phycosphere. It may play an important role in the survival and metabolism of cyanobacteria and is becoming an object of study (Seymour *et al.* 2017; Fu *et al.* 2020). Current sequencing projects reveal the diversity and metagenomes of microorganisms from the phycosphere and contributes to our understanding of the way organisms live in their environment, opening a window on their ecology and the functioning of the ecosystems in which they live (Louati *et al.* 2015).

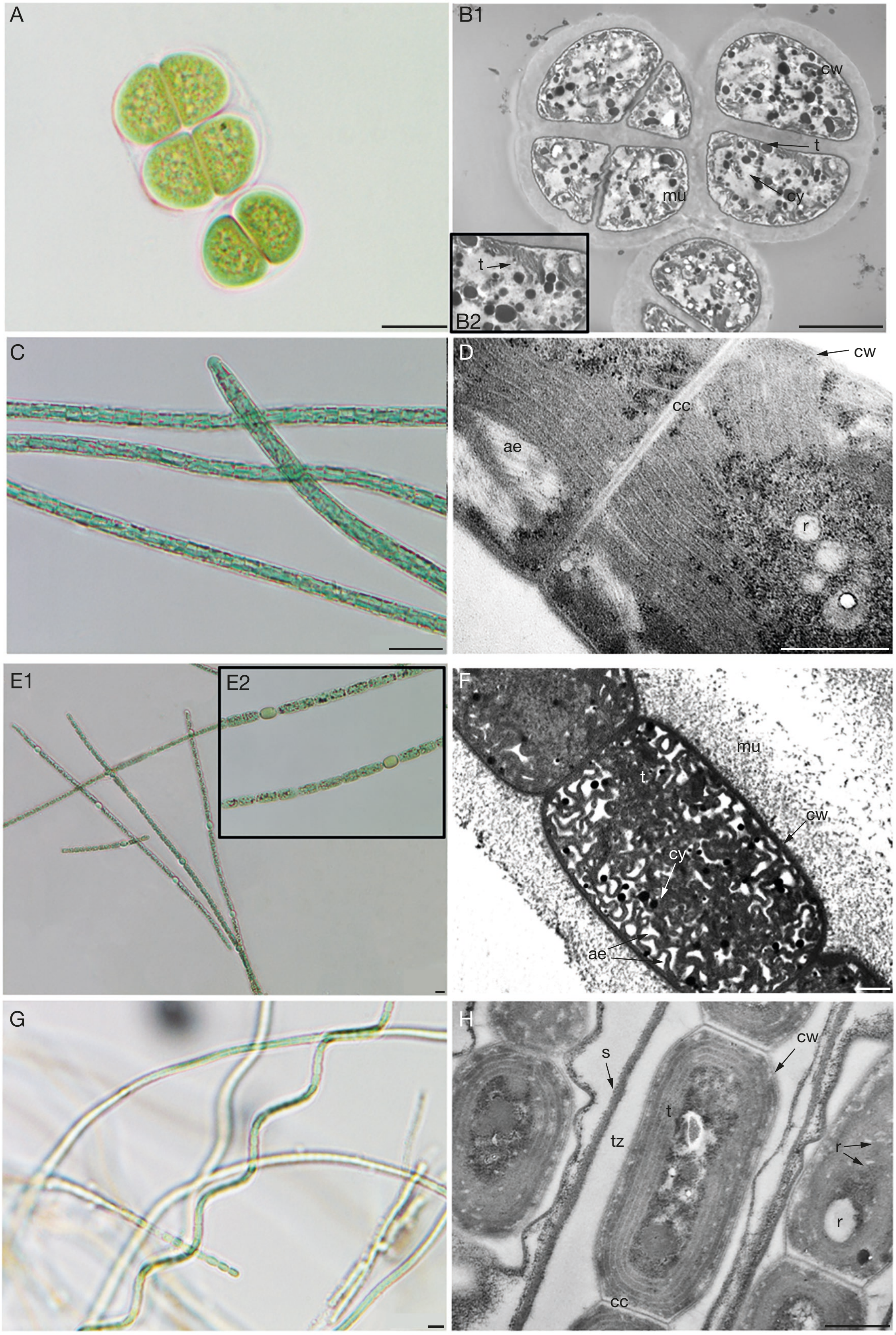

Fig. 6. — Morphological diversity of cyanobacterial strains: **A**, **B**, *Pseudochroococcus couteii* (MNHN-PMC-2014-885); **C**, **D**, *Planktothrix agardhii* (MNHN-PMC-2002-75); **E**, **F**, *Aphanizomenon gracile* (MNHN-PMC-2010-627); **G**, **H**, *Haloleptolyngbya elongata* (MNHN-PMC-2015-895). Abbreviations: **ae**, aerotope; **cc**, cross-walls; **cy**, cyanophycin granules; **cw**, cell wall; **mu**, mucilage; **r**, reserves; **s**, sheath; **tz**, transparent zone; **t**, thylakoids. A, C, E, G: light microscopy; B, D, F, H: TEM micrographs. Scale bars: A, C, E, G, 10 µm; B, D, F, H, 500 nm.

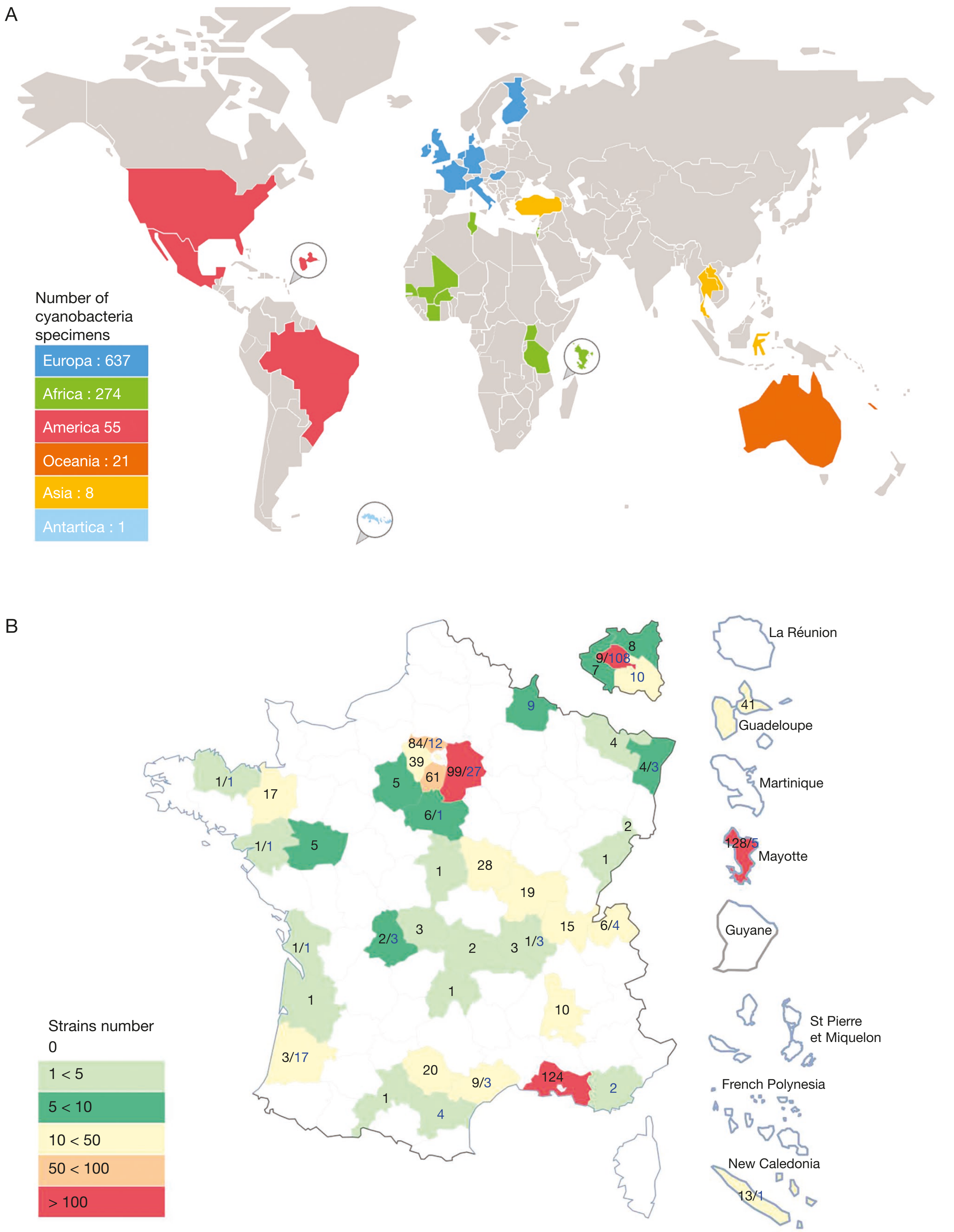

FIG. 7. — **A**, geographical distribution of cyanobacterial strains isolated around the world; **B**, strains isolated in the different administrative districts of France (metropolitan and overseas). Number of cyanobacterial strains in **black**, number of eukaryotic strains in **blue**. Strains isolated in France represent 58.0 % and 98.4 % of cyanobacterial and eukaryotic strains, respectively, in the collection.

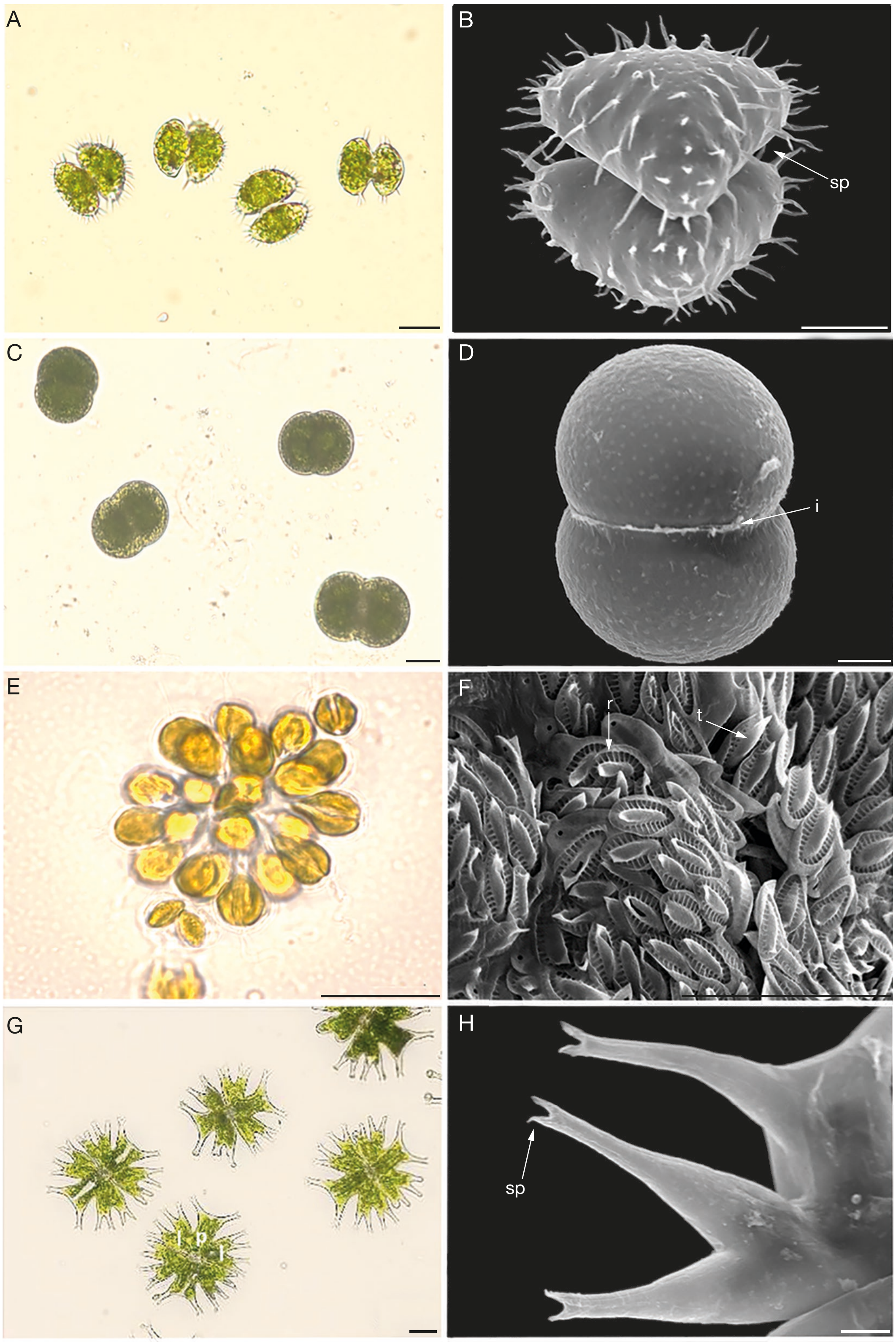

Fig. 8. — **A**, **B**, *Staurastrum polytrichum* (MNHN-ALCP-2019-823.2), solitary cells with very deep median constriction (isthmus) dividing the cell into two semi-cells or hemisomates. SEM images show triangular semicells in apical view with straight sides, broadly rounded angles and many inframarginal spines (**sp**). Cell surface ornemented with pores. **C**, **D**, *Cosmarium connatum* (MNHN-ALCP-2019-832.1), solitary cells, lateral view with a barely marked isthmus (**i**) and smooth cell wall with pores. **E**, **F**, *Synura petersenii* (MNHN-ALCP-2019-877.3), colony and scales morphology. SEM images show rows of silica scales around individual cells. Scales with well-developed thorns (**t**). Ribs (**r**) running from the thorn to the scale perimeter up to the outer rim. **G**, **H**, *Micrasterias furcata* (MNHN-ALCP-2019-821.5), solitary cells, deeply constricted and dorsiventrally compressed. Semicells dissected into a polar lobe (**p**) divided into the second order. Lateral lobes (**l**) themselves divides into second and third order (or many times) ending with two simple spines (**s**). A, C, E, G: light microscopy; B, D, F, H: SEM micrographs. Scale bars: A, C, E, G, 20 µm; B, D, F, H, 10 µm.

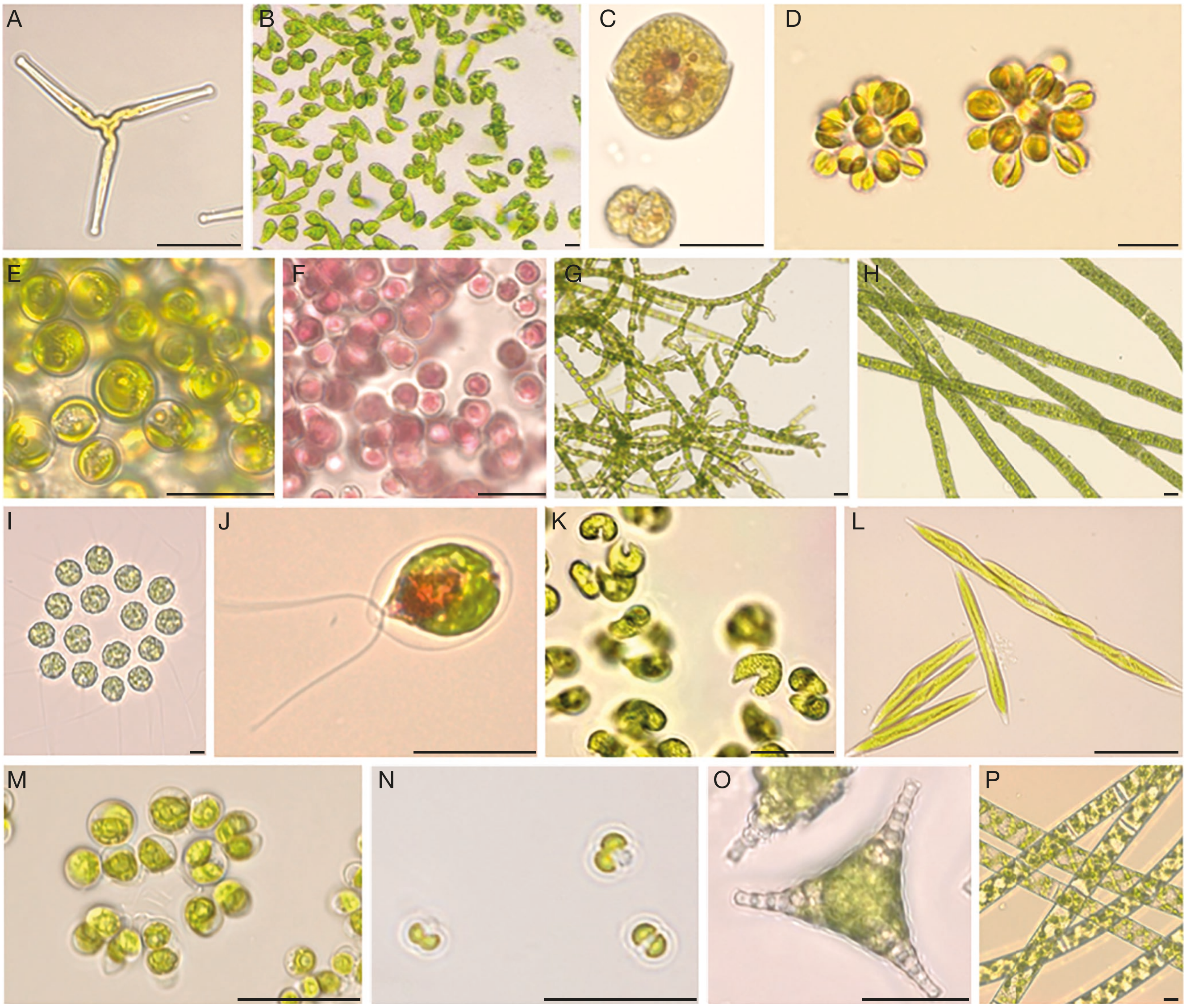

FIG. 9. — Example of morphological diversity among eukaryotic algae strains from ALCP collection: **A**, *Centronella reicheltii* (MNHN-ALCP-2020-884.1); **B**, *Euglena gracilis* (MNHN-ALCP-0000-006.3); **C**, *Gymnodinium* sp. (MNHN-ALCP-2019-879.1); **D**, *Synura petersenii* (MNHN-ALCP-2019-877.3); **E**, *Chlorobotrys* sp. (MNHN-ALCP-0000-003.1); **F**, *Porphyridium purpureum* (MNHN-ALCP-0000-100.2); **G**, *Stigeoclonium* sp. (MNHN-ALCP-2019-854.1); **H**, *Oedogonium* sp. (MNHN-ALCP-2019-867.1); **I**, *Gonium formosum* (MNHN-ALCP-2019-819.1); **J**, *Haematococcus pluvialis* (MNHN-ALCP-2019-876.1); **K**, *Kirchneriella lunaris* (MNHN-ALCP-0000-073.1); **L**, *Monoraphidium* sp. (MNHN-ALCP-2019-822.1); **M**, *Dictyosphaerium pulchellum* (MNHN-ALCP-2019-865.1); **N**, *Picocystis salinarum* (MNHN-ALCP-2018-144.1); **O**, *Staurastrum* sp. (MNHN-ALCP-2019-836.1); **P**, *Spirogyra* sp. (MNHN-ALCP-2019-858.1). Scale bars: 20 µm.

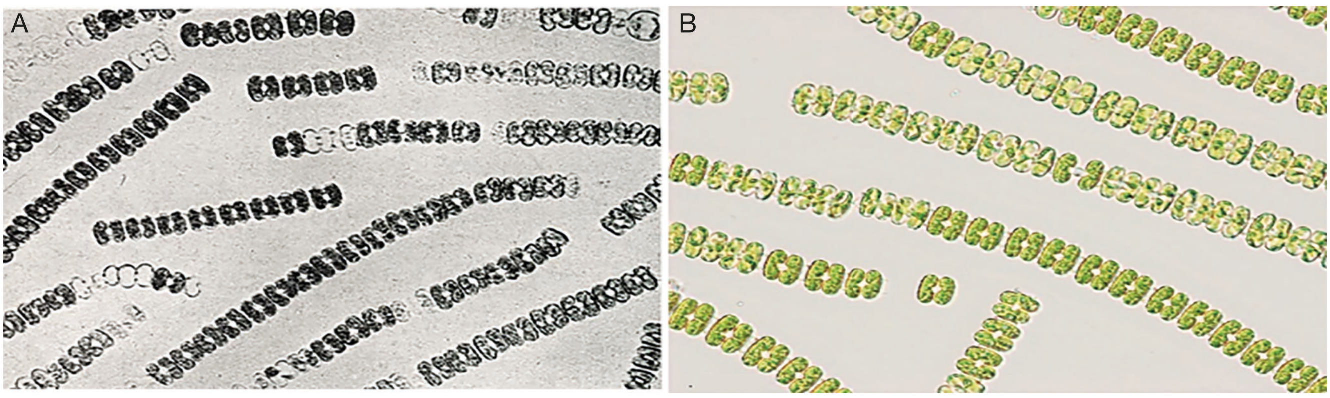

FIG. 10. — Culture of *Onychonema filiforme* (MNHN-ALCP-0000-086.1): **A**, from the 1948 catalogue of the algotheca (photo: R. Lami); **B**, the same culture observed in 2021 (photo: M. Jarno).

Chemodiversity and promising isolates for bioactive compounds discovery

Various cyanobacteria strains produce bioactive metabolites that exhibit beneficial or deleterious effects (Demay *et al.* 2019). Aside of the well-established freshwater cyanotoxins (e.g. microcystins, cylindrospermopsins, anatoxins-a, saxitoxins…), some compounds are of potential interest for ecology, biotechnology, pharmaceutic, cosmetology… These compounds can be tested and structurally characterized and lead to new industrial applications based on bio-inspiration. An ongoing project is to provide a chemical imprint of all strains of the PMC by using high-resolution mass spectrometry facilities available at the MNHN (https://mcam.mnhn.fr/fr/plateau-technique-de-spectrometrie-de-masse-bio-organique-460), starting with genera *Microcystis*, *Oscillatoria* or *Jaaginema* (Le Manach *et al.* 2019; Duperron *et al.* 2020). Data from each strain is then compared to reference databases to identify toxinogenous or beneficial compounds (Kim Tiam *et al.* 2019; Demay *et al.* 2019).

Reference strains for ecotoxicology assays

Strains of most major toxin-producing cyanobacterial genera responsible for blooms in freshwater habitats in Europe are represented in the collection (*Microcystis*, *Planktothrix*, *Phormidium*, *Aphanizomenon*, *Dolichospermum*, *Raphidiopsis*…), of which 164 have been tested by PCR using specific primer sets for their ability to produce cyanotoxins (e.g. *Phormidium* PMC 240.04 producing anatoxin *a* (Gugger *et al.* 2005)). Some are thus used as positive controls for ecotoxicological tests assessing the ability of newly isolated strains to produce toxins. These tests are commonly conducted by MNHN upon request for water quality assessment, and some strains are provided to be used in normalized assays by external ecotoxicology labs (e.g. strain *Desmodesmus subspicatus* ALCP n° 72 in NF EN ISO 8692, 2012, "Qualité de l'eau – Essai d'inhibition de la croissance des algues d'eau douce avec des algues vertes unicellulaires" (Water quality – Growth inhibition of freshwater algae using unicellular green algae)).

According to the clonal variability of the toxicity of certain bloom forming cyanobacteria, such as *Microcystis*, various strains of the PMC have also been recently screened for their cyanotoxin production by genomics and mass spectrometry, and for their potentially related ecotoxicological consequences on aquatic organisms, such as fishes (Sotton *et al.* 2017; Le Manach *et al.* 2018, 2019).

Partnerships with the industry and arts

The collection is involved in applied research and biotechnology projects in collaboration with private companies. As a result, additional stains (not mentioned in the inventory and tables presented here) are maintained in the collection but not accessible. Most of these were isolated in the framework of a collaborative research project in collaboration with a food-processing company (Nutréa) between 2012 and 2015, for the recycling of animal waste through the cultivation of microalgae. For this reason, these strains cannot be provided without agreement from the partner company. The development of two original culture media associated with an innovative "high flow" isolation process have enabled more than 550 strains of microalgae to be obtained to date. Another example is the study of processes of microalgae and biofilms colonization on built facades (Barberousse *et al.* 2006, 2007), that led to the isolation of over 200 strains and allowed the development of an accelerated ageing test bench which was subsequently applied to various cement and paint formulations.

Fig. 11. — An "algaegraphie" by the artist Lia Giraud representing one co-author, Claude Yéprémian (curator from 2007 to 2019).

Cyanobacteria and microalgae are also significant to the arts. Over the last 10 years, the artist researcher Lia Giraud has been creating artistic works with microalgae (Fig. 11), the latter replacing silver salts in the creation of her "algaegraphies" (http://www.liagiraud.com/cultures/). The choice of the most appropriate strains to serve this purpose was established after screening the collection, and involved the development of new protocols to exploit phototactism. To this goal, a culture conditions and media recipe have to be optimized and simplified. Lia Giraud's approach is just as scientific and technical as it is artistic, confronting two different approaches to the influence of light on the behavior of a photosynthetic organism, yielded captivating works of art (Giraud 2017).

CONCLUSION AND PERSPECTIVES

After almost one century of continued existence, the collection of cyanobacteria and microalgae proves to be a valuable resource to various fields, including taxonomy, ecotoxicology, microbial ecology, and microbiome research. Over the last 10 years, the collection has contributed to over 40 research papers. Besides these activities, the collection is used in various 'hands-on' training activities at all levels from undergraduate studies to experts training. It is also a source of inspiration for future technologies in the current context of sustainable development objectives and for the artists. So, the collection of cyanobacteria and microalgae is still alive and kicking.

In the near future, we intend the collection to become part of a Biological Resource Center located at the MNHN. As part of this process, new approaches are being developed. These include new conservation modes such as the use of freeze-dried capsules, as well as better identification of strain by extending marker gene sequencing approaches to eukaryotic strains.

Acknowledgements
This paper is dedicated to the memory of the late Professor Alain Couté (1938-2020), who was curator of the collection (1975-2007). We are also indebted to the colleagues involved in starting and maintaining the collection, namely Pr Pierre Allorge (1891-1944), Marcel Lefèvre (1897-1975) and Pr Pierre Bourrelly (1910-1995) without whom this collection would not have become our daily tool for research. We are grateful to colleagues involved in the development and maintenance of the collection, including Kandiah Santhirakumar and Dr Arnaud Catherine, and to Liliane Rayer and Michèle Dumont for help with historical documents.

IN MEMORIAM: PROFESSOR ALAIN COUTÉ (1938-2020)

Professor Alain Couté passed away, aged 82, on august 16th 2020. For 50 years, he was a phycologist at the French National Museum of Natural History in Paris. Born in Niort, France, in 1938, he entered the Cryptogamy laboratory in 1971 after a Master degree in Algology obtained from Pierre and Marie Curie University, Paris, in 1969. His thesis in 1972 was dedicated to the study of *Liagora tetrasporifera*. He was subsequently appointed by the French National Museum of Natural History. He was adjunct director (1988-1993) and director (1993-2003) of the Cryptogamy laboratory, in charge of the associated collections until 2007. He was professor emeritus since his retirement in 2007, and continued his activities in the laboratory "Molécules de Communication et Adaptation des Micro-organismes" until his passing.

His research investigated the systematics of various groups of microalgae and cyanobacteria from a huge diversity of habitats, with a focus on their morphology and cytology involving expert use of electron microscopy. From 1997 on, he participated to develop an original new research line on cryptogams and toxicity with Pr Simone Puiseux-Dao (1930-2018). A field scientist at heart, Professor Couté participated over 230 field sampling campaigns around the world that contributed documenting the biodiversity of algal taxa from the tropics to Greenland. An expert of scientific scuba diving, he founded the French association of scientific divers in 1979 and trained several generations of scientific divers.

Throughout his long career, Professor Couté published over 200 papers, and described over 150 new species. His drawings and pictures of microalgae and cyanobacteria were regularly used in public conferences and exhibitions. A leading algologist, he was president of the French Society of Phycology (1997-2012), editorial board member of *Cryptogamie, Algologie* (1978-2007) and *Algologia* (1994-2000), and member of the advisory council of *Algological Studies/Archiv für Hydrobiologie* (1990-2008).

Professor Couté was passionate about the beauty and richness of aquatic life forms, and was eager to share his immense knowledge with colleagues, students as well as the public. Until the end, he trained new generations of algologists all around the world. Alain Couté has left, but he leaves his colleagues and friends with vivid memories of his humanity and generosity, and a scientific heritage that is an enduring source of inspiration.

An extended version including list of his publication is available as Appendix 2 (in French).

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APPENDICES

Appendix 1. — List of individual strains publicly available in the PMC and ALCP collections as of november 2021, with associated short name, genus and species, and accession number of the 16S rRNA-encoding gene sequence when available (the latter for cyanobacteria only). The strains of the historical collection whose identification number begins with MNHN-ALCP-0000 do not have exact information on the sampling sites and date.

RBCell ID	Short name	Genus	Species	Genbank accession number
MNHN-PMC-1993-21	PMC 93.01	*Dolichospermum*	*macrosporum*	–
MNHN-PMC-1994-25	PMC 94.08	*Dolichospermum*	*flos-aquae*	–
MNHN-PMC-1995-26	PMC 95.01	*Aphanizomenon*	*gracile*	–
MNHN-PMC-1997-27	PMC 97.01	*Dolichospermum*	*scheremetieviae*	–
MNHN-PMC-1997-28	PMC 97.06	*Aphanizomenon*	*gracile*	–
MNHN-PMC-1997-29	PMC 97.07	*Aphanizomenon*	*flos-aquae*	–
MNHN-PMC-1998-30	PMC 98.14	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-1998-31	PMC 98.15	*Microcystis*	sp.	MH892880 (16S) / MH899660 (ITS)
MNHN-PMC-1998-32	PMC 98.17	*Synechococcus*	sp.	–
MNHN-PMC-1999-33	PMC 99.01	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-1999-34	PMC 99.03	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-1999-35	PMC 99.05	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-1999-36	PMC 99.06	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-1999-37	PMC 99.08	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-1999-38	PMC 99.10	*Oscillatoria*	sp.	–
MNHN-PMC-1999-39	PMC 99.12	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2000-40	PMC 00.01	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2000-41	PMC 00.02	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2000-42	PMC 00.05 / ITEP 005	*Raphidiopsis*	sp.	GQ859597 (16S) / GQ856545 (hetR) / GQ856570 (rpoC1)
MNHN-PMC-2000-44	PMC 00.12 / ACT-95002	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2000-46	PMC 00.14 / ANA-311E	*Dolichospermum*	*sigmoideum*	–
MNHN-PMC-2001-48	PMC 48.01 / ITEP A3	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2001-50	PMC 50.01	*Planktothrix*	*agardhii*	–
MNHN-PMC-2001-52	PMC 52.01	*Planktothrix*	*agardhii*	–
MNHN-PMC-2001-53	PMC 53.01	*Planktothrix*	*agardhii*	–
MNHN-PMC-2001-54	PMC 54.01 / ANA 025B	*Anabaena*	*oscillarioides*	–
MNHN-PMC-2001-55	PMC 55.01 / ANA 040D	*Anabaena*	*oscillarioides*	–
MNHN-PMC-2001-56	PMC 56.01 / ANA 039A	*Sphaerospermopsis*	*aphanizomenoides*	–
MNHN-PMC-2001-57	PMC 57.01 / ANA 280A	*Sphaerospermopsis*	*aphanizomenoides*	–
MNHN-PMC-2001-59	PMC 59.01 / CYP 030B	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2001-60	PMC 60.01 / CYP 023	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2001-61	PMC 61.01 / ITEP 18	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2001-62	PMC 62.01 / CYLI 19	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2001-63	PMC 63.01 / CYLI 29	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2001-64	PMC 64.01 / CYLI 31	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2001-65	PMC 65.01 / CYLI42	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2001-66	PMC 66.01 / CYLI 53	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2001-67	PMC 67.01 / CYLI 75	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2001-68	PMC 68.01 / CYLI 94	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2002-100	PMC 100.02	*Planktothrix*	*agardhii*	–
MNHN-PMC-2002-101	PMC 101.02	*Planktothrix*	*agardhii*	–
MNHN-PMC-2002-103	PMC 103.02	*Planktothrix*	*agardhii*	–
MNHN-PMC-2002-104	PMC 104.02	*Planktothrix*	*agardhii*	–
MNHN-PMC-2002-107	PMC 107.02	*Planktothrix*	*agardhii*	–
MNHN-PMC-2002-109	PMC 109.02	*Planktothrix*	*agardhii*	–
MNHN-PMC-2002-114	PMC 114.02	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2002-115	PMC 115.02	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2002-116	PMC 116.02	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2002-117	PMC 117.02	*Cylindrospermopsis*	*raciborskii*	GQ859598 (16S)
MNHN-PMC-2002-118	PMC 118.02	*Cylindrospermopsis*	*raciborskii*	GQ859599 (16S) / GQ856556 (nifH) / GQ856571 (rpoC1)
MNHN-PMC-2002-122	PMC 122.02	*Planktothrix*	*agardhii*	–
MNHN-PMC-2002-123	PMC 123.02	*Planktothrix*	*agardhii*	–
MNHN-PMC-2002-124	PMC 124.02	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2002-125	PMC 125.02	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2002-126	PMC 126.02	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2002-127	PMC 127.02	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2002-128	PMC 128.02	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2002-129	PMC 129.02	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2002-130	PMC 130.02	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2002-131	PMC 131.02	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2002-132	PMC 132.02	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2002-133	PMC 133.02	*Cylindrospermopsis*	*raciborskii*	–

Appendix 1. — Continuation.

RBCell ID	Short name	Genus	Species	Genbank accession number
MNHN-PMC-2002-134	PMC 134.02	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2002-135	PMC 135.02	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2002-136	PMC 136.02	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2002-137	PMC 137.02	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2002-138	PMC 138.02	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2002-139	PMC 139.02	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2002-140	PMC 140.02	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2002-141	PMC 141.02	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2002-142	PMC 142.02	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2002-143	PMC 143.02	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2002-144	PMC 144.02	*Cylindrospermopsis*	*curvispora*	GQ859602 (16S) / GQ856557 (nifH) / GQ856572 (rpoC1)
MNHN-PMC-2002-145	PMC 145.02	*Cylindrospermopsis*	*raciborskii*	GQ859600 (16S) / GQ856546 (hetR) / GQ856558 (nifH) / GQ856573 (rpoC1)
MNHN-PMC-2002-146	PMC 146.02	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2002-148	PMC 148.02	*Lyngbya*	sp.	–
MNHN-PMC-2002-149	PMC 149.02	*Lyngbya*	sp.	–
MNHN-PMC-2002-150	PMC 150.02	*Lyngbya*	sp.	–
MNHN-PMC-2002-151	PMC 151.02	*Microcystis*	*aeruginosa*	–
MNHN-PMC-2002-152	PMC 152.02	*Microcystis*	*aeruginosa*	–
MNHN-PMC-2002-153	PMC 153.02	*Anabaena*	*spaherica*	GQ859608 (16S)
MNHN-PMC-2002-154	PMC 154.02	*Dolichospermum*	*planctonicum*	GQ859617 (16S)
MNHN-PMC-2002-155	PMC 155.02	*Microcystis*	*aeruginosa*	MH892881 (16S) / MH899661 (ITS)
MNHN-PMC-2002-156	PMC 156.02	*Microcystis*	*aeruginosa*	GQ859631 (16S) / MH892882 (16S) / MH899662 (ITS)
MNHN-PMC-2002-158	PMC 158.02	*Microcystis*	*aeruginosa*	GQ859632 (16S)
MNHN-PMC-2002-159	PMC 159.02	*Microcystis*	*aeruginosa*	–
MNHN-PMC-2002-160	PMC 160.02	*Pseudanabaena*	sp.	GQ859640 (16S)
MNHN-PMC-2002-161	PMC 161.02	*Pseudanabaena*	sp.	GQ859641 (16S)
MNHN-PMC-2002-180	PMC 180.02	*Planktothrix*	*agardhii*	–
MNHN-PMC-2002-75	PMC 75.02	*Planktothrix*	*agardhii*	–
MNHN-PMC-2002-77	PMC 77.02	*Planktothrix*	*agardhii*	–
MNHN-PMC-2002-78	PMC 78.02	*Planktothrix*	*agardhii*	–
MNHN-PMC-2002-79	PMC 79.02	*Planktothrix*	*agardhii*	–
MNHN-PMC-2002-80	PMC 80.02	*Planktothrix*	*agardhii*	–
MNHN-PMC-2002-82	PMC 82.02	*Planktothrix*	*agardhii*	–
MNHN-PMC-2002-85	PMC 85.02	*Limnothrix*	*redekei*	–
MNHN-PMC-2002-86	PMC 86.02	*Planktothrix*	*agardhii*	–
MNHN-PMC-2002-87	PMC 87.02	*Planktothrix*	*agardhii*	–
MNHN-PMC-2002-88	PMC 88.02	*Planktothrix*	*agardhii*	–
MNHN-PMC-2002-90	PMC 90.02	*Planktothrix*	*agardhii*	–
MNHN-PMC-2002-91	PMC 91.02	*Planktothrix*	*agardhii*	–
MNHN-PMC-2002-95	PMC 95.02	*Microcystis*	sp.	MH892879 (16S) / MH899659 (ITS)
MNHN-PMC-2003-184	PMC 184.03	*Cylindrospermopsis*	*curvispora*	GQ859603 (16S)
MNHN-PMC-2003-185	PMC 185.03	*Cylindrospermum*	sp.	GQ859605 (16S) / GQ856574 (rpoC1)
MNHN-PMC-2003-186	PMC 186.03	*Cylindrospermum*	sp.	GQ859606 (16S) / GQ856575 (rpoC1)
MNHN-PMC-2003-187	PMC 187.03	*Anabaena*	*sphaerica*	–
MNHN-PMC-2003-188	PMC 188.03	*Anabaena*	*sphaerica*	GQ859609 (16S) / GQ856547 (hetR) / GQ856559 (nifH) / GQ856576 (rpoC1)
MNHN-PMC-2003-189	PMC 189.03	*Anabaena*	*sphaerica*	GQ859610 (16S)
MNHN-PMC-2003-190	PMC 190.03	*Anabaena*	*sphaerica*	–
MNHN-PMC-2003-191	PMC 191.03	*Anabaenopsis*	*circularis*	GQ859629 (16S) / GQ856548 (hetR)
MNHN-PMC-2003-192	PMC 192.03	*Anabaenopsis*	*circularis*	KX580771 (16S)
MNHN-PMC-2003-193	PMC 193.03	*Anabaenopsis*	*circularis*	GQ859630 (16S) / GQ856549 (hetR)
MNHN-PMC-2003-196	PMC 196.03	*Dolichospermum*	*planctonicum*	GQ859618 (16S) / GQ856560 (nifH)
MNHN-PMC-2003-197	PMC 197.03	*Dolichospermum*	*planctonicum*	–
MNHN-PMC-2003-200	PMC 200.03	*Dolichospermum*	*planctonicum*	GQ859619 (16S) / GQ856561 (nifH)
MNHN-PMC-2003-202	PMC 202.03	*Dolichospermum*	*planctonicum*	–
MNHN-PMC-2003-203	PMC 203.03	*Dolichospermum*	*planctonicum*	–

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RBCell ID	Short name	Genus	Species	Genbank accession number
MNHN-PMC-2003-206	PMC 206.03	*Dolichospermum*	*flos-aquae*	KX580772 (16S)
MNHN-PMC-2003-207	PMC 207.03	*Dolichospermum*	*flos-aquae*	GQ859621 (16S) / GQ856550 (hetR) / GQ856562 (nifH) / GQ856577 (rpoC1)
MNHN-PMC-2003-208	PMC 208.03	*Dolichospermum*	*flos-aquae*	GQ859622 (16S) / GQ856551 (hetR) / GQ856563 (nifH) / GQ856578 (rpoC1)
MNHN-PMC-2003-210	PMC 210.03	*Cuspidothrix*	*issatschenkoi*	GQ859624 (16S)
MNHN-PMC-2003-212	PMC 212.03	*Planktothrix*	*agardhii*	–
MNHN-PMC-2003-214	PMC 214.03	*Chrysosporum*	*ovalisporum*	–
MNHN-PMC-2003-217	PMC 217.03	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2003-218	PMC 218.03	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2003-219	PMC 219.03	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2003-220	PMC 220.03	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2003-221	PMC 221.03	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2003-222	PMC 222.03	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2003-223	PMC 223.03	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2003-224	PMC 224.03	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2004-228	PMC 228.04	*Anabaena*	*sphaerica*	–
MNHN-PMC-2004-229	PMC 229.04	*Anabaena*	*sphaerica*	GQ859611 (16S) / GQ856564 (nifH) / GQ856579 (rpoC1)
MNHN-PMC-2004-230	PMC 230.04	*Dolichospermum*	*planctonicum*	GQ859620 (16S) / GQ856565 (nifH)
MNHN-PMC-2004-232	PMC 232.04	*Calothrix*	sp.	GQ859625 (16S)
MNHN-PMC-2004-233	PMC 233.04	*Calothrix*	sp.	GQ859626 (16S)
MNHN-PMC-2004-234	PMC 234.04	*Calothrix*	sp.	GQ859627 (16S)
MNHN-PMC-2004-235	PMC 235.04	*Gloeotrichia*	sp.	–
MNHN-PMC-2004-236	PMC 236.04	*Gloeotrichia*	sp.	GQ859628 (16S)
MNHN-PMC-2004-237	PMC 237.04	*Gloeotrichia*	sp.	–
MNHN-PMC-2004-238	PMC 238.04	*Cylindrospermum*	sp.	GQ859607 (16S)
MNHN-PMC-2004-239	PMC 239.04	*Phormidium*	*animale*	–
MNHN-PMC-2004-240	PMC 240.04	*Phormidium*	*favosum*	–
MNHN-PMC-2005-241	PMC 241.05	*Microcystis*	*aeruginosa*	GQ859633 (16S) / MH892883 (16S) / MH899663 (ITS)
MNHN-PMC-2005-242	PMC 242.05	*Merismopedia*	*punctata*	GQ859637 (16S)
MNHN-PMC-2005-243	PMC 243.05	*Cylindrospermopsis*	*curvispora*	–
MNHN-PMC-2005-244	PMC 244.05	*Cylindrospermopsis*	*curvispora*	–
MNHN-PMC-2005-245	PMC 245.05	*Cylindrospermopsis*	*curvispora*	–
MNHN-PMC-2005-246	PMC 246.05	*Anabaena*	*sphaerica*	GQ859612 (16S) / GQ856552 (hetR) / GQ856566 (nifH) / GQ856580 (rpoC1)
MNHN-PMC-2005-247	PMC 247.05	*Microcystis*	*wesenbergii*	–
MNHN-PMC-2005-248	PMC 248.05	*Microcystis*	sp.	GQ859636 (16S)
MNHN-PMC-2005-249	PMC 249.05	*Microcystis*	*wesenbergii*	–
MNHN-PMC-2005-250	PMC 250.05	*Microcystis*	*aeruginosa*	GQ859634 (16S)
MNHN-PMC-2005-251	PMC 251.05	*Microcystis*	*viridis*	GQ859635 (16S)
MNHN-PMC-2005-252	PMC 252.05	*Jaaginema*	*homogeneum*	GQ859646 (16S)
MNHN-PMC-2005-253	PMC 253.05	*Planktothrix*	sp.	GQ859639 (16S) / GQ856553 (hetR)
MNHN-PMC-2005-254	PMC 254.05	*Planktothrix*	*agardhii*	–
MNHN-PMC-2005-255	PMC 255.05	*Planktothrix*	*agardhii*	–
MNHN-PMC-2005-256	PMC 256.05	*Microcystis*	*aeruginosa*	–
MNHN-PMC-2005-257	PMC 257.05	*Microcystis*	*wesenbergii*	–
MNHN-PMC-2005-259	PMC 259.05	*Planktothrix*	*clathrata*	–
MNHN-PMC-2006-260	PMC 260.06	*Merismopedia*	*punctata*	GQ859638 (16S)
MNHN-PMC-2006-262	PMC 262.06	*Cylindrospermopsis*	*curvispora*	GQ859604 (16S) / GQ856554 (hetR) / GQ856567 (nifH) / GQ856581 (rpoC1)
MNHN-PMC-2006-263	PMC 263.06	*Anabaena*	*sphaerica*	GQ859613 (16S)
MNHN-PMC-2006-264	PMC 264.06	*Microcystis*	*aeruginosa*	–
MNHN-PMC-2006-265	PMC 265.06	*Microcystis*	*aeruginosa*	MH892884 (16S) / MH899664 (ITS)
MNHN-PMC-2006-266	PMC 266.06	*Anabaena*	*sphaerica*	GQ859614 (16S) / GQ856568 (nifH) / GQ856582 (rpoC1)
MNHN-PMC-2006-267	PMC 267.06	*Anabaena*	*sphaerica*	GQ859615 (16S)
MNHN-PMC-2006-268	PMC 268.06	*Pseudanabaena*	*mucicola*	GQ859642 (16S)
MNHN-PMC-2006-269	PMC 269.06	*Pseudanabaena*	*mucicola*	GQ859643 (16S)
MNHN-PMC-2006-270	PMC 270.06	*Microcystis*	*aeruginosa*	–
MNHN-PMC-2006-271	PMC 271.06	*Planktolyngbya*	*limnetica*	GQ859645 (16S)

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RBCell ID	Short name	Genus	Species	Genbank accession number
MNHN-PMC-2006-272	PMC 272.06	*Limnothrix*	*redekei*	GQ859647 (16S)
MNHN-PMC-2006-274	PMC 274.06	*Phormidium*	*chlorinum*	GQ859648 (16S)
MNHN-PMC-2006-275	PMC 275.06	*Calothrix*	sp.	–
MNHN-PMC-2006-276	PMC 276.06	*Microcystis*	*aeruginosa*	–
MNHN-PMC-2006-277	PMC 277.06	*Microcystis*	*wesenbergii*	–
MNHN-PMC-2006-278	PMC 278.06	*Microcystis*	*aeruginosa*	–
MNHN-PMC-2006-280	PMC 280.06	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2006-281	PMC 281.06	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2006-282	PMC 282.06	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2006-283	PMC 283.06	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2006-284	PMC 284.06	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2006-285	PMC 285.06	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2006-288	PMC 288.06 / ACLP B35	*Arthrospira*	*platensis*	–
MNHN-PMC-2006-289	PMC 289.06 / ALCP B36	*Arthrospira*	*maxima*	–
MNHN-PMC-2007-291	PMC 291.07 / CSTB 223C	*Calothrix*	*pulvinata*	–
MNHN-PMC-2007-292	PMC 292.07 / CSTB 872E	*Calothrix*	*pulvinata*	–
MNHN-PMC-2007-293	PMC 293.07 / CSTB 745A	*Calothrix*	*pulvinata*	–
MNHN-PMC-2007-294	PMC 294.07 / CSTB 444A	*Phormidium*	*corium*	–
MNHN-PMC-2007-295	PMC 295.07 / CSTB 743C	*Phormidium*	*corium*	–
MNHN-PMC-2007-296	PMC 296.07 / CSTB 743C	*Phormidium*	*corium*	GQ859650 (16S)
MNHN-PMC-2007-297	PMC 297.07 / CSTB 743D	*Phormidium*	*corium*	–
MNHN-PMC-2007-298	PMC 298.07 / CSTB 674A	*Phormidium*	*corium*	–
MNHN-PMC-2007-299	PMC 299.07 / CSTB 674B	*Phormidium*	*corium*	GQ859649 (16S)
MNHN-PMC-2007-300	PMC 300.07 / CSTB 693B	*Phormidium*	*corium*	–
MNHN-PMC-2007-301	PMC 301.07 / CSTB 403D	*Phormidium*	*molle*	GQ859651 (16S)
MNHN-PMC-2007-302	PMC 302.07 / CSTB 671B	*Nodosilinea*	sp.	GQ859653 (16S)
MNHN-PMC-2007-303	PMC 303.07 / CSTB 875B	*Nodosilinea*	sp.	–
MNHN-PMC-2007-304	PMC 304.07 / CSTB 879B	*Stenomitos*	sp.	GQ859652 (16S)
MNHN-PMC-2007-306	PMC 306.07	*Anabaena*	*sphaerica*	KX580773 (16S)
MNHN-PMC-2007-307	PMC 307.07	*Cylindrospermum*	*licheniforme*	–
MNHN-PMC-2007-308	PMC 308.07	*Cylindrospermum*	*licheniforme*	–
MNHN-PMC-2007-309	PMC 309.07	*Calothrix*	sp.	–
MNHN-PMC-2007-310	PMC 310.07	*Calothrix*	sp.	–
MNHN-PMC-2007-311	PMC 311.07	*Calothrix*	sp.	–
MNHN-PMC-2007-312	PMC 312.07	*Chrysosporum*	*bergii*	KX580774 (16S)
MNHN-PMC-2007-313	PMC 313.07	*Chrysosporum*	*bergii*	KX580775 (16S)
MNHN-PMC-2007-314	PMC 314.07	*Chrysosporum*	*bergii*	KX580770 (16S)
MNHN-PMC-2007-315	PMC 315.07	*Merismopedia*	*glauca*	–
MNHN-PMC-2007-316	PMC 316.07	*Merismopedia*	*glauca*	–
MNHN-PMC-2007-317	PMC 317.07	*Merismopedia*	*glauca*	–
MNHN-PMC-2007-318	PMC 318.07	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2007-319	PMC 319.07 / CSTB 333H	*Calothrix*	sp.	–
MNHN-PMC-2007-320	PMC 320.07 / CSTB 746D	*Phormidium*	*corium*	–
MNHN-PMC-2007-321	PMC 321.07 / CSTB 311G	*Nostoc*	*commune*	–
MNHN-PMC-2007-322	PMC 322.07 / CSTB 402J	*Nostoc*	*microscopicum*	–
MNHN-PMC-2007-325	PMC 325.07	*Cylindrospermopsis*	*raciborskii*	KX580776 (16S)
MNHN-PMC-2007-326	PMC 326.07	*Cylindrospermopsis*	*raciborskii*	KX580777 (16S)
MNHN-PMC-2007-327	PMC 327.07	*Cylindrospermopsis*	*raciborskii*	KX580778 (16S)
MNHN-PMC-2007-328	PMC 328.07	*Cylindrospermopsis*	*raciborskii*	KX580779 (16S)
MNHN-PMC-2007-329	PMC 329.07	*Cylindrospermopsis*	*curvispora*	KX580780 (16S)
MNHN-PMC-2007-330	PMC 330.07	*Cylindrospermopsis*	*curvispora*	KX580781 (16S)
MNHN-PMC-2008-332	PMC 332.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-333	PMC 333.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-334	PMC 334.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-335	PMC 335.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-336	PMC 336.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-338	PMC 338.08	*Oscillatoria*	*major*	–
MNHN-PMC-2008-339	PMC 339.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-340	PMC 340.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-341	PMC 341.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-342	PMC 342.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-343	PMC 343.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-345	PMC 345.08	*Limnothrix*	*redekei*	–
MNHN-PMC-2008-346	PMC 346.08	*Limnothrix*	*redekei*	–
MNHN-PMC-2008-347	PMC 347.08	*Limnothrix*	*redekei*	–
MNHN-PMC-2008-348	PMC 348.08	*Oscillatoria*	*major*	–
MNHN-PMC-2008-349	PMC 349.08	*Oscillatoria*	*major*	–
MNHN-PMC-2008-351	PMC 351.08	*Oscillatoria*	*major*	–
MNHN-PMC-2008-356	PMC 356.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-358	PMC 358.08	*Planktothrix*	*agardhii*	–

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RBCell ID	Short name	Genus	Species	Genbank accession number
MNHN-PMC-2008-359	PMC 359.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-362	PMC 362.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-363	PMC 363.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-364	PMC 364.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-365	PMC 365.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-366	PMC 366.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-367	PMC 367.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-368	PMC 368.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-369	PMC 369.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-370	PMC 370.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-371	PMC 371.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-372	PMC 372.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-374	PMC 374.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-375	PMC 375.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-376	PMC 376.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-377	PMC 377.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-378	PMC 378.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-379	PMC 379.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-380	PMC 380.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-381	PMC 381.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-386	PMC 386.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-387	PMC 387.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-388	PMC 388.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-389	PMC 389.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-390	PMC 390.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-391	PMC 391.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-392	PMC 392.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-393	PMC 393.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-394	PMC 394.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-395	PMC 395.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-396	PMC 396.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-397	PMC 397.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-398	PMC 398.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-399	PMC 399.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-400	PMC 400.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-401	PMC 401.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-402	PMC 402.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-403	PMC 403.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-404	PMC 404.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-406	PMC 406.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-409	PMC 409.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-410	PMC 410.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-411	PMC 411.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-412	PMC 412.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-414	PMC 414.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-417	PMC 417.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-418	PMC 418.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-420	PMC 420.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-424	PMC 424.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-425	PMC 425.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-427	PMC 427.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-430	PMC 430.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-431	PMC 431.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-432	PMC 432.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-433	PMC 433.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-434	PMC 434.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-435	PMC 435.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-436	PMC 436.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-440	PMC 440.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-441	PMC 441.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-442	PMC 442.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-443	PMC 443.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-444	PMC 444.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-445	PMC 445.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-446	PMC 446.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-447	PMC 447.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-448	PMC 448.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-449	PMC 449.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-450	PMC 450.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-451	PMC 451.08	*Planktothrix*	*agardhii*	–

Appendix 1. — Continuation.

RBCell ID	Short name	Genus	Species	Genbank accession number
MNHN-PMC-2008-452	PMC 452.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-453	PMC 453.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-454	PMC 454.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-455	PMC 455.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-456	PMC 456.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-457	PMC 457.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-458	PMC 458.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-460	PMC 460.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-461	PMC 461.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-462	PMC 462.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-464	PMC 464.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-465	PMC 465.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-466	PMC 466.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-467	PMC 467.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-468	PMC 468.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-469	PMC 469.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-470	PMC 470.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-471	PMC 471.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-472	PMC 472.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-473	PMC 473.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-474	PMC 474.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-476	PMC 476.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-477	PMC 477.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-478	PMC 478.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-479	PMC 479.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-480	PMC 480.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-482	PMC 482.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-483	PMC 483.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-485	PMC 485.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-486	PMC 486.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-487	PMC 487.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-488	PMC 488.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-489	PMC 489.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-490	PMC 490.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-491	PMC 491.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-492	PMC 492.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-495	PMC 495.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-496	PMC 496.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-497	PMC 497.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-498	PMC 498.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-499	PMC 499.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-500	PMC 500.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-501	PMC 501.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-502	PMC 502.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-503	PMC 503.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-504	PMC 504.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-505	PMC 505.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-506	PMC 506.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-507	PMC 507.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-508	PMC 508.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-509	PMC 509.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-510	PMC 510.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-511	PMC 511.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-512	PMC 512.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-513	PMC 513.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-515	PMC 515.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-516	PMC 516.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-518	PMC 518.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-519	PMC 519.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-520	PMC 520.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-521	PMC 521.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-522	PMC 522.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-524	PMC 524.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-527	PMC 527.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-529	PMC 529.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-530	PMC 530.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-532	PMC 532.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-539	PMC 539.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-545	PMC 545.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-546	PMC 546.08	*Planktothrix*	*agardhii*	–

Appendix 1. — Continuation.

RBCell ID	Short name	Genus	Species	Genbank accession number
MNHN-PMC-2008-547	PMC 547.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-548	PMC 548.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-549	PMC 549.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-550	PMC 550.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-551	PMC 551.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-552	PMC 552.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-553	PMC 553.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-555	PMC 555.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-556	PMC 556.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-557	PMC 557.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-558	PMC 558.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-559	PMC 559.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-560	PMC 560.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-561	PMC 561.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-562	PMC 562.08	*Planktothrix*	*agardhii*	–
MNHN-PMC-2008-566	PMC 566.08	*Microcystis*	*viridis*	MH892885 (16S) / MH899665 (ITS)
MNHN-PMC-2008-567	PMC 567.08	*Microcystis*	sp.	MH892886 (16S) / MH899666 (ITS)
MNHN-PMC-2008-568	PMC 568.08	*Microcystis*	sp.	–
MNHN-PMC-2008-569	PMC 569.08	*Microcystis*	*wesenbergii*	–
MNHN-PMC-2008-570	PMC 570.08	*Microcystis*	*aeruginosa*	MH892887 (16S) / MH899667 (ITS)
MNHN-PMC-2009-571	PMC 571.09	*Phormidium*	*favosum*	–
MNHN-PMC-2009-572	PMC 572.09	*Phormidium*	*favosum*	–
MNHN-PMC-2009-573	PMC 573.09	*Phormidium*	*favosum*	–
MNHN-PMC-2009-575	PMC 575.09	*Phormidium*	*favosum*	–
MNHN-PMC-2009-576	PMC 576.09	*Phormidium*	*favosum*	–
MNHN-PMC-2009-577	PMC 577.09	*Phormidium*	*favosum*	–
MNHN-PMC-2009-578	PMC 578.09	*Phormidium*	*favosum*	–
MNHN-PMC-2009-579	PMC 579.09	*Phormidium*	*favosum*	–
MNHN-PMC-2009-580	PMC 580.09	*Phormidium*	*favosum*	–
MNHN-PMC-2009-581	PMC 581.09	*Phormidium*	*favosum*	–
MNHN-PMC-2009-582	PMC 582.09	*Phormidium*	*favosum*	–
MNHN-PMC-2009-583	PMC 583.09	*Phormidium*	*favosum*	–
MNHN-PMC-2009-584	PMC 584.09	*Phormidium*	*favosum*	–
MNHN-PMC-2009-585	PMC 585.09	*Phormidium*	*favosum*	–
MNHN-PMC-2009-586	PMC 586.09	*Phormidium*	*favosum*	–
MNHN-PMC-2009-587	PMC 587.09	*Planktothrix*	*agardhii*	–
MNHN-PMC-2009-588	PMC 588.09	*Planktothrix*	*agardhii*	–
MNHN-PMC-2009-590	PMC 590.09	*Aphanizomenon*	*gracile*	–
MNHN-PMC-2009-591	PMC 591.09	*Aphanizomenon*	*gracile*	–
MNHN-PMC-2009-592	PMC 592.09	*Aphanizomenon*	*gracile*	–
MNHN-PMC-2009-593	PMC 593.09	*Aphanizomenon*	*gracile*	–
MNHN-PMC-2009-594	PMC 594.09	*Aphanizomenon*	*gracile*	–
MNHN-PMC-2009-595	PMC 595.09	*Aphanizomenon*	*gracile*	–
MNHN-PMC-2009-598	PMC 598.09	*Planktothrix*	*rubescens*	–
MNHN-PMC-2009-609	PMC 609.09	*Leptolyngbya*	*foveolara*	–
MNHN-PMC-2009-610	PMC 610.09	*Leptolyngbya*	*foveolara*	–
MNHN-PMC-2009-611	PMC 611.09	*Leptolyngbya*	*foveolara*	–
MNHN-PMC-2009-612	PMC 612.09	*Leptolyngbya*	*foveolara*	–
MNHN-PMC-2009-613	PMC 613.09	*Lyngbya*	*cincinnata*	–
MNHN-PMC-2009-614	PMC 614.09	*Lyngbya*	*cincinnata*	–
MNHN-PMC-2009-615	PMC 615.09	*Lyngbya*	*cincinnata*	–
MNHN-PMC-2009-616	PMC 616.09	*Lyngbya*	*cincinnata*	–
MNHN-PMC-2009-617	PMC 617.09	*Lyngbya*	*cincinnata*	–
MNHN-PMC-2009-618	PMC 618.09	*Lyngbya*	*cincinnata*	–
MNHN-PMC-2009-619	PMC 619.09	*Lyngbya*	*cincinnata*	–
MNHN-PMC-2009-620	PMC 620.09	*Lyngbya*	*cincinnata*	–
MNHN-PMC-2009-621	PMC 621.09	*Lyngbya*	*cincinnata*	–
MNHN-PMC-2009-622	PMC 622.09	*Lyngbya*	*cincinnata*	–
MNHN-PMC-2010-624	PMC 624.10	*Dolichospermum*	*planctonicum*	–
MNHN-PMC-2010-625	PMC 625.10	*Sphaerospermopsis*	*aphanizomenoides*	–
MNHN-PMC-2010-626	PMC 626.10	*Aphanizomenon*	*gracile*	–
MNHN-PMC-2010-627	PMC 627.10	*Aphanizomenon*	*gracile*	–
MNHN-PMC-2010-628	PMC 628.10	*Aphanizomenon*	*gracile*	–
MNHN-PMC-2010-629	PMC 629.10	*Aphanizomenon*	*gracile*	–
MNHN-PMC-2010-630	PMC 630.10	*Aphanizomenon*	*gracile*	–
MNHN-PMC-2010-631	PMC 631.10	*Aphanizomenon*	*gracile*	–
MNHN-PMC-2010-632	PMC 632.10	*Aphanizomenon*	*gracile*	–

Appendix 1. — Continuation.

RBCell ID	Short name	Genus	Species	Genbank accession number
MNHN-PMC-2010-633	PMC 633.10	*Aphanizomenon*	*gracile*	–
MNHN-PMC-2010-634	PMC 634.10	*Aphanizomenon*	*gracile*	–
MNHN-PMC-2010-635	PMC 635.10	*Aphanizomenon*	*gracile*	–
MNHN-PMC-2010-636	PMC 636.10	*Aphanizomenon*	*gracile*	–
MNHN-PMC-2010-637	PMC 637.10	*Aphanizomenon*	*gracile*	–
MNHN-PMC-2010-638	PMC 638.10	*Aphanizomenon*	*gracile*	–
MNHN-PMC-2010-639	PMC 639.10	*Aphanizomenon*	*gracile*	–
MNHN-PMC-2010-640	PMC 640.10	*Aphanizomenon*	*gracile*	–
MNHN-PMC-2010-641	PMC 641.10	*Sphaerospermopsis*	*aphanizomenoides*	–
MNHN-PMC-2010-642	PMC 642.10	*Aphanizomenon*	*gracile*	–
MNHN-PMC-2010-643	PMC 643.10	*Aphanizomenon*	*gracile*	–
MNHN-PMC-2010-644	PMC 644.10	*Aphanizomenon*	*gracile*	–
MNHN-PMC-2010-647	PMC 647.10	*Aphanizomenon*	*gracile*	–
MNHN-PMC-2010-648	PMC 648.10	*Aphanizomenon*	*gracile*	–
MNHN-PMC-2010-649	PMC 649.10	*Aphanizomenon*	*gracile*	–
MNHN-PMC-2010-650	PMC 650.10	*Spirulina*	*major*	–
MNHN-PMC-2010-651	PMC 651.10	*Spirulina*	*major*	–
MNHN-PMC-2010-652	PMC 652.10	*Spirulina*	*major*	–
MNHN-PMC-2010-653	PMC 653.10	*Spirulina*	*major*	–
MNHN-PMC-2010-654	PMC 654.10	*Spirulina*	*major*	–
MNHN-PMC-2010-655	PMC 655.10	*Spirulina*	*major*	–
MNHN-PMC-2010-656	PMC 656.10	*Spirulina*	*major*	–
MNHN-PMC-2010-657	PMC 657.10	*Spirulina*	*major*	–
MNHN-PMC-2010-658	PMC 658.10	*Spirulina*	*major*	–
MNHN-PMC-2010-659	PMC 659.10	*Spirulina*	*major*	–
MNHN-PMC-2010-660	PMC 660.10	*Spirulina*	*major*	–
MNHN-PMC-2010-661	PMC 661.10	*Spirulina*	*major*	–
MNHN-PMC-2010-662	PMC 662.10	*Spirulina*	*major*	–
MNHN-PMC-2010-663	PMC 663.10	*Spirulina*	*major*	–
MNHN-PMC-2010-664	PMC 664.10	*Spirulina*	*major*	–
MNHN-PMC-2010-665	PMC 665.10	*Spirulina*	*major*	–
MNHN-PMC-2010-666	PMC 666.10	*Spirulina*	*major*	–
MNHN-PMC-2010-667	PMC 667.10	*Spirulina*	*major*	–
MNHN-PMC-2010-668	PMC 668.10	*Limnothrix*	sp.	–
MNHN-PMC-2010-673	PMC 673.10	*Microcystis*	*wesenbergii*	MH892890 (16S) / MH899670 (ITS)
MNHN-PMC-2010-674	PMC 674.10	*Microcystis*	*wesenbergii*	MH892891 (16S) / MH899671 (ITS)
MNHN-PMC-2010-675	PMC 675.10	*Microcystis*	*wesenbergii*	–
MNHN-PMC-2010-676	PMC 676.10	*Microcystis*	*wesenbergii*	–
MNHN-PMC-2010-679	PMC 679.10	*Microcystis*	*aeruginosa*	MH892892 (16S) / MH899672 (ITS)
MNHN-PMC-2010-682	PMC 682.10	*Planktothrix*	*agardhii*	–
MNHN-PMC-2010-684	PMC 684.10	*Planktothrix*	*agardhii*	–
MNHN-PMC-2010-685	PMC 685.10	*Planktothrix*	*agardhii*	–
MNHN-PMC-2010-686	PMC 686.10	*Planktothrix*	*agardhii*	–
MNHN-PMC-2010-690	PMC 690.10	*Planktothrix*	*agardhii*	–
MNHN-PMC-2010-693	PMC 693.10	*Planktolyngbya*	sp.	–
MNHN-PMC-2010-694	PMC 694.10	*Planktolyngbya*	sp.	–
MNHN-PMC-2010-695	PMC 695.10	*Planktolyngbya*	sp.	–
MNHN-PMC-2010-698	PMC 698.10	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2010-699	PMC 699.10	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2010-700	PMC 700.10	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2010-701	PMC 701.10	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2010-702	PMC 702.10	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2011-709	PMC 709.11	*Geitlerinema*	*amphibium*	–
MNHN-PMC-2011-710	PMC 710.11	*Geitlerinema*	*amphibium*	–
MNHN-PMC-2011-711	PMC 711.11	*Phormidium*	*autumnale*	–
MNHN-PMC-2011-712	PMC 712.11	*Phormidium*	*autumnale*	–
MNHN-PMC-2011-713	PMC 713.11	*Geitlerinema*	*amphibium*	–
MNHN-PMC-2011-714	PMC 714.11	*Geitlerinema*	*amphibium*	–
MNHN-PMC-2011-715	PMC 715.11	*Geitlerinema*	sp.	–
MNHN-PMC-2011-716	PMC 716.11	*Geitlerinema*	sp.	–
MNHN-PMC-2011-717	PMC 717.11	*Geitlerinema*	sp.	–
MNHN-PMC-2011-718	PMC 718.11	*Geitlerinema*	sp.	–
MNHN-PMC-2011-719	PMC 719.11	*Dolichospermum*	*flos-aquae*	–
MNHN-PMC-2011-720	PMC 720.11	*Dolichospermum*	*flos-aquae*	–
MNHN-PMC-2011-721	PMC 721.11	*Dolichospermum*	*planctonicum*	–
MNHN-PMC-2011-722	PMC 722.11	*Dolichospermum*	*planctonicum*	–
MNHN-PMC-2011-723	PMC 723.11	*Dolichospermum*	*planctonicum*	–

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RBCell ID	Short name	Genus	Species	Genbank accession number
MNHN-PMC-2011-724	PMC 724.11	*Dolichospermum*	*planctonicum*	–
MNHN-PMC-2011-725	PMC 725.11	*Dolichospermum*	*planctonicum*	–
MNHN-PMC-2011-726	PMC 726.11	*Microcystis*	sp.	–
MNHN-PMC-2011-727	PMC 727.11	*Microcystis*	sp.	MH892893 (16S) / MH899673 (ITS)
MNHN-PMC-2011-728	PMC 728.11	*Microcystis*	sp.	MH892894 (16S) / MH899674 (ITS)
MNHN-PMC-2011-729	PMC 729.11	*Microcystis*	sp.	MH892895 (16S) / MH899675 (ITS)
MNHN-PMC-2011-730	PMC 730.11	*Microcystis*	sp.	MH892896 (16S) / MH899676 (ITS)
MNHN-PMC-2011-731	PMC 731.11	*Microcystis*	sp.	–
MNHN-PMC-2011-732	PMC 732.11	*Microcystis*	sp.	–
MNHN-PMC-2011-733	PMC 733.11	*Microcystis*	sp.	–
MNHN-PMC-2011-734	PMC 734.11	*Microcystis*	sp.	–
MNHN-PMC-2011-735	PMC 735.11	*Microcystis*	sp.	–
MNHN-PMC-2011-737	PMC 737.11	*Arthrospira*	*fusiformis*	KX840360 (16S) / MF579924 (ITS) / MH234478 (cpcBA - IGS)
MNHN-PMC-2011-738	PMC 738.11	*Arthrospira*	*fusiformis*	KX840361 (16S) / MF579925 (ITS) / MH234477 (cpcBA-IGS)
MNHN-PMC-2011-741	PMC 741.11	*Sodalinema*	*komarekii*	MF579878 (16S)
MNHN-PMC-2011-742	PMC 742.11	*Sodalinema*	*komarekii*	MF579879 (16S)
MNHN-PMC-2011-743	PMC 743.11	*Sodalinema*	*komarekii*	MF579880 (16S)
MNHN-PMC-2011-744	PMC 744.11	*Sodalinema*	*komarekii*	MF579881 (16S)
MNHN-PMC-2011-745	PMC 745.11	*Sodalinema*	*komarekii*	MF579882 (16S)
MNHN-PMC-2011-746	PMC 746.11	*Sodalinema*	*komarekii*	MF579883 (16S)
MNHN-PMC-2012-804	PMC 804.12	*Microcystis*	sp.	–
MNHN-PMC-2012-805	PMC 805.12	*Microcystis*	sp.	–
MNHN-PMC-2012-806	PMC 806.12	*Microcystis*	sp.	–
MNHN-PMC-2012-807	PMC 807.12	*Microcystis*	sp.	MH892897 (16S) / MH899677 (ITS)
MNHN-PMC-2012-808	PMC 808.12	*Microcystis*	sp.	–
MNHN-PMC-2012-809	PMC 809.12	*Microcystis*	sp.	–
MNHN-PMC-2012-810	PMC 810.12	*Microcystis*	sp.	MH892898 (16S) / MH899678 (ITS)
MNHN-PMC-2012-811	PMC 811.12	*Microcystis*	sp.	–
MNHN-PMC-2012-813	PMC 813.12	*Microcystis*	sp.	–
MNHN-PMC-2012-814	PMC 814.12	*Microcystis*	sp.	–
MNHN-PMC-2012-815	PMC 815.12	*Microcystis*	sp.	–
MNHN-PMC-2012-816	PMC 816.12	*Microcystis*	sp.	MH892899 (16S) / MH899679 (ITS)
MNHN-PMC-2012-820	PMC 820.12	*Microcystis*	sp.	–
MNHN-PMC-2012-821	PMC 821.12	*Microcystis*	sp.	–
MNHN-PMC-2012-823	PMC 823.12	*Microcystis*	sp.	–
MNHN-PMC-2012-824	PMC 824.12	*Microcystis*	sp.	–
MNHN-PMC-2012-825	PMC 825.12	*Microcystis*	sp.	–
MNHN-PMC-2012-826	PMC 826.12	*Microcystis*	sp.	MH892900 (16S) / MH899680 (ITS)
MNHN-PMC-2012-827	PMC 827.12	*Microcystis*	sp.	–
MNHN-PMC-2012-828	PMC 828.12	*Microcystis*	sp.	–
MNHN-PMC-2012-829	PMC 829.12	*Microcystis*	sp.	–
MNHN-PMC-2012-830	PMC 830.12	*Microcystis*	sp.	–
MNHN-PMC-2012-831	PMC 831.12	*Microcystis*	sp.	–
MNHN-PMC-2013-840	PMC 840.13	*Oscillatoria*	*curviceps*	–
MNHN-PMC-2013-841	PMC 841.13	*Phormidium*	sp.	–
MNHN-PMC-2013-842	PMC 842.13	*Phormidium*	sp.	–
MNHN-PMC-2013-843	PMC 843.13	*Phormidium*	sp.	–
MNHN-PMC-2013-845	PMC 845.13	*Phormidium*	sp.	–
MNHN-PMC-2013-847	PMC 847.13	*Phormidium*	sp.	–
MNHN-PMC-2013-848	PMC 848.13	*Phormidium*	sp.	–
MNHN-PMC-2013-849	PMC 849.13	*Phormidium*	sp.	–
MNHN-PMC-2013-850	PMC 850.13	*Phormidium*	sp.	–
MNHN-PMC-2014-851	PMC 851.14	*Arthrospira*	*fusiformis*	MF579872 (16S) / MF579926 (ITS) / MH234476 (cpcBA-IGS)
MNHN-PMC-2014-852	PMC 852.14	*Arthrospira*	*fusiformis*	MF579873 (16S)
MNHN-PMC-2014-853	PMC 853.14	*Arthrospira*	*fusiformis*	MF579874 (16S)
MNHN-PMC-2014-857	PMC 857.14	*Spirulina*	*subsalsa*	MF579916 (16S) / MH182759 (ITS)
MNHN-PMC-2014-858	PMC 858.14	*Spirulina*	*subsalsa*	MF579915 (16S)

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RBCell ID	Short name	Genus	Species	Genbank accession number
MNHN-PMC-2014-859	PMC 859.14	*Spirulina*	*subsalsa*	–
MNHN-PMC-2014-860	PMC 860.14	*Spirulina*	*subsalsa*	–
MNHN-PMC-2014-861	PMC 861.14	*Sodalinema*	*komarekii*	MF579884 (16S)
MNHN-PMC-2014-862	PMC 862.14	*Sodalinema*	*komarekii*	MF579885 (16S)
MNHN-PMC-2014-863	PMC 863.14	*Sodalinema*	*komarekii*	MF579886 (16S)
MNHN-PMC-2014-864	PMC 864.14	*Sodalinema*	*komarekii*	MF579887 (16S)
MNHN-PMC-2014-865	PMC 865.14	*Sodalinema*	*komarekii*	MF579888 (16S)
MNHN-PMC-2014-866	PMC 866.14	*Sodaleptolyngbya*	*stromatolitii*	MF579917 (16S)
MNHN-PMC-2014-867	PMC 867.14	*Sodaleptolyngbya*	*stromatolitii*	MF579918 (16S)
MNHN-PMC-2014-868	PMC 868.14	*Sodalinema*	*komarekii*	–
MNHN-PMC-2014-869	PMC 869.14	*Sodalinema*	*komarekii*	MG772676 (16S)
MNHN-PMC-2014-870	PMC 870.14	*Sodalinema*	*komarekii*	–
MNHN-PMC-2014-871	PMC 871.14	*Desertifilum*	*dzianense*	MF579896 (16S)
MNHN-PMC-2014-872	PMC 872.14	*Desertifilum*	*dzianense*	MF579897 (16S) / MH182755 (ITS)
MNHN-PMC-2014-873	PMC 873.14	*Desertifilum*	*dzianense*	MF579898 (16S)
MNHN-PMC-2014-874	PMC 874.14	*Desertifilum*	*dzianense*	MF579899 (16S)
MNHN-PMC-2014-875	PMC 875.14	*Desertifilum*	*dzianense*	MF579900 (16S)
MNHN-PMC-2014-876	PMC 876.14	*Desertifilum*	*dzianense*	MF579901 (16S)
MNHN-PMC-2015-886	PMC 886.15	*Sodalinema*	*komarekii*	MF579889 (16S)
MNHN-PMC-2015-887	PMC 887.15	*Sodalinema*	*komarekii*	MF579890 (16S)
MNHN-PMC-2015-888	PMC 888.15	*Sodalinema*	*komarekii*	MF579891 (16S)
MNHN-PMC-2015-889	PMC 889.15	*Sodalinema*	*komarekii*	MF579892 (16S)
MNHN-PMC-2015-890	PMC 890.15	*Desertifilum*	*dzianense*	MF579902 (16S)
MNHN-PMC-2015-891	PMC 891.15	*Haloleptolyngbya*	*alcalis*	MF579908 (16S)
MNHN-PMC-2015-892	PMC 892.15	*Haloleptolyngbya*	*alcalis*	MF579909 (16S) / MH182756 (ITS)
MNHN-PMC-2015-893	PMC 893.15	*Haloleptolyngbya*	*elongata*	MF579910 (16S) / MH182757 (ITS)
MNHN-PMC-2015-894	PMC 894.15	*Arthrospira*	*fusiformis*	MF579875 (16S) / MF579927 (ITS) / MH234475 (cpcBA-IGS)
MNHN-PMC-2015-895	PMC 895.15	*Haloleptolyngbya*	*elongata*	MF579911 (16S) / MH182758 (ITS)
MNHN-PMC-2015-896	PMC 896.15	*Sodalinema*	*komarekii*	–
MNHN-PMC-2015-897	PMC 897.15	*Haloleptolyngbya*	*elongata*	–
MNHN-PMC-2015-898	PMC 898.15	*Sodalinema*	*komarekii*	MF579893 (16S)
MNHN-PMC-2015-899	PMC 899.15	*Sodalinema*	*komarekii*	MF579894 (16S)
MNHN-PMC-2015-900	PMC 900.15	*Haloleptolyngbya*	*elongata*	MF579912 (16S)
MNHN-PMC-2015-901	PMC 901.15	*Desertifilum*	*dzianense*	MF579903 (16S)
MNHN-PMC-2015-902	PMC 902.15	*Desertifilum*	*dzianense*	MF579904 (16S)
MNHN-PMC-2015-903	PMC 903.15	*Haloleptolyngbya*	*elongata*	MF579913 (16S)
MNHN-PMC-2015-904	PMC 904.15	*Haloleptolyngbya*	*elongata*	MF579914 (16S)
MNHN-PMC-2015-905	PMC 905.15	*Desertifilum*	*dzianense*	MF579905 (16S)
MNHN-PMC-2015-906	PMC 906.15	*Desertifilum*	*dzianense*	MF579906 (16S)
MNHN-PMC-2015-907	PMC 907.15	*Sodalinema*	*komarekii*	MF579895 (16S)
MNHN-PMC-2015-908	PMC 908.15	*Haloleptolyngbya*	*elongata*	–
MNHN-PMC-2015-909	PMC 909.15	*Desertifilum*	*dzianense*	MF579907 (16S)
MNHN-PMC-2015-910	PMC 910.15	*Arthrospira*	*fusiformis*	–
MNHN-PMC-2015-912	PMC 912.15	*Arthrospira*	*fusiformis*	MF579876 (16S)
MNHN-PMC-2015-913	PMC 913.15	*Arthrospira*	*fusiformis*	–
MNHN-PMC-2015-914	PMC 914.15	*Arthrospira*	*fusiformis*	–
MNHN-PMC-2015-916	PMC 916.15	*Arthrospira*	*fusiformis*	–
MNHN-PMC-2015-917	PMC 917.15	*Arthrospira*	*fusiformis*	MF579877 (16S)
MNHN-PMC-2015-918	PMC 918.15	*Arthrospira*	*fusiformis*	–
MNHN-PMC-2016-920	PMC 920.16	*Microcystis*	sp.	–
MNHN-PMC-2016-921	PMC 921.16	*Microcystis*	sp.	–
MNHN-PMC-2016-922	PMC 922.16	*Microcystis*	sp.	–
MNHN-PMC-2016-923	PMC 923.16	*Microcystis*	sp.	–
MNHN-PMC-2016-924	PMC 924.16	*Microcystis*	sp.	–
MNHN-PMC-2016-936	PMC 936.16	*Aphanizomenon*	sp.	–
MNHN-PMC-2016-937	PMC 937.16	*Aphanizomenon*	sp.	–
MNHN-PMC-2016-938	PMC 938.16	*Aphanizomenon*	sp.	–
MNHN-PMC-2016-939	PMC 939.16	*Aphanizomenon*	sp.	–
MNHN-PMC-2016-940	PMC 940.16	*Aphanizomenon*	sp.	–
MNHN-PMC-2016-941	PMC 941.16	*Aphanizomenon*	sp.	–
MNHN-PMC-2016-942	PMC 942.16	*Aphanizomenon*	sp.	–
MNHN-PMC-2016-943	PMC 943.16	*Aphanizomenon*	sp.	–
MNHN-PMC-2016-944	PMC 944.16	*Aphanizomenon*	sp.	–
MNHN-PMC-2016-945	PMC 945.16	*Aphanizomenon*	sp.	–
MNHN-PMC-2016-946	PMC 946.16	*Aphanizomenon*	sp.	–

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RBCell ID	Short name	Genus	Species	Genbank accession number
MNHN-PMC-2016-947	PMC 947.16	*Aphanizomenon*	sp.	–
MNHN-PMC-2016-948	PMC 948.16	*Aphanizomenon*	sp.	–
MNHN-PMC-2016-949	PMC 949.16	*Aphanizomenon*	sp.	–
MNHN-PMC-2016-950	PMC 950.16	*Aphanizomenon*	sp.	–
MNHN-PMC-2016-951	PMC 951.16	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2016-952	PMC 952.16	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2016-953	PMC 953.16	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2016-954	PMC 954.16	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2016-959	PMC 959.16	*Oscillatoria*	*princeps*	–
MNHN-PMC-2016-960	PMC 960.16	*Oscillatoria*	*princeps*	–
MNHN-PMC-2016-962	PMC 962.16	*Phormidium*	sp.	–
MNHN-PMC-2016-963	PMC 963.16	*Phormidium*	sp.	–
MNHN-PMC-2016-964	PMC 964.16	*Phormidium*	sp.	–
MNHN-PMC-2016-965	PMC 965.16	*Phormidium*	sp.	–
MNHN-PMC-2016-966	PMC 966.16	*Phormidium*	sp.	–
MNHN-PMC-2016-967	PMC 967.16	*Phormidium*	sp.	–
MNHN-PMC-2016-968	PMC 968.16	*Phormidium*	sp.	–
MNHN-PMC-2016-972	PMC 972.16	*Phormidium*	sp.	–
MNHN-PMC-2016-973	PMC 973.16	*Phormidium*	sp.	–
MNHN-PMC-2016-974	PMC 974.16	*Phormidium*	sp.	–
MNHN-PMC-2016-975	PMC 975.16	*Planktothrix*	*rubescens*	–
MNHN-PMC-2016-976	PMC 976.16	*Planktothrix*	*rubescens*	–
MNHN-PMC-2016-977	PMC 977.16	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2017-1000	PMC 1000.17	*Phormidium*	sp.	–
MNHN-PMC-2017-1006	PMC 1006.17	*Phormidium*	sp.	–
MNHN-PMC-2017-1009	PMC 1009.17	*Phormidium*	sp.	–
MNHN-PMC-2017-1012	PMC 1012.17	*Oscillatoria*	sp.	–
MNHN-PMC-2017-978	PMC 978.17	*Dolichospermum*	*circinale*	–
MNHN-PMC-2017-979	PMC 979.17	*Pseudanabaena*	*catenata*	–
MNHN-PMC-2017-980	PMC 980.17	*Pseudanabaena*	*catenata*	–
MNHN-PMC-2017-981	PMC 981.17	*Kamptonema*	*animale*	–
MNHN-PMC-2017-982	PMC 982.17	*Kamptonema*	*animale*	–
MNHN-PMC-2017-983	PMC 983.17	*Kamptonema*	*animale*	–
MNHN-PMC-2017-984	PMC 984.17	*Kamptonema*	*animale*	–
MNHN-PMC-2017-985	PMC 985.17	*Kamptonema*	*animale*	–
MNHN-PMC-2017-986	PMC 986.17	*Wilmottia*	sp.	–
MNHN-PMC-2017-987	PMC 987.17	*Wilmottia*	sp.	–
MNHN-PMC-2017-988	PMC 988.17	*Wilmottia*	sp.	–
MNHN-PMC-2017-989	PMC 989.17	*Wilmottia*	sp.	–
MNHN-PMC-2017-990	PMC 990.17	*Wilmottia*	sp.	–
MNHN-PMC-2017-991	PMC 991.17	*Phormidium*	*favosum*	–
MNHN-PMC-2017-995	PMC 995.17	*Geminocystis*	sp.	–
MNHN-PMC-2017-996	PMC 996.17	*Scytonema*	sp.	–
MNHN-PMC-2017-997	PMC 997.17	*Scytonematopsis*	*contorta*	–
MNHN-PMC-2017-998	PMC 998.17	*Scytonematopsis*	*contorta*	–
MNHN-PMC-2017-999	PMC 999.17	*Oscillatoria*	sp.	–
MNHN-PMC-2018-1015	PMC 1015.18	*Xenococcus*	sp.	–
MNHN-PMC-2018-1016	PMC 1016.18	*Xenococcus*	sp.	–
MNHN-PMC-2018-1020	PMC 1020.18	*Scytonema*	sp.	–
MNHN-PMC-2018-1021	PMC 1021.18	*Scytonema*	sp.	–
MNHN-PMC-2018-1022	PMC 1022.18	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2018-1023	PMC 1023.18	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2018-1024	PMC 1024.18	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2018-1025	PMC 1025.18	*Cylindrospermopsis*	*raciborskii*	–
MNHN-PMC-2018-1026	PMC 1026.18	*Limnothrix*	*planktonica*	–
MNHN-PMC-2018-1027	PMC 1027.18	*Planktothrix*	*tepida*	–
MNHN-PMC-2018-1028	PMC 1028.18	*Planktothrix*	*tepida*	–
MNHN-PMC-2018-1029	PMC 1029.18	*Planktothrix*	*tepida*	–
MNHN-PMC-2018-1030	PMC 1030.18	*Planktothrix*	*tepida*	–
MNHN-PMC-2018-1031	PMC 1031.18	*Planktothrix*	*tepida*	–
MNHN-PMC-2018-1032	PMC 1032.18	*Planktothrix*	*tepida*	–
MNHN-PMC-2018-1033	PMC 1033.18	*Planktothrix*	*tepida*	–
MNHN-PMC-2018-1034	PMC 1034.18	*Planktothrix*	*tepida*	–
MNHN-PMC-2018-1035	PMC 1035.18	*Cephalothrix*	*komarekiana*	–
MNHN-PMC-2018-1036	PMC 1036.18	*Cephalothrix*	*komarekiana*	–
MNHN-PMC-2018-1037	PMC 1037.18	*Cephalothrix*	*komarekiana*	–
MNHN-PMC-2018-1039	PMC 1039.18	*Phormidium*	sp.	–
MNHN-PMC-2018-1041	PMC 1041.18	*Arthrospira*	sp.	–
MNHN-PMC-2018-1042	PMC 1042.18	*Arthrospira*	sp.	–
MNHN-PMC-2018-1044	PMC 1044.18	*Arthrospira*	sp.	–

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RBCell ID	Short name	Genus	Species	Genbank accession number
MNHN-PMC-2018-1045	PMC 1045.18	*Arthrospira*	sp.	–
MNHN-PMC-2018-1052	PMC 1052.18	*Spirulina*	sp.	MN823171 (16S)
MNHN-PMC-2018-1058	PMC 1058.18	*Roseofilum*	sp.	–
MNHN-PMC-2018-1064	PMC 1064.18	*Limnothrix*	sp.	MN823173 (16S)
MNHN-PMC-2018-1066	PMC 1066.18	*Nodosilinea*	sp.	MN823174 (16S)
MNHN-PMC-2018-1069	PMC 1069.18	*Scytonema*	sp.	MN823176 (16S)
MNHN-PMC-2018-1070	PMC 1070.18	*Scytonema*	sp.	MN823177 (16S)
MNHN-PMC-2018-1073	PMC 1073.18	*Jaaginema*	sp.	MN823180 (16S)
MNHN-PMC-2018-1074	PMC 1074.18	*Jaaginema*	sp.	MN823181 (16S)
MNHN-PMC-2018-1078	PMC 1078.18	*Jaaginema*	sp.	MN823184 (16S)
MNHN-PMC-2018-1079	PMC 1079.18	*Jaaginema*	sp.	MN823185 (16S)
MNHN-PMC-2018-1080	PMC 1080.18	*Jaaginema*	sp.	MN823186 (16S)
MNHN-PMC-2018-1081	PMC 1081.18	*Leptolyngbya*	*circumcreta*	–
MNHN-PMC-2018-1082	PMC 1082.18	*Microcystis*	sp.	–
MNHN-PMC-2018-1083	PMC 1083.18	*Microcystis*	sp.	–
MNHN-PMC-2018-1084	PMC 1084.18	*Microcystis*	sp.	–
MNHN-PMC-2018-1089	PMC 1089.18	*Chroococcidiopsis*	sp.	–
MNHN-PMC-2019-1093	PMC 1093.19	*Leptolyngbya*	*circumcreta*	–
MNHN-PMC-2019-1094	PMC 1094.19	*Leptolyngbya*	*circumcreta*	–
MNHN-PMC-2019-1095	PMC 1095.19	*Tolypothrix*	sp.	–
MNHN-PMC-2019-1144	PMC 1144.19	*Cyanobium*	sp.	–
MNHN-PMC-2019-1145	PMC 1145.19 / PCC 7601	*Tolypothrix*	sp.	–
MNHN-PMC-2019-1146	PMC 1146.19 / UTEX 1611	*Anabaena*	*cylindrica*	–
MNHN-PMC-2019-1147	PMC 1147.19 / UTEX B1444	*Dolichospermum*	*flos-aquae*	–
MNHN-PMC-2019-1148	PMC 1148.19 / UTEX B377	*Trichormus*	*variabilis*	–
MNHN-PMC-2019-1149	PMC 1149.19	*Westiellopsis*	sp.	–
MNHN-PMC-2019-1150	PMC 1150.19 / UTEX LB756	*Nostoc*	*pruniforme*	–
MNHN-PMC-2019-1151	PMC 1151.19	*Kamptonema*	*animale*	–
MNHN-PMC-2019-1152	PMC 1152.19	*Microcoleus*	*anatoxicus*	–
MNHN-PMC-2019-1153	PMC 1153.19	*Pseudanabaena*	sp.	–
MNHN-PMC-2019-1154	PMC 1154.19	*Cryptococcum*	*komarkovae*	–
MNHN-PMC-2019-1155	PMC 1155.19	*Kamptonema*	*animale*	–
MNHN-PMC-2019-1156	PMC 1156.19	*Microcoleus*	*autumnalis*	–
MNHN-PMC-2019-1160	PMC 1160.19	*Kamptonema*	sp.	–
MNHN-PMC-2019-1161	PMC 1161.19	*Aphanocapsa*	sp.	–
MNHN-PMC-2019-1162	PMC 1162.19 / UTEX LB1635	*Dermocarpa*	*violacea*	–
MNHN-PMC-2019-1163	PMC 1163.19	*Sodalinema*	sp.	–
MNHN-PMC-2019-1164	PMC 1164.19	*Euhalothece*	*natronophila*	–
MNHN-PMC-2019-1166	PMC 1166.19	*Sodalinema*	sp.	–
MNHN-PMC-2019-1170	PMC 1170.19	*Euhalothece*	sp.	–
MNHN-PMC-2019-1171	PMC 1171.19	*Dactylococcopsis*	*salina*	–
MNHN-PMC-2019-1172	PMC 1172.19	*Euhalothece*	sp.	–
MNHN-PMC-2019-1173	PMC 1173.19	*Euhalothece*	*natronophila*	–
MNHN-PMC-2019-1174	PMC 1174.19	*Euhalothece*	*natronophila*	–
MNHN-PMC-2019-1175	PMC 1175.19	*Euhalothece*	sp.	–
MNHN-PMC-2019-1177	PMC 1177.19	*Dactylococcopsis*	*salina*	–
MNHN-PMC-2019-1178	PMC 1178.19	*Euhalothece*	sp.	–
MNHN-PMC-2019-1179	PMC 1179.19	*Sodalinema*	sp.	–
MNHN-PMC-2019-1180	PMC 1180.19	*Sodalinema*	sp.	–
MNHN-PMC-2019-1181	PMC 1181.19	*Sodalinema*	sp.	–
MNHN-PMC-2019-1182	PMC 1182.19	*Sodalinema*	sp.	–
MNHN-PMC-2019-1183	PMC 1183.19	*Euhalothece*	*natronophila*	–
MNHN-PMC-2019-1184	PMC 1184.19	*Dactylococcopsis*	*salina*	–
MNHN-PMC-2019-1186	PMC 1186.19	*Halothece*	sp.	–
MNHN-PMC-2019-1187	PMC 1187.19	*Sodalinema*	sp.	–
MNHN-PMC-2019-1189	PMC 1189.19	*Euhalothece*	*natronophila*	–
MNHN-PMC-2019-1190	PMC 1190.19	*Euhalothece*	*natronophila*	–
MNHN-PMC-2020-1194	PMC 1194.20	*Limnoraphis*	*hieronymusii*	–
MNHN-PMC-2020-1203	PMC 1203.20	*Oscillatoria*	*duplisecta*	–
MNHN-PMC-2020-1205	PMC 1205.20	*Oscillatoria*	*duplisecta*	–
MNHN-PMC-2020-1206	PMC 1206.20	*Oscillatoria*	*duplisecta*	–
MNHN-PMC-2020-1207	PMC 1207.20	*Oscillatoria*	*duplisecta*	–
MNHN-PMC-2020-1209	PMC 1209.20	*Oscillatoria*	*duplisecta*	–
MNHN-PMC-2020-1211	PMC 1211.20	*Spirulina*	*subsalsa*	–
MNHN-PMC-2020-1215	PMC 1215.20	*Koinonema*	*pervagatum*	–
MNHN-PMC-2020-1218	PMC 1218.20	*Oscillatoria*	*duplisecta*	–
MNHN-PMC-2020-1223	PMC 1223.20	*Arthrospira*	sp.	–

Appendix 1. — Continuation.

RBCell ID	Short name	Genus	Species	Genbank accession number
MNHN-PMC-2020-1224	PMC 1224.20	*Arthrospira*	sp.	–
MNHN-PMC-2020-1225	PMC 1225.20	*Arthrospira*	sp.	–
MNHN-PMC-2020-1226	PMC 1226.20	*Arthrospira*	sp.	–
MNHN-PMC-2020-1227	PMC 1227.20	*Arthrospira*	sp.	–
MNHN-PMC-2020-1228	PMC 1228.20	*Arthrospira*	sp.	–
MNHN-PMC-2020-1229	PMC 1229.20	*Arthrospira*	sp.	–
MNHN-PMC-2020-1230	PMC 1230.20	*Arthrospira*	sp.	–
MNHN-PMC-2020-1231	PMC 1231.20	*Arthrospira*	sp.	–
MNHN-PMC-2020-1232	PMC 1232.20	*Arthrospira*	sp.	–
MNHN-PMC-2020-1233	PMC 1233.20	*Arthrospira*	sp.	–
MNHN-PMC-2020-1234	PMC 1234.20	*Arthrospira*	sp.	–
MNHN-PMC-2020-1235	PMC 1235.20	*Arthrospira*	sp.	–
MNHN-PMC-2020-1236	PMC 1236.20	*Arthrospira*	sp.	–
MNHN-PMC-2020-1237	PMC 1237.20	*Arthrospira*	sp.	–
MNHN-PMC-2020-1238	PMC 1238.20	*Arthrospira*	sp.	–
MNHN-PMC-2020-1239	PMC 1239.20	*Arthrospira*	sp.	–
MNHN-PMC-2020-1240	PMC 1240.20	*Arthrospira*	sp.	–
MNHN-PMC-2020-1241	PMC 1241.20	*Arthrospira*	sp.	–
MNHN-PMC-2020-1242	PMC 1242.20	*Arthrospira*	sp.	–
MNHN-PMC-2020-1243	PMC 1243.20	*Arthrospira*	sp.	–
MNHN-PMC-2020-1244	PMC 1244.20	*Arthrospira*	sp.	–
MNHN-PMC-2020-1245	PMC 1245.20	*Arthrospira*	sp.	–
MNHN-PMC-2020-1246	PMC 1246.20	*Arthrospira*	sp.	–
MNHN-PMC-2020-1247	PMC 1247.20	*Arthrospira*	sp.	–
MNHN-PMC-2020-1248	PMC 1248.20	*Arthrospira*	sp.	–
MNHN-PMC-2020-1249	PMC 1249.20	*Arthrospira*	sp.	–
MNHN-PMC-2020-1250	PMC 1250.20	*Arthrospira*	sp.	–
MNHN-PMC-2020-1251	PMC 1251.20	*Arthrospira*	sp.	–
MNHN-PMC-2020-1252	PMC 1252.20	*Arthrospira*	sp.	–
MNHN-PMC-2020-1253	PMC 1253.20	*Arthrospira*	sp.	–
MNHN-PMC-2020-1254	PMC 1254.20	*Arthrospira*	sp.	–
MNHN-PMC-2020-1255	PMC 1255.20	*Arthrospira*	sp.	–
MNHN-PMC-2020-1256	PMC 1256.20	*Arthrospira*	sp.	–
MNHN-PMC-2020-1257	PMC 1257.20	*Arthrospira*	sp.	–
MNHN-PMC-2020-1258	PMC 1258.20	*Arthrospira*	sp.	–
MNHN-PMC-2020-1259	PMC 1259.20	*Arthrospira*	sp.	–
MNHN-PMC-2020-1260	PMC 1260.20	*Arthrospira*	sp.	–
MNHN-PMC-2020-1261	PMC 1261.20	*Arthrospira*	sp.	–
MNHN-PMC-2020-1262	PMC 1262.20	*Microcystis*	*aeruinosa*	–
MNHN-PMC-2020-1263	PMC 1263.20	*Koinonema*	*pervagatum*	–
MNHN-PMC-2020-1264	PMC 1264.20	*Tolypothrix*	sp.	–
MNHN-PMC-2020-1265	PMC 1265.20	*Tolypothrix*	sp.	–
MNHN-PMC-2020-1266	PMC 1266.20	*Tolypothrix*	sp.	–
MNHN-PMC-2020-1267	PMC 1267.20	*Microcoleus*	*vaginatus*	–
MNHN-PMC-2020-1268	PMC 1268.20	*Microcoleus*	*vaginatus*	–
MNHN-PMC-2020-1269	PMC 1269.20	*Microcoleus*	*vaginatus*	–
MNHN-PMC-2020-1270	PMC 1270.20	*Microcystis*	sp.	–
MNHN-PMC-2020-1271	PMC 1271.20	*Microcystis*	sp.	–
MNHN-PMC-2020-1272	PMC 1272.20	*Microcystis*	sp.	–
MNHN-PMC-2020-1273	PMC 1273.20	*Microcystis*	sp.	–
MNHN-PMC-2020-1274	PMC 1274.20	*Microcystis*	sp.	–
MNHN-PMC-2020-1275	PMC 1275.20	*Microcystis*	sp.	–
MNHN-PMC-2020-1276	PMC 1276.20	*Microcystis*	sp.	–
MNHN-PMC-2021-1277	PMC 1277.21	*Arthrospira*	sp.	–
MNHN-PMC-2021-1278	PMC 1278.21	*Arthrospira*	sp.	–
MNHN-PMC-2021-1279	PMC 1279.21	*Arthrospira*	sp.	–
MNHN-PMC-2021-1280	PMC 1280.21	*Arthrospira*	sp.	–
MNHN-PMC-2021-1281	PMC 1281.21	*Arthrospira*	sp.	–
MNHN-PMC-2021-1282	PMC 1282.21	*Arthrospira*	sp.	–
MNHN-PMC-2021-1283	PMC 1283.21	*Arthrospira*	sp.	–
MNHN-PMC-2021-1284	PMC 1284.21	*Arthrospira*	sp.	–
MNHN-PMC-2021-1285	PMC 1285.21	*Arthrospira*	sp.	–
MNHN-PMC-2021-1286	PMC 1286.21	*Arthrospira*	sp.	–
MNHN-PMC-2021-1287	PMC 1287.21	*Arthrospira*	sp.	–
MNHN-PMC-2021-1288	PMC 1288.21	*Arthrospira*	sp.	–
MNHN-PMC-2021-1289	PMC 1289.21	*Arthrospira*	sp.	–
MNHN-PMC-2021-1290	PMC 1290.21	*Arthrospira*	sp.	–
MNHN-PMC-2021-1291	PMC 1291.21	*Arthrospira*	sp.	–
MNHN-PMC-2021-1292	PMC 1292.21	*Arthrospira*	sp.	–
MNHN-PMC-2021-1293	PMC 1293.21	*Arthrospira*	sp.	–

APPENDIX 1. — Continuation.

RBCell ID	Short name	Genus	Species	Genbank accession number
MNHN-PMC-2021-1294	PMC 1294.21	*Arthrospira*	sp.	–
MNHN-PMC-2021-1295	PMC 1295.21	*Arthrospira*	sp.	–
MNHN-PMC-2021-1296	PMC 1296.21	*Arthrospira*	sp.	–
MNHN-PMC-2021-1297	PMC 1297.21	*Arthrospira*	sp.	–
MNHN-PMC-2021-1298	PMC 1298.21	*Arthrospira*	sp.	–
MNHN-PMC-2021-1299	PMC 1299.21	*Arthrospira*	sp.	–
MNHN-PMC-2021-1300	PMC 1300.21	*Arthrospira*	sp.	–
MNHN-PMC-2021-1301	PMC 1301.21	*Arthrospira*	sp.	–
MNHN-PMC-2021-1302	PMC 1302.21	*Arthrospira*	sp.	–
MNHN-PMC-2021-1303	PMC 1303.21	*Arthrospira*	sp.	–
MNHN-PMC-2021-1304	PMC 1304.21	*Arthrospira*	sp.	–
MNHN-PMC-2021-1305	PMC 1305.21	*Arthrospira*	sp.	–
MNHN-PMC-2021-1306	PMC 1306.21	*Arthrospira*	sp.	–
MNHN-PMC-2021-1307	PMC 1307.21	*Arthrospira*	sp.	–
MNHN-PMC-2021-1308	PMC 1308.21	*Arthrospira*	sp.	–
MNHN-PMC-2021-1309	PMC 1309.21	*Arthrospira*	sp.	–
MNHN-PMC-2021-1311	PMC 1311.21	*Microcystis*	sp.	–
MNHN-PMC-2021-1312	PMC 1312.21	*Microcystis*	sp.	–
MNHN-PMC-2021-1313	PMC 1313.21	*Microcystis*	sp.	–
MNHN-PMC-2021-1314	PMC 1314.21	*Microcystis*	sp.	–
MNHN-PMC-2021-1315	PMC 1315.21	*Microcystis*	sp.	–
MNHN-PMC-2021-1316	PMC 1316.21	*Microcystis*	sp.	–
MNHN-PMC-2021-1317	PMC 1317.21	*Microcystis*	sp.	–
MNHN-PMC-2021-1318	PMC 1318.21	*Microcystis*	sp.	–
MNHN-PMC-2021-1319	PMC 1319.21	*Microcystis*	sp.	–
MNHN-PMC-2021-1320	PMC 1320.21	*Microcystis*	sp.	–
MNHN-PMC-2021-1321	PMC 1321.21	*Microcystis*	sp.	–
MNHN-PMC-2021-1322	PMC 1322.21	*Microcystis*	sp.	–
MNHN-PMC-2021-1323	PMC 1323.21	*Microcystis*	sp.	–
MNHN-PMC-2021-1324	PMC 1324.21	*Microcystis*	sp.	–
MNHN-PMC-2021-1325	PMC 1325.21	*Microcystis*	sp.	–
MNHN-PMC-2021-1326	PMC 1326.21	*Microcystis*	sp.	–
MNHN-PMC-2021-1327	PMC 1327.21	*Microcystis*	sp.	–
MNHN-PMC-2021-1328	PMC 1328.21	*Microcystis*	sp.	–
MNHN-PMC-2021-1329	PMC 1329.21	*Microcystis*	sp.	–
MNHN-PMC-2021-1330	PMC 1330.21	*Microcystis*	sp.	–
MNHN-PMC-2021-1331	PMC 1331.21	*Microcystis*	sp.	–
MNHN-PMC-2021-1332	PMC 1332.21	*Microcystis*	sp.	–
MNHN-ALCP-0000-002.1	ALCP 317	*Characiopsis*	sp.	–
MNHN-ALCP-0000-003.1	ALCP 318	*Chlorobotrys*	sp.	–
MNHN-ALCP-0000-004.1	ALCP 297	*Nephrodiella*	*brevis*	–
MNHN-ALCP-0000-006.3	ALCP 217	*Euglena*	*gracilis*	–
MNHN-ALCP-0000-010.1	ALCP 151	*Actidesmium*	*hookeri*	–
MNHN-ALCP-0000-012.3	ALCP 73a	*Ankistrodesmus*	*falcatus*	–
MNHN-ALCP-0000-012.4	ALCP 74b	*Ankistrodesmus*	*falcatus*	–
MNHN-ALCP-0000-012.5	ALCP 77	*Ankistrodesmus*	*falcatus*	–
MNHN-ALCP-0000-012.9	ALCP B3	*Ankistrodesmus*	*falcatus*	–
MNHN-ALCP-0000-013.1	ALCP B1	*Ankistrodesmus*	sp.	–
MNHN-ALCP-0000-016.1	ALCP B28	*Botryococcus*	*braunii*	–
MNHN-ALCP-0000-017.1	ALCP 302	*Botryosphaera*	sp.	–
MNHN-ALCP-0000-018.1	ALCP B29	*Botryosphaera*	*sudetica*	–
MNHN-ALCP-0000-020.1	ALCP 332	*Chaetophora*	sp.	–
MNHN-ALCP-0000-023.1	ALCP B22	*Chlamydomonas*	*minuta*	–
MNHN-ALCP-0000-027.1	ALCP 165	*Chlamydomonas*	*reinharditii*	–
MNHN-ALCP-0000-027.2	ALCP 166	*Chlamydomonas*	*reinharditii*	–
MNHN-ALCP-0000-027.3	ALCP 170	*Chlamydomonas*	*reinharditii*	–
MNHN-ALCP-0000-028.1	ALCP 323	*Chlamydomonas*	sp.	–
MNHN-ALCP-0000-030.1	ALCP 327	*Chlamydomonas*	sp.	–
MNHN-ALCP-0000-031.1	ALCP 162	*Chlamydomonas*	*variabilis*	–
MNHN-ALCP-0000-032.1	ALCP 87a	*Coccomyxa*	*polymorpha*	–
MNHN-ALCP-0000-032.2	ALCP 88b	*Coccomyxa*	*polymorpha*	–
MNHN-ALCP-0000-033.1	ALCP 213	*Coccomyxa*	*polymorpha*	–
MNHN-ALCP-0000-034.1	ALCP 400	*Chlorella*	*vulgaris*	–
MNHN-ALCP-0000-035.1	ALCP 212c	*Chlorella*	*vulgaris*	–
MNHN-ALCP-0000-035.2	ALCP 221a	*Chlorella*	*vulgaris*	–
MNHN-ALCP-0000-035.3	ALCP 222b	*Chlorella*	*vulgaris*	–
MNHN-ALCP-0000-037.1	ALCP 174	*Chlorhormidium*	*nitens*	–
MNHN-ALCP-0000-044.1	ALCP 197	*Coelastrella*	sp.	–
MNHN-ALCP-0000-045.1	ALCP 196	*Coccomyxa*	*polymorpha*	–
MNHN-ALCP-0000-047.2	ALCP 124a	*Coelastrum*	*microporum*	–

APPENDIX 1. — Continuation.

RBCell ID	Short name	Genus	Species	Genbank accession number
MNHN-ALCP-0000-048.1	ALCP 127	*Coelastrum*	*proboscideum*	–
MNHN-ALCP-0000-055.1	ALCP 15	*Cosmarium*	*impressulum*	–
MNHN-ALCP-0000-064.1	ALCP 578	*Diplosphaera*	sp.	–
MNHN-ALCP-0000-065.1	ALCP 581	*Diplosphaera*	sp.	–
MNHN-ALCP-0000-066.1	ALCP 356	*Enallax*	*coelastroïdes*	–
MNHN-ALCP-0000-069.1	ALCP 188a	*Haematococcus*	*pluvialis*	–
MNHN-ALCP-0000-069.2	ALCP 341b	*Haematococcus*	*pluvialis*	–
MNHN-ALCP-0000-069.3	ALCP B16	*Haematococcus*	*pluvialis*	–
MNHN-ALCP-0000-069.4	ALCP B17	*Haematococcus*	*pluvialis*	–
MNHN-ALCP-0000-069.5	ALCP B18	*Haematococcus*	*pluvialis*	–
MNHN-ALCP-0000-069.6	ALCP B19	*Haematococcus*	*pluvialis*	–
MNHN-ALCP-0000-070.1	ALCP B15	*Hormidium*	*staenidium*	–
MNHN-ALCP-0000-073.1	ALCP 92	*Kirchneriella*	*lunaris*	–
MNHN-ALCP-0000-074.2	ALCP 313	*Kirchneriella*	*obesa*	–
MNHN-ALCP-0000-076.2	ALCP 271a	*Micrasterias*	*crux-melitensis*	–
MNHN-ALCP-0000-081.1	ALCP 362	*Microthamnion*	sp.	–
MNHN-ALCP-0000-085.1	ALCP 367	*Muriella*	*aurantiaca*	–
MNHN-ALCP-0000-086.1	ALCP 32a	*Onychonema*	*filiforme*	–
MNHN-ALCP-0000-087.1	ALCP 314	*Oocystis*	*borgei*	–
MNHN-ALCP-0000-088.1	ALCP 93	*Oocystis*	*crassa*	–
MNHN-ALCP-0000-089.1	ALCP 195	*Oocystis*	*rupestris*	–
MNHN-ALCP-0000-090.1	ALCP B6	*Oocystis*	*spinulosum*	–
MNHN-ALCP-0000-092.1	ALCP 53a	*Pediastrum*	*angulosum*	–
MNHN-ALCP-0000-092.2	ALCP 54b	*Pediastrum*	*angulosum*	–
MNHN-ALCP-0000-093.1	ALCP 56a	*Pediastrum*	*boryanum*	–
MNHN-ALCP-0000-093.2	ALCP 57	*Pediastrum*	*boryanum*	–
MNHN-ALCP-0000-093.3	ALCP B4	*Pediastrum*	*boryanum*	–
MNHN-ALCP-0000-096.1	ALCP 55	*Pediastrum*	*integrum*	–
MNHN-ALCP-0000-097.1	ALCP B5	*Pediastrum*	*kawraiskyi*	–
MNHN-ALCP-0000-100.2	ALCP 138	*Porphyridium*	*purpureum*	–
MNHN-ALCP-0000-101.1	ALCP 187	*Scenedesmus*	*acuminatus*	–
MNHN-ALCP-0000-102.1	ALCP 186	*Scenedesmus*	*acutiformis*	–
MNHN-ALCP-0000-103.2	ALCP 403d	*Tetradesmus*	*obliquus*	–
MNHN-ALCP-0000-105.1	ALCP 176	*Scenedesmus*	*brasiliensis*	–
MNHN-ALCP-0000-105.2	ALCP 178	*Scenedesmus*	*brasiliensis*	–
MNHN-ALCP-0000-106.1	ALCP 345b	*Scenedesmus*	*crassus*	–
MNHN-ALCP-0000-107.1	ALCP 179	*Scenedesmus*	*dimorphus*	–
MNHN-ALCP-0000-109.2	ALCP 70a	*Scenedesmus*	*heimii*	–
MNHN-ALCP-0000-109.3	ALCP 71b	*Scenedesmus*	*heimii*	–
MNHN-ALCP-0000-110.1	ALCP 346d	*Scenedesmus*	*oahuensis*	–
MNHN-ALCP-0000-110.2	ALCP 348c	*Scenedesmus*	*oahuensis*	–
MNHN-ALCP-0000-110.3	ALCP 67b	*Scenedesmus*	*oahuensis*	–
MNHN-ALCP-0000-111.1	ALCP 349	*Tetradesmus*	*obliquus*	–
MNHN-ALCP-0000-112.1	ALCP 184	*Scenedesmus*	*ovalternus*	–
MNHN-ALCP-0000-112.2	ALCP 347	*Scenedesmus*	*ovalternus*	–
MNHN-ALCP-0000-113.1	ALCP 278d	*Scenedesmus*	*parisiensis*	–
MNHN-ALCP-0000-113.2	ALCP 404a	*Scenedesmus*	*parisiensis*	–
MNHN-ALCP-0000-113.3	ALCP 405b	*Scenedesmus*	*parisiensis*	–
MNHN-ALCP-0000-113.4	ALCP 406c	*Scenedesmus*	*parisiensis*	–
MNHN-ALCP-0000-115.1	ALCP 249	*Scenedesmus*	sp.	–
MNHN-ALCP-0000-116.1	ALCP 338	*Scenedesmus*	sp.	–
MNHN-ALCP-0000-117.1	ALCP 342	*Scenedesmus*	sp.	–
MNHN-ALCP-0000-118.1	ALCP 72	*Desmodesmus*	*subspicatus*	–
MNHN-ALCP-0000-119.1	ALCP 181	*Scenedesmus*	*tetradesmiformis*	–
MNHN-ALCP-0000-131.2	ALCP 322	*Stichococcus*	*bacillaris*	–
MNHN-ALCP-0000-134.1	ALCP 63	*Tetrallantos*	*lagerheimii*	–
MNHN-ALCP-0000-138.1	ALCP 321	*Tribonema*	sp.	–
MNHN-ALCP-0000-139.1	ALCP 198	*Westella*	*botryoides*	–
MNHN-ALCP-2018-144.1	ALCP 144.1	*Picocystis*	*salinarum*	MF579921.1
MNHN-ALCP-2018-145.1	ALCP 145.1	*Picocystis*	*salinarum*	MF579919.1
MNHN-ALCP-2018-146.1	ALCP 146.1	*Picocystis*	*salinarum*	MF579920.1
MNHN-ALCP-2018-148.1	ALCP 148.1	*Picocystis*	*salinarum*	MF579922.1
MNHN-ALCP-2018-149.1	ALCP 149.1	*Picocystis*	*salinarum*	MF579923.1
MNHN-ALCP-2018-151.1	CSTB 679E	*Bracteacoccus*	sp.	–
MNHN-ALCP-2018-152.1	CSTB 691F	*Bracteacoccus*	sp.	–
MNHN-ALCP-2018-154.1	CSTB 774B	*Chloroidium*	*ellipsoideum*	–
MNHN-ALCP-2018-155.1	CSTB 776A	*Coelastrella*	*rubescens*	–
MNHN-ALCP-2018-156.1	CSTB 871C	*Chlorella*	*vulgaris*	–
MNHN-ALCP-2018-157.1	CSTB 678F	*Chlorella*	*vulgaris*	–
MNHN-ALCP-2018-158.1	CSTB 876A	*Chlorella*	*vulgaris*	–

Appendix 1. — Continuation.

RBCell ID	Short name	Genus	Species	Genbank accession number
MNHN-ALCP-2018-159.1	CSTB 171F	*Coelastrella*	sp.	–
MNHN-ALCP-2018-160.1	CSTB 221B	*Chlorella*	*vulgaris*	–
MNHN-ALCP-2018-161.1	CSTB 751D	*Coelastrella*	*multistriata*	–
MNHN-ALCP-2018-162.1	CSTB 873C	*Chlorella*	*vulgaris*	–
MNHN-ALCP-2018-163.1	CSTB 7712C	*Coelastrella*	*rubescens*	–
MNHN-ALCP-2018-165.1	CSTB 7713G	*Diplosphaera*	sp.	–
MNHN-ALCP-2018-167.1	CSTB 446C	*Klebsormidium*	*flaccidum*	–
MNHN-ALCP-2018-168.1	CSTB 692C	*Klebsormidium*	*flaccidum*	–
MNHN-ALCP-2018-170.1	CSTB 745C	*Klebsormidium*	*flaccidum*	–
MNHN-ALCP-2018-171.1	CSTB 749B	*Klebsormidium*	*flaccidum*	–
MNHN-ALCP-2018-172.1	CSTB 747C	*Stichococcus*	*bacillaris*	–
MNHN-ALCP-2018-173.1	CSTB 7713A	*Stichococcus*	*bacillaris*	–
MNHN-ALCP-2018-174.1	CSTB 772A	*Protostichococcus*	*edaphicus*	–
MNHN-ALCP-2018-174.2	CSTB 772B	*Protostichococcus*	*edaphicus*	–
MNHN-ALCP-2018-176.1	ALCP B.37.14	*Chlamydomonas*	sp.	–
MNHN-ALCP-2018-177.1	ALCP B.38.14	*Cosmarium*	*granatum*	–
MNHN-ALCP-2018-178.1	ALCP B.39.14	*Sphaerocystis*	*schroeteri*	–
MNHN-ALCP-2018-188.1	ALCP 15bis	*Closterium*	*moniliferum*	–
MNHN-ALCP-2018-189.1	ALCP	*Chlorococcum*	sp.	–
MNHN-ALCP-2019-819.1	ALCP FH	*Gonium*	*formosum*	–
MNHN-ALCP-2019-819.2	ALCP F14	*Gonium*	*formosum*	–
MNHN-ALCP-2019-819.3	ALCP F39	*Gonium*	*formosum*	–
MNHN-ALCP-2019-820.1	ALCP FB1	*Scenedesmus*	*acuminatus*	–
MNHN-ALCP-2019-820.2	ALCP FB2	*Scenedesmus*	*acuminatus*	–
MNHN-ALCP-2019-821.1	ALCP FP	*Micrasterias*	*furcata*	–
MNHN-ALCP-2019-821.2	ALCP FR	*Micrasterias*	*furcata*	–
MNHN-ALCP-2019-821.3	ALCP F1	*Micrasterias*	*furcata*	–
MNHN-ALCP-2019-821.4	ALCP F2	*Micrasterias*	*furcata*	–
MNHN-ALCP-2019-821.5	ALCP F23	*Micrasterias*	*furcata*	–
MNHN-ALCP-2019-822.1	ALCP FC1	*Monoraphidium*	sp.	–
MNHN-ALCP-2019-822.2	ALCP FC2	*Monoraphidium*	sp.	–
MNHN-ALCP-2019-823.1	ALCP F37	*Staurastrum*	*polytrichum*	–
MNHN-ALCP-2019-823.2	ALCP F38	*Staurastrum*	*polytrichum*	–
MNHN-ALCP-2019-824.1	ALCP F32	*Scenedesmus*	sp.	–
MNHN-ALCP-2019-825.1	ALCP FQ	*Scenedesmus*	sp.	–
MNHN-ALCP-2019-826.1	ALCP F23 bis	*Kirchneriella*	sp.	–
MNHN-ALCP-2019-827.1	ALCP FF	*Kirchneriella*	sp.	–
MNHN-ALCP-2019-828.1	ALCP F22	*Staurastrum*	*crenulatum*	–
MNHN-ALCP-2019-829.1	ALCP NC	*Euglena*	sp.	–
MNHN-ALCP-2019-830.1	ALCP F1	*Cosmarium*	*pachydermum*	–
MNHN-ALCP-2019-831.1	ALCP F3	*Cosmarium*	*pachydermum*	–
MNHN-ALCP-2019-832.1	ALCP F4	*Cosmarium*	*connatum*	–
MNHN-ALCP-2019-833.1	ALCP F5/S	*Cosmarium*	*pachydermum*	–
MNHN-ALCP-2019-834.1	ALCP 25	*Cosmarium*	sp.	–
MNHN-ALCP-2019-835.1	ALCP FA	*Staurastrum*	*minimum*	–
MNHN-ALCP-2019-836.1	ALCP Fii	*Staurastrum*	*crenulatum*	–
MNHN-ALCP-2019-837.1	ALCP FAA	*Pediastrum*	*duplex*	–
MNHN-ALCP-2019-838.1	ALCP FDD	*Pediastrum*	*duplex*	–
MNHN-ALCP-2019-840.1	ALCP F13	*Pediastrum*	*simplex*	–
MNHN-ALCP-2019-841.1	ALCP F15	*Pediastrum*	*duplex*	–
MNHN-ALCP-2019-842.1	ALCP F17	*Pediastrum*	*simplex*	–
MNHN-ALCP-2019-843.1	ALCP F19	*Pediastrum*	*duplex*	–
MNHN-ALCP-2019-844.1	ALCP FSS	*Pediastrum*	*simplex*	–
MNHN-ALCP-2019-845.1	ALCP FRR	*Scenedesmus*	sp.	–
MNHN-ALCP-2019-847.1	ALCP FD	*Coelastrum*	*astroideum*	–
MNHN-ALCP-2019-849.1	ALCP FBB	*Coelastrum*	sp.	–
MNHN-ALCP-2019-850.1	ALCP FEE	*Coelastrum*	*microporum*	–
MNHN-ALCP-2019-851.1	ALCP FHH	*Scenedesmus*	sp.	–
MNHN-ALCP-2019-852.1	ALCP FQQ	*Coelastrum*	*microporum*	–
MNHN-ALCP-2019-853.1	ALCP FF	*Scenedesmus*	sp.	–
MNHN-ALCP-2019-854.1	ALCP F9.E2	*Stigeoclonium*	sp.	–
MNHN-ALCP-2019-855.1	ALCP FJJ	*Scenedesmus*	sp.	–
MNHN-ALCP-2019-856.1	ALCP F26	*Scenedesmus*	sp.	–
MNHN-ALCP-2019-857.1	ALCP F28	*Closterium*	*strigosum*	–
MNHN-ALCP-2019-858.1	ALCP F34	*Spirogyra*	*varians*	–
MNHN-ALCP-2019-859.1	ALCP F6	*Closterium*	*moniliferum*	–
MNHN-ALCP-2019-860.1	ALCP F7	*Closterium*	*moniliferum*	–
MNHN-ALCP-2019-861.1	ALCP F9	*Closterium*	*moniliferum*	–
MNHN-ALCP-2019-862.1	ALCP F10	*Closterium*	*moniliferum*	–
MNHN-ALCP-2019-863.1	ALCP F12.3	*Closterium*	*moniliferum*	–

Appendix 1. — Continuation.

RBCell ID	Short name	Genus	Species	Genbank accession number
MNHN-ALCP-2019-865.1	ALCP F21	*Dictyosphaerium*	*pulchellum*	–
MNHN-ALCP-2019-866.1	ALCP F22	*Coelastrum*	*microporum*	–
MNHN-ALCP-2019-867.1	ALCP F30	*Oedogonium*	sp.	–
MNHN-ALCP-2019-868.1	ALCP F31	*Pediastrum*	sp.	–
MNHN-ALCP-2019-869.1	ALCP F29	*Stigeoclonium*	sp.	–
MNHN-ALCP-2019-870.1	ALCP F40	*Selenastrum*	sp.	–
MNHN-ALCP-2019-871.1	ALCP F35 bis	*Pediastrum*	*boryanum*	–
MNHN-ALCP-2019-872.1	ALCP F39	*Chlamydomonas*	sp.	–
MNHN-ALCP-2019-872.2	ALCP F44	*Chlamydomonas*	sp.	–
MNHN-ALCP-2019-872.3	ALCP F45	*Chlamydomonas*	sp.	–
MNHN-ALCP-2019-872.4	ALCP F46	*Chlamydomonas*	sp.	–
MNHN-ALCP-2019-873.1	mt1-Pd3-05	*Ostreobium*	sp.	MK095217
MNHN-ALCP-2019-873.2	mt1-Pd2-06	*Ostreobium*	sp.	MK095220
MNHN-ALCP-2019-873.3	mt1-Pd2-010	*Ostreobium*	sp.	MK095212
MNHN-ALCP-2019-873.5	mt1-Pd3-018A	*Ostreobium*	sp.	MK095218
MNHN-ALCP-2019-873.6	mt1-Pd3-018B	*Ostreobium*	sp.	MK095215
MNHN-ALCP-2019-873.7	mt1-Pd3-018C	*Ostreobium*	sp.	MK095216
MNHN-ALCP-2019-874.8	mt1-Pd3-019	*Ostreobium*	sp.	MK095213
MNHN-ALCP-2019-874.1	mt1-Pd2-04C	*Phaeophila*	*dendroides*	–
MNHN-ALCP-2019-875.1	ALCP F20	*Coelastrum*	sp.	–
MNHN-ALCP-2019-876.1	ALCP H-MAR	*Haematococcus*	*pluvialis*	–
MNHN-ALCP-2019-877.1	ALCP F1	*Synura*	*petersenii*	–
MNHN-ALCP-2019-877.2	ALCP F2	*Synura*	*petersenii*	–
MNHN-ALCP-2019-877.3	ALCP F3	*Synura*	*petersenii*	–
MNHN-ALCP-2019-877.4	ALCP F4	*Synura*	*petersenii*	–
MNHN-ALCP-2019-877.5	ALCP F5	*Synura*	*petersenii*	–
MNHN-ALCP-2019-878.1	ALCP F5	*Pleurotaenium*	*trabecula*	–
MNHN-ALCP-2019-878.2	ALCP F24	*Pleurotaenium*	*trabecula*	–
MNHN-ALCP-2019-878.3	ALCP F0	*Pleurotaenium*	*trabecula*	–
MNHN-ALCP-2019-879.1	ALCP SC	*Gymnodinium*	sp.	–
MNHN-ALCP-2019-879.2	ALCP SD	*Gymnodinium*	sp.	–
MNHN-ALCP-2019-879.3	ALCP SA	*Gymnodinium*	sp.	–
MNHN-ALCP-2019-880.1	ALCP PP	*Closterium*	*acutum*	–
MNHN-ALCP-2020-881.1	CSTB 691D	*Coelastrella*	*multistriata*	–
MNHN-ALCP-2020-884.1	ALCP Grav 1	*Centronella*	*reicheltii*	–
MNHN-ALCP-2020-884.2	ALCP Grav 2	*Centronella*	*reicheltii*	–
MNHN-ALCP-2020-884.3	ALCP Grav 3	*Centronella*	*reicheltii*	–
MNHN-ALCP-2020-885.1	ALCP F48	*Closterium*	*moniliferum*	–
MNHN-ALCP-2020-886.1	ALCP F23	*Staurastrum*	*gracile*	–
MNHN-ALCP-2020-887.1	ALCP F6	*Staurastrum*	*gracile*	–
MNHN-ALCP-2020-887.2	ALCP F7	*Staurastrum*	*gracile*	–
MNHN-ALCP-2020-887.3	ALCP F8	*Staurastrum*	*gracile*	–
MNHN-ALCP-2020-887.4	ALCP F9	*Staurastrum*	*gracile*	–
MNHN-ALCP-2020-888.1	ALCP F1	*Pediastrum*	*simplex*	–
MNHN-ALCP-2020-889.1	ALCP F2	*Pediastrum*	*duplex*	–
MNHN-ALCP-2020-890.1	ALCP F3	*Pediastrum*	*simplex*	–
MNHN-ALCP-2020-891.1	ALCP F4	*Pediastrum*	*simplex*	–
MNHN-ALCP-2020-892.1	ALCP F5	*Pediastrum*	*simplex*	–
MNHN-ALCP-2020-893.1	ALCP F10	*Coelastrum*	*microporum*	–
MNHN-ALCP-2020-894.1	ALCP F11	*Coelastrum*	*microporum*	–
MNHN-ALCP-2020-895.1	ALCP F12	*Pediastrum*	*boryanum*	–
MNHN-ALCP-2020-896.1	ALCP F13	*Pediastrum*	*boryanum*	–
MNHN-ALCP-2020-897.1	ALCP F14	*Pediastrum*	*boryanum*	–
MNHN-ALCP-2020-898.1	ALCP F15	*Pediastrum*	*boryanum*	–
MNHN-ALCP-2020-899.1	ALCP F22	*Pediastrum*	*simplex*	–
MNHN-ALCP-2020-900.1	ALCP FM	*Gonium*	*formosum*	–
MNHN-ALCP-2020-901.1	ALCP FA	*Spirogyra*	*varians*	–
MNHN-ALCP-2020-902.1	ALCP FB	*Spirogyra*	*varians*	–
MNHN-ALCP-2020-903.1	ALCP - F24	*Monoraphidium*	sp.	–
MNHN-ALCP-2020-904.1	ALCP Grav 1	*Haematococcus*	*pluvialis*	–
MNHN-ALCP-2020-905.1	ALCP Grav 2	*Haematococcus*	*pluvialis*	–
MNHN-ALCP-2020-906.1	ALCP Grav 3	*Haematococcus*	*pluvialis*	–
MNHN-ALCP-2020-907.1	ALCP Grav 4	*Haematococcus*	*pluvialis*	–
MNHN-ALCP-2020-908.1	ALCP Grav 5	*Haematococcus*	*pluvialis*	–
MNHN-ALCP-2020-909.1	ALCP Grav 6	*Haematococcus*	*pluvialis*	–
MNHN-ALCP-2020-910.1	ALCP Grav 7	*Haematococcus*	*pluvialis*	–
MNHN-ALCP-2020-911.1	ALCP Grav 8	*Haematococcus*	*pluvialis*	–
MNHN-ALCP-2020-912.1	ALCP Grav 9	*Haematococcus*	*pluvialis*	–
MNHN-ALCP-2020-913.1	ALCP Grav 10	*Haematococcus*	*pluvialis*	–
MNHN-ALCP-2020-914.1	ALCP Grav 11	*Haematococcus*	*pluvialis*	–

Appendix 1. — Continuation.

RBCell ID	Short name	Genus	Species	Genbank accession number
MNHN-ALCP-2020-915.1	ALCP Grav 12	*Haematococcus*	*pluvialis*	–
MNHN-ALCP-2020-916.1	ALCP Grav 13	*Haematococcus*	*pluvialis*	–
MNHN-ALCP-2020-917.1	ALCP Grav 14	*Haematococcus*	*pluvialis*	–
MNHN-ALCP-2020-918.1	ALCP Grav 15	*Haematococcus*	*pluvialis*	–
MNHN-ALCP-2021-919.1	ALCP - St Hub	*Peridinium*	sp.	–
MNHN-ALCP-2021-920.1	ALCP - St Hub 1	*Peridinium*	sp.	–
MNHN-ALCP-2021-921.1	ALCP - St Hub 2	*Peridinium*	sp.	–
MNHN-ALCP-2021-922.1	ALCP - St Hub 3	*Peridinium*	sp.	–
MNHN-ALCP-2021-923.1	ALCP - St Hub 4	*Peridinium*	sp.	–
MNHN-ALCP-2021-924.1	ALCP - St Hub 5	*Peridinium*	sp.	–
MNHN-ALCP-2021-925.1	ALCP - Grav 1	*Synura*	*petersenii*	–
MNHN-ALCP-2021-925.2	ALCP - Grav 2	*Synura*	*petersenii*	–
MNHN-ALCP-2021-925.3	ALCP - Grav 3	*Synura*	*petersenii*	–
MNHN-ALCP-2021-925.4	ALCP - Grav 4	*Synura*	*petersenii*	–
MNHN-ALCP-2021-925.5	ALCP - Grav 5	*Synura*	*petersenii*	–
MNHN-ALCP-2021-925.6	ALCP - Grav 6	*Synura*	*petersenii*	–
MNHN-ALCP-2021-926.1	ALCP - J-DBR 1	*Haematococcus*	*pluvialis*	–
MNHN-ALCP-2021-927.1	ALCP - J-DBR 2	*Haematococcus*	*pluvialis*	–
MNHN-ALCP-2021-928.1	ALCP - J-DBR 3	*Haematococcus*	*pluvialis*	–
MNHN-ALCP-2021-929.1	ALCP - J-DBR 4	*Haematococcus*	*pluvialis*	–
MNHN-ALCP-2021-930.1	ALCP - J-DBR 5	*Haematococcus*	*pluvialis*	–
MNHN-ALCP-2021-931.1	ALCP - Grav F59	*Haematococcus*	*pluvialis*	–
MNHN-ALCP-2021-932.1	ALCP - Grav F60	*Haematococcus*	*pluvialis*	–
MNHN-ALCP-2021-933.1	ALCP - SEI 1.1	*Closterium*	sp.	–
MNHN-ALCP-2021-933.2	ALCP - SEI 1.2	*Closterium*	sp.	–
MNHN-ALCP-2021-934.1	ALCP - SEI 2	*Spirogyra*	*varians*	–
MNHN-ALCP-2021-935.1	ALCP - SEI 3	*Spirogyra*	*varians*	–
MNHN-ALCP-2021-936.1	ALCP - SEI 4	*Pediastrum*	sp.	–
MNHN-ALCP-2021-937.1	ALCP - JDP F8	*Pandorina*	*morum*	–
MNHN-ALCP-2021-938.1	ALCP - JDP F 11	*Pandorina*	*morum*	–
MNHN-ALCP-2021-939.1	ALCP - JDP F 12	*Pandorina*	*morum*	–
MNHN-ALCP-2021-940.1	ALCP - JDP F 25	*Cosmarium*	*granatum*	–
MNHN-ALCP-2021-941.1	ALCP - JDP F 27	*Cosmarium*	*granatum*	–
MNHN-ALCP-2021-942.1	ALCP - JDP F 38	*Closterium*	*moniliferum*	–
MNHN-ALCP-2021-943.1	ALCP - CER S1	*Botryococcus*	sp.	–
MNHN-ALCP-2021-944.1	ALCP - CER S2	*Botryococcus*	sp.	–
MNHN-ALCP-2021-945.1	ALCP - CER S3	*Botryococcus*	sp.	–
MNHN-ALCP-2021-946.1	ALCP - CER F 26	*Zygnema*	*stellinum*	–
MNHN-ALCP-2021-947.1	ALCP - CER F 58	*Zygnema*	*stellinum*	–
MNHN-ALCP-2021-948.1	ALCP - CER F30	*Cosmarium*	sp.	–
MNHN-ALCP-2021-949.1	ALCP - CER F31	*Cosmarium*	sp.	–
MNHN-ALCP-2021-950.1	ALCP - CER F32	*Cosmarium*	sp.	–
MNHN-ALCP-2021-951.1	ALCP - CER F47	*Staurastrum*	sp.	–
MNHN-ALCP-2021-952.1	ALCP - Grav F43	*Crucigenia*	*rectangularis*	–
MNHN-ALCP-2021-953.1	ALCP - Grav F44	*Coelastrum*	*microporum*	–
MNHN-ALCP-2021-954.1	ALCP - Gourg F57	*Closterium*	*littoral*	–
MNHN-ALCP-2021-955.1	ALCP - JDP FA1	*Phacus*	*pleuronectes*	–
MNHN-ALCP-2021-955.2	ALCP - JDP FA2	*Phacus*	*pleuronectes*	–
MNHN-ALCP-2021-955.3	ALCP - JDP FA3	*Phacus*	*pleuronectes*	–
MNHN-ALCP-2021-956.1	CSTB 776B	*Chlorella*	*vulgaris*	–
MNHN-ALCP-2021-957.1	ALCP - JDP F13	*Closterium*	*moniliferum*	–
MNHN-ALCP-2021-958.1	ALCP - GLS F1	*Staurodesmus*	sp.	–
MNHN-ALCP-2021-959.1	ALCP - GLS F2	*Staurodesmus*	sp.	–
MNHN-ALCP-2021-960.1	ALCP - GLS F3	*Staurodesmus*	sp.	–
MNHN-ALCP-2021-961.1	ALCP - GLS F4	*Staurodesmus*	sp.	–
MNHN-ALCP-2021-962.1	ALCP - CER F1	*Peridinium*	sp.	–
MNHN-ALCP-2021-963.1	ALCP - CER F2	*Peridinium*	sp.	–
MNHN-ALCP-2021-964.1	ALCP - CER F3	*Peridinium*	sp.	–

Appendix 2. — *IN MEMORIAM* : PROFESSEUR ALAIN COUTÉ (1938-2020)

Le Professeur Alain Couté s'est éteint brutalement à l'âge de 82 ans le 16 août 2020 en plein crise sanitaire de la covid-19. Il passa les cinq derniers mois de sa vie confiné, loin du Muséum national d'Histoire naturelle qu'il affectionnait tant. Il travaillait sur l'inventaire des microalgues de Nouvelle-Calédonie, récoltées lors de sa dernière expédition en 2018.

Professeur émérite, Alain Couté exerça près de 50 ans en tant que phycologue au Muséum national d'Histoire naturelle. Sa renommée en France et à l'étranger est à la hauteur de l'immense travail qu'il a réalisé et qu'il nous laisse sur la taxinomie des cyanobactéries et des microalgues.

Né à Niort, dans les deux Sèvres, le 31 décembre 1938, il passa toute son enfance et sa scolarité à Montargis. Jeune, Alain Couté se destinait à une carrière de professeur de gymnastique. Il fut d'abord maître d'internat au lycée technique Durzy à Montargis puis au lycée Chaptal à Paris. Il fut adjoint d'enseignement au lycée Charlemagne (Paris) puis maître auxiliaire à l'école Sainte-Marie de Monceau (Paris) et professeur de sciences naturelles à l'école Fénelon et à l'institution Sainte-Marie (Paris) jusqu'en 1971.

Son aventure sous-marine commença en 1963, lorsqu'il visita le château du Taureau en Baie de Morlaix. Fasciné par le site, il décida d'y rester et fut moniteur de voile pendant 10 ans. Il y découvrit par la même occasion la plongée sous-marine. Il prépara son monitorat d'état deuxième degré de plongée sous-marine qu'il obtint en 1973.

Il reprit ses études à l'université Paris VI et prépara un certificat d'étude de sciences physiques, chimiques et naturelles (SPCN) en 1965 et en biochimie, microbiologie et physiologie végétale (BMPV) en 1966. Il prépara les diplômes de géologie générale (1966), de botanique et biologie générale (1967), de génétique et physiologie végétale (1968), une maîtrise ès sciences (1968) puis un DEA en 1969 en biologie végétale option algologie.

Il fit son entrée au laboratoire de Cryptogamie en octobre 1971. Sa rencontre avec le Professeur Pierre Bourrelly, précurseur de l'algologie d'eau douce en France, fut déterminante pour la suite de son parcours universitaire qu'il continua par une thèse de 3ème cycle ayant pour objet d'étude une algue macroscopique endémique *Liagora tetrasporifera* trouvée en plongée dans la région de Banyuls-sur-Mer. Il fut le premier à parvenir à cultiver cette rhodophycée et à démontrer que les carpotétraspores donnent directement, en germant, le gamétophyte (individu macroscopique portant les carpogones, organes femelles, et les spermatocystes, organes mâles). Il obtient son doctorat en juin 1972 et fut aussitôt nommé assistant jusqu'en 1977 puis maître-assistant. En 1980, Il fut honoré de l'ordre des palmes académiques.

La diversité morphologique, cytologique des algues d'eau douce, leur esthétique ainsi que leur importance devinrent l'objet de ses études scientifiques. En 1984, il soutient avec brio son doctorat d'état ès sciences sur l'étude cytologique, biologique et systématique de quelques algues dulçaquicoles peu connues. Il devient maître de conférences de 1985 à 1988 et devint sous-directeur du laboratoire de Cryptogamie de mai 1988 à mars 1993. Il prit ensuite la direction du laboratoire jusqu'à fin 2003. Il géra également pendant plus de 20 ans le service commun de microscopie électronique des laboratoires des sciences de la vie du MNHN. Durant cette période, il assuma également la responsabilité des collections de cryptogamie, et fut chargé de conservation de la collection de microalgues du MNHN jusqu'en 2007.

Alain Couté, 2014 (photo: Maria Cellamare).

Il cessa son activité professionnelle en 2007. Nommé Professeur émérite du MNHN, il continua à exercer une activité scientifique au sein de l'équipe Cyanobactéries, Cyanotoxines et Environnement de l'UMR 7245 (Molécules de Communications et Adaptations des Microorganismes), jusqu'en août 2020.

La systématique fut son domaine de prédilection. Il s'est intéressé délibérément à des groupes différents du phytoplancton, du benthos et du périphyton aux fins de mettre au point de meilleures techniques d'observation pour augmenter la précision de la taxonomie basée alors sur la morphologie et la cytologie. Il réalisa un nombre considérable de recherches à l'aide du microscope électronique à balayage sur les euglenophytes (*Euglena*, *Phacus*, *Trachelomonas*…), les desmidiacées

(*Cosmarium*, *Euastrum*, *Gonatozygon*…) et les dinophycées (*Peridinium*, *Gamberdiscus*, *Ceratium*…). Il excella dans les techniques d'observation de ces microorganismes fragiles. C'est ainsi que de très nombreuses nouvelles espèces furent décrites en précisant certains détails difficilement observables en microscopie photonique (ex: *Cosmarium anthophorum*, *Cosmarium botrytis* var. *dayense*, *Cosmarium lagoense* var. *florideus*, *Protoperidinium bolmonense*, *Pedobesia lamourouxii*, *Bysmatrum granulosum*…). Il utilisa le microscope électronique à transmission pour améliorer la taxonomie des organismes fragiles. Il décrit ainsi pour la première fois la cytologie fine de deux cyanophycées cavernicoles calcifiées *Geitleria calcarea* et *Scytonema julianum* en utilisant des méthodes de décalcification. Avec Pierre Bourrelly, ils apportèrent la preuve que chez le genre *Pseudanabaena*, les granules réfringents présents dans les cellules apicales des trichomes et au niveau des cloisons transversales sont des amas de vacuoles à gaz ce qui a eu pour conséquence d'affiner la précision de la diagnose de ce genre.

Les très nombreuses collaborations et l'impressionnante quantité de travaux de recherche témoignent de sa grande expertise dans le domaine de la systématique de tous les groupes de microalgues et de cyanobactéries, avec près de 200 publications scientifiques et environ 150 espèces nouvelles décrites dont la dernière en 2016, *Coccomyxa actinabiotis*, découverte dans une piscine de stockage de combustibles nucléaires, résistante à des doses considérables de radioactivité.

La cryptogamie appliquée en biotechnologie fut également un domaine auquel Alain Couté se consacra. Il collabora avec l'équipe du Professeur Largeau du laboratoire de Chimie bioorganique et organique physique de l'École nationale Sciences chimiques et physiques en participant au programme de recherche sur la chlorophycée *Botryococcus braunii*. Le but était la sélection de souches dans la nature et l'analyse des substances hydrocarbonées qu'elles élaborent. Il réussit à démontrer que certaines souches, qu'il isola et cultiva, étaient productrices d'alcadiènes quand d'autres produisaient des botryococcènes sans qu'aucune distinction morphologique ne permette de les distinguer, et mit ainsi en évidence l'importance des métabolites dans la taxonomie.

En 1997, il créa une sous-équipe « Cryptogames et toxicité ». Il développa ainsi avec le Professeur Simone Puiseaux-Dao une recherche sur les microorganismes aquatiques toxiques, marins et d'eau douce, qui par leurs proliférations de plus en plus nombreuses commencèrent à poser des problèmes de santé humaine. D'autres laboratoires et institutions rejoignirent le programme pour traiter les risques de santé publique des eaux dulçaquicoles du bassin parisien (CNEVA, ARVAM, ESPCI Paris, Université Paris VII…). Aujourd'hui, l'équipe Cyanobactéries, Cyanotoxines et Environnement (UMR 7245) apporte aux gestionnaires des plans d'eau une aide pour la gestion des risques liés aux proliférations de cyanobactéries et à la production de toxines.

Plongeur scientifique reconnu, Alain Couté avait toujours sa place au sein des expéditions du Muséum et d'autres institutions. Il parcourut les quatre coins du monde à la recherche de microalgues et de cyanobactéries extrêmophiles, vivants dans les eaux sursalées, dans ou sur la glace, à l'obscurité des cavernes, ou dans les eaux chaudes thermales. Il fut tout particulièrement attaché aux régions d'outre-mer, régions françaises où les travaux d'inventaires cryptogamiques étaient rares voire inexistants. C'est ainsi qu'il mena des études floristiques sur les Antilles, l'archipel des Kerguelen, l'île de la Réunion, le territoire de Djibouti, l'île Maurice, Mayotte et la Guyane. Durant toute sa carrière, ce sont plus 230 missions et expéditions qui l'ont conduit dans ces territoires et à l'étranger pour des récoltes sur le terrain (Algérie, Allemagne, Argentine, Australie, Bolivie, Brésil, Burkina Faso, Chine, Clipperton, Côte d'Ivoire, Égypte, Espagne, États-Unis, Groenland, Guadeloupe, Les Glorieuses, Madagascar, Maroc, Martinique, Mexique, Mozambique, Niger, Nouvelle-Calédonie, Sardaigne, Sicile, Suisse, Sultanat d'Oman, , Thaïlande, Tunisie, Turquie, Uruguay, Viet Nam et Yémen).

Il s'intéressa également aux microorganismes qui colonisent la calotte glaciaire au Groenland. Il participa avec Nicolas Hulot à des expéditions au Groenland en 1998, 2007 et 2010 et aux expéditions « Spélé'Ice » 2007, 2010 et 2013. Il fut également responsable scientifique des expéditions « Ardoukoba » au Yémen de 1995 à 2004 aux côtés de Daniel Jouvance et de Jean-Louis Étienne en 2005 pour l'expédition « Clipperton ». En 2016, il se rendit sur le glacier Perito Moreno, en Patagonie Argentine, pour l'étude des microorganismes, en collaboration avec des spécialistes de l'exploration sous-glaciaire.

Ces dernières années, il participa à trois expéditions dans le cadre du projet « La planète revisitée » en 2016, 2017 et 2018. Plus de 1000 récoltes ont été réalisées pour inventorier les microalgues et cyanobactéries d'eau douce de cours d'eau de Nouvelle-Calédonie.

Il intervint aussi comme expert auprès du ministère de la Culture pour la préservation et la conservation des monuments historiques et des sites culturels contre les contaminations algales. Le cas de la grotte de Gargas (Aventignan, Hautes-Pyrénées) illustre parfaitement la nature et l'intérêt de ses travaux. En 1992, des taches vertes se développèrent sur les parois. Après avoir réalisé l'inventaire des microorganismes présents, il fit des essais d'élimination avec différents produits sur des petites portions du site. Le traitement complet d'une partie de la grotte fut entrepris en avril 1996. Le service régional de l'archéologie décida de lui confier le traitement de toutes les autres cavités de la grotte.

La sauvegarde de la biodiversité était au cœur de son engagement. Il participa pour au programme d'inventaire ATBI (All Taxa Biodiversity Inventory) à la demande du Parc national du Mercantour pour inventorier les microorganismes phototrophes. Membre du Groupe d'Étude du Mérou depuis 1990 et membre du Conseil scientifique de la Réserve sous-marine de Cerbère-Banyuls depuis 1992, il réalisa également une étude sur les microalgues filamenteuses de Méditerranée septentrionale.

Alain Couté fut Président de la Société Phycologique de France de 1997 à 2012 et membre de l'Association française de Limnologie de 1975 à 1998. Il fut membre du comité de lecture de la revue *Cryptogamie, Algologie* de 1978 à 2007, membre de l'Advisory Council de la revue *Algological Studies/Archiv für Hydrobiologie* de 1990 à 2008 et membre de l'Editorial Board de la revue *Algologia* de 1994 à 2000.

En plus de ses activités de recherche, de collection, d'expédition et d'expertise, il fut également engagé dans la mission d'enseignement du Muséum. Il eut des responsabilités au sein de l'École doctorale (1995-2005), du D.E.S.S. de Microbiologie de l'Université Paris VI de (1985-2005), du D.E.A. Interactions toxiques dans les écosystèmes et biotechnologies liées aux toxines du MNHN, de l'Université Paris VII et de l'E.S.P.C.I. (1995-2004). Il organisa de nombreux stages d'initiation à l'identification des microalgues et cyanobactéries, destinés aux étudiant(e)s français et étrangers. Il dirigea également de nombreuses thèses de doctorat.

Alain Couté fut le Président-fondateur de l'association française des plongeurs scientifiques, Colimpha, depuis 1979 et Président du Comité national de la Plongée scientifique depuis 1999. Avec plus de 1000 plongées à son actif, il forma de nombreuses générations de plongeurs à vocations scientifiques ou culturelles.

Passionné par toutes les richesses de la faune et de la flore terrestres et sous-marines, il partagea ses connaissances avec un public fidèle. Chaque été pendant de nombreuses années, il donna des conférences dans le cadre des mercredis de la connaissance. Il fut co-organisateur pendant 21 ans du week-end « Découverte et protection du milieu marin en plongée » à l'amphithéâtre de la grande galerie du MNHN. Il organisa également durant 6 ans le week-end « Découverte de l'île Tatihou », ancienne station marine du Muséum.

D'une beauté inégalable, ses dessins et ses clichés de microscopie de microalgues et cyanobactéries étaient des objets d'expositions très appréciés par un public curieux et touché par la beauté de l'infiniment petit. Il organisa l'exposition « Les microalgues, anges ou démons » présentée à l'Aquarium tropical de la Porte Dorée de Paris (2011), en Corse (2013), à la Station marine de Concarneau (2016) et en Pays de Loire (2017).

Sollicité pour son expertise par les media, il trouvait toujours le temps entre deux missions, de faire des passages sur Europe 1, France Inter ou France Culture. On se souvient de son passage aux côtés de Théodore Monod dans l'émission télévisée « La marche du siècle » en 1997 consacrée aux « Aventuriers de la découverte » et de son passage en 2016 dans l'émission « Folie passagère » pour partager ses connaissances sur les tardigrades.

Le Professeur Alain Couté nous a quittés mais nous sommes très nombreuses et nombreux à le garder vivant dans nos cœurs et nos pensées. Il nous a légué une œuvre et des connaissances d'une richesse inestimable qui nous inspirent et que nous devons perpétuer.

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Appendix 3. — Composition of the main culture media used in the MNHN collection of cyanobacteria and eukaryotic microalgae. https://doi.org/10.5852/cryptogamie-algologie2022v43a3_s1