



The Roscoff Culture Collection

Daniel Vaultot

European Phycology Congress
2023-08-24



CNRS • SORBONNE UNIVERSITÉ

Station Biologique
de Roscoff



La Station Biologique de Roscoff



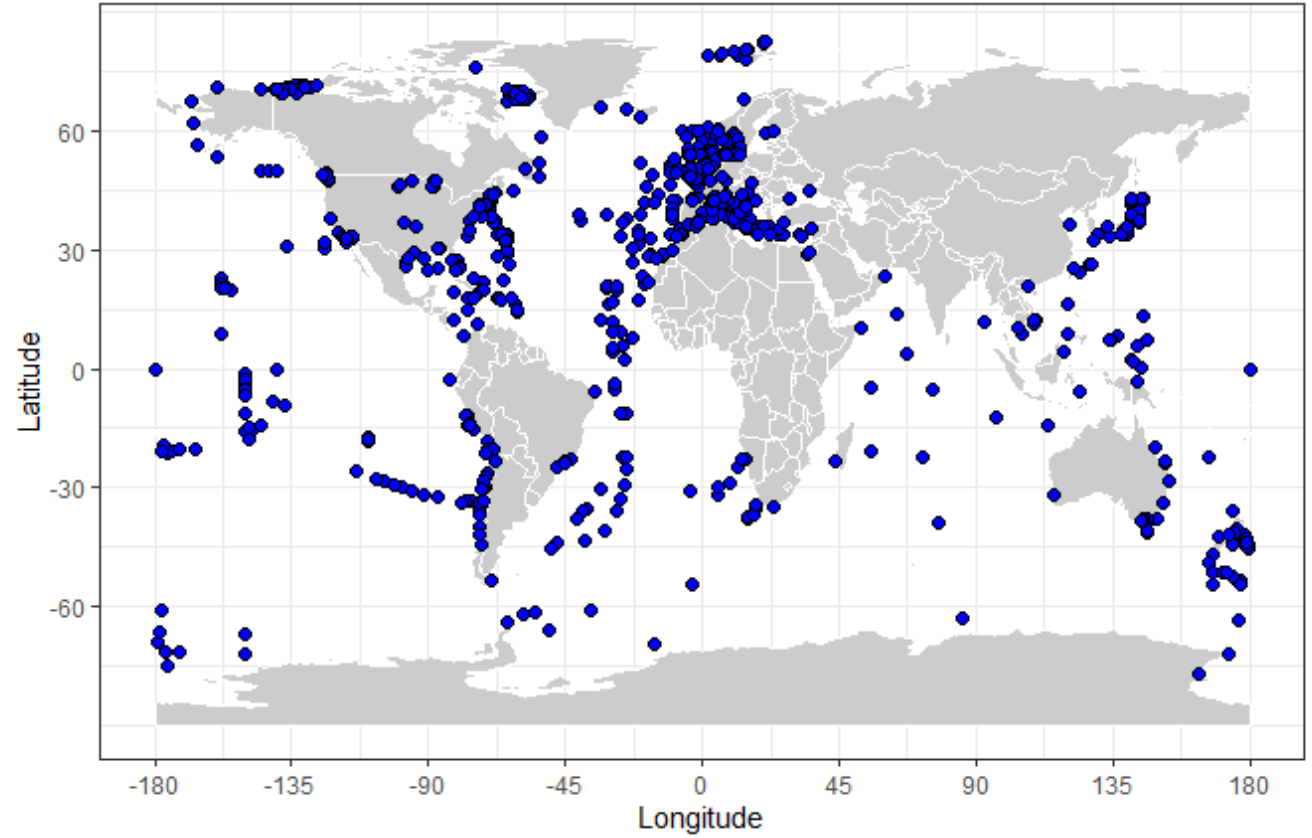
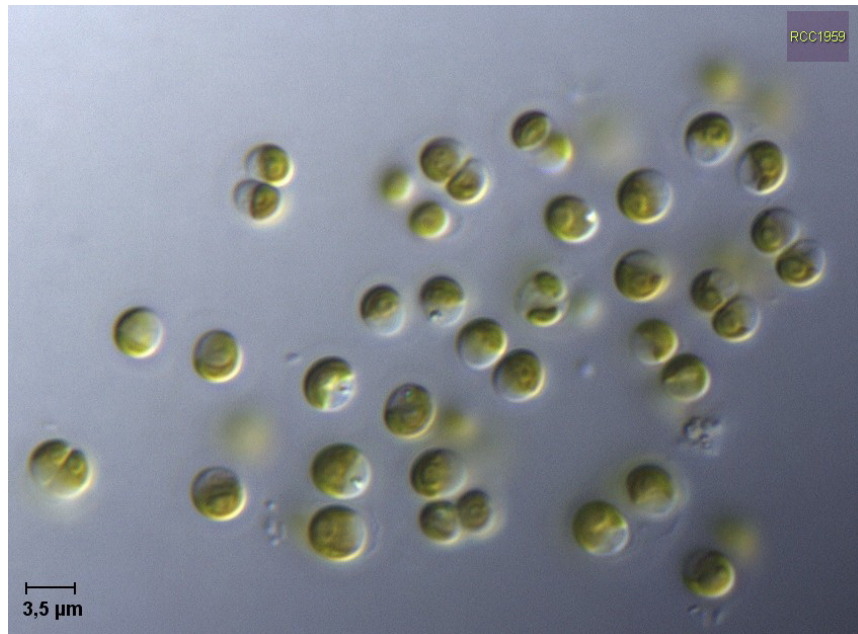
- 1872 - Antoine Lacaze-Duthiers (150 years ago)
- CNRS and Sorbonne Université
- Staff: 350
- Students : 1,000-2,000 per year



The Roscoff Culture Collection



- Set up in 1998 from research collection
- 6,136 strains (Aug 2023)
- Mostly marine microalgae
- Also macroalgae, bacteria, viruses
- Large phylogenetic coverage
- Large coverage of oceanic regions

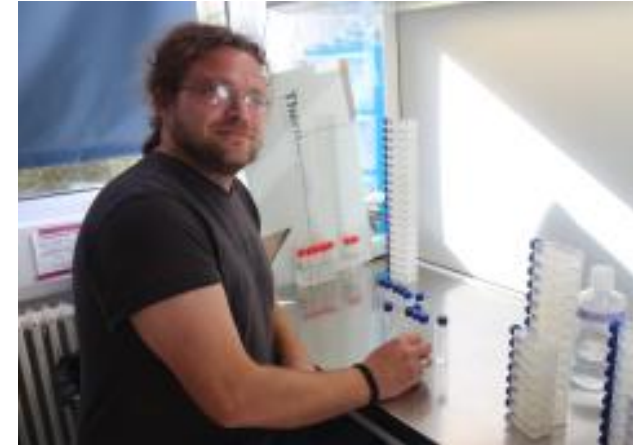


Personnel



RCC

Ian	PROBERT	IR	SU	Director
Priscillia	GOURVIL	IE	CNRS	Curator
Martin	GACHENOT	AI	CDI SU	Orders/Transfers
Michele	GREGO	AI	CDD SU	Orders/Transfers
Katell	HERVEOU	T	CDD SU	Transfers
Charles	BACHY	Postdoc	CDD SU	



Ian

Support

Daniel	VAULOT	DRE	CNRS	Database
Dominique	MARIE	IRE	CNRS	Flow cytometry
Christian	JEANTHON	DR	CNRS	Bacteria
Anne-Claire	BAUDOUX	CR	CNRS	Viruses
Laurence	GARCZAREK	DR	CNRS	Cyanobacteria
Emeline	CREIS			Macroalgae



Pris



Martin



Michele

Infrastructures

Centre de Ressources Biologique » - 240 m²

Rooms

- 3 culture rooms: 4°, 15°, 22°
- 14 controlled chambers (Sanyo)
- Transfer room

Equipment

- Microscopes (light, fluo, SEM, TEM)
- Flow cytometers (sorter)
- HPLC

Cryopreservation

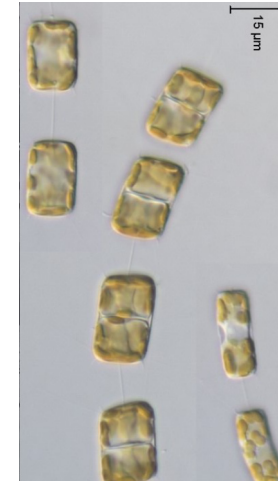
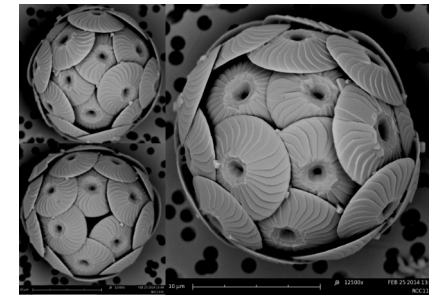
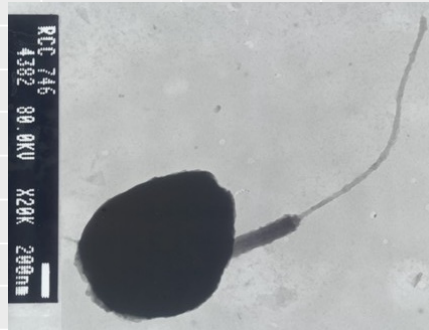
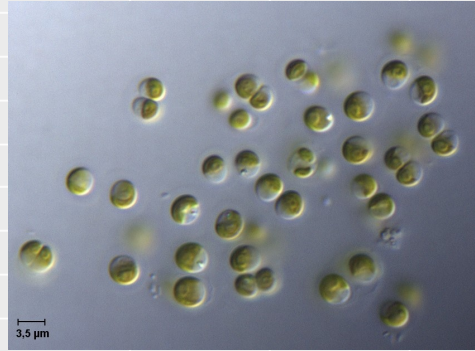
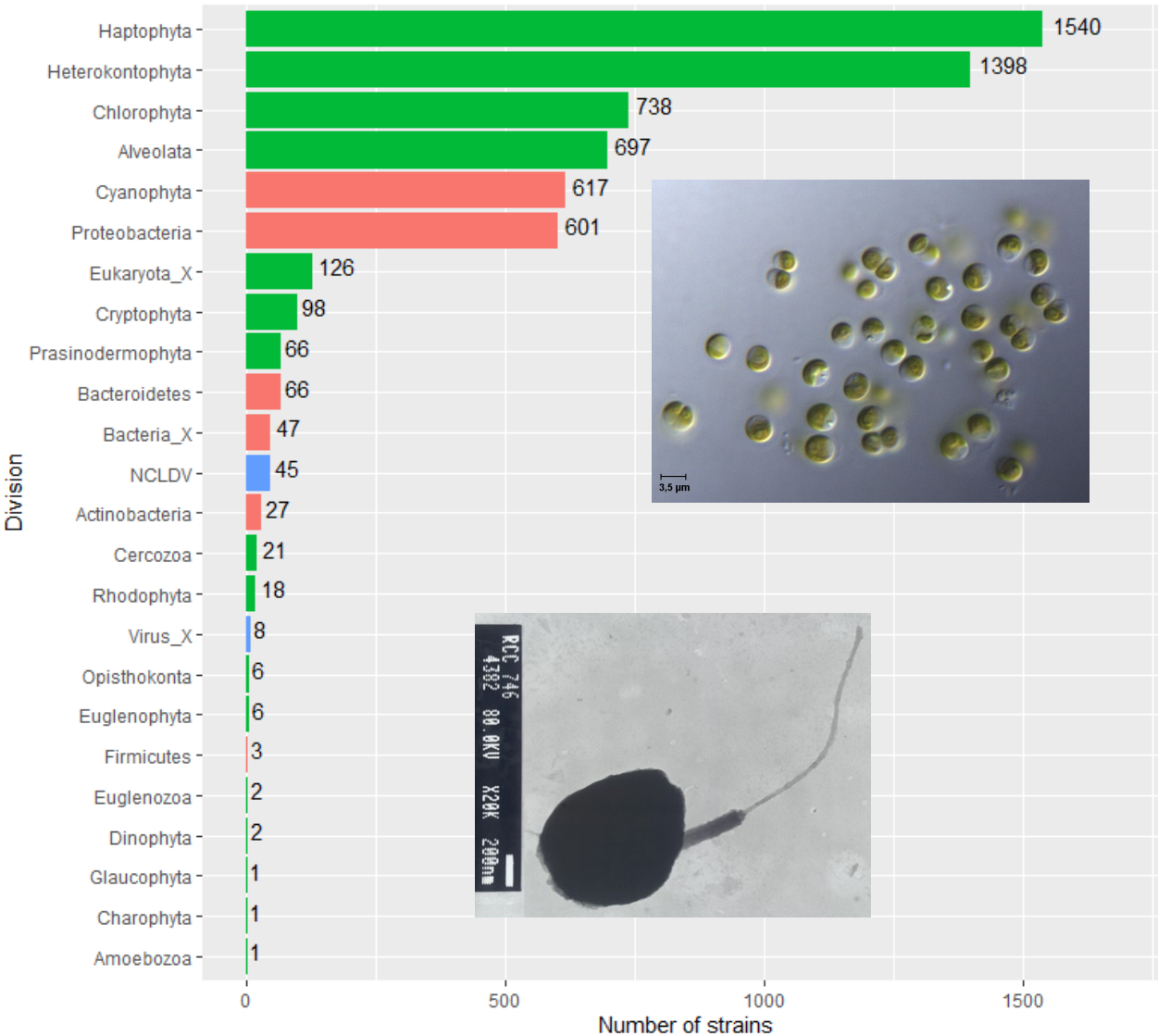
- Progressive cryofreezer
- Liquid nitrogen tanks for storage
- -150° Freezers



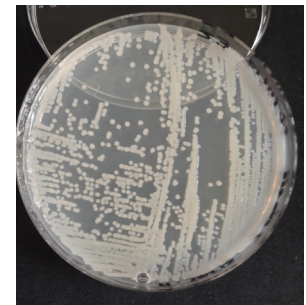
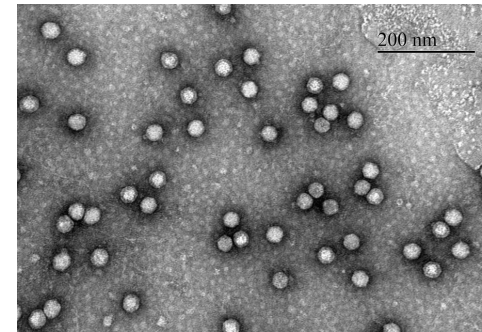
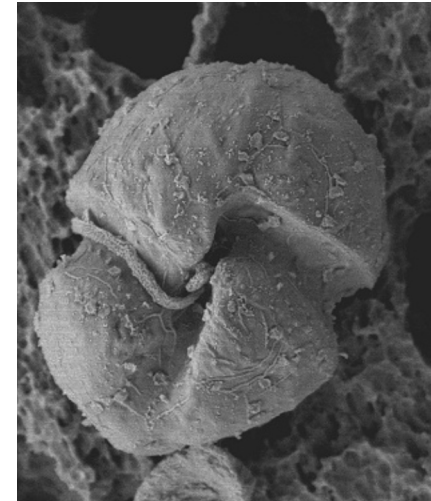
Major taxonomic groups



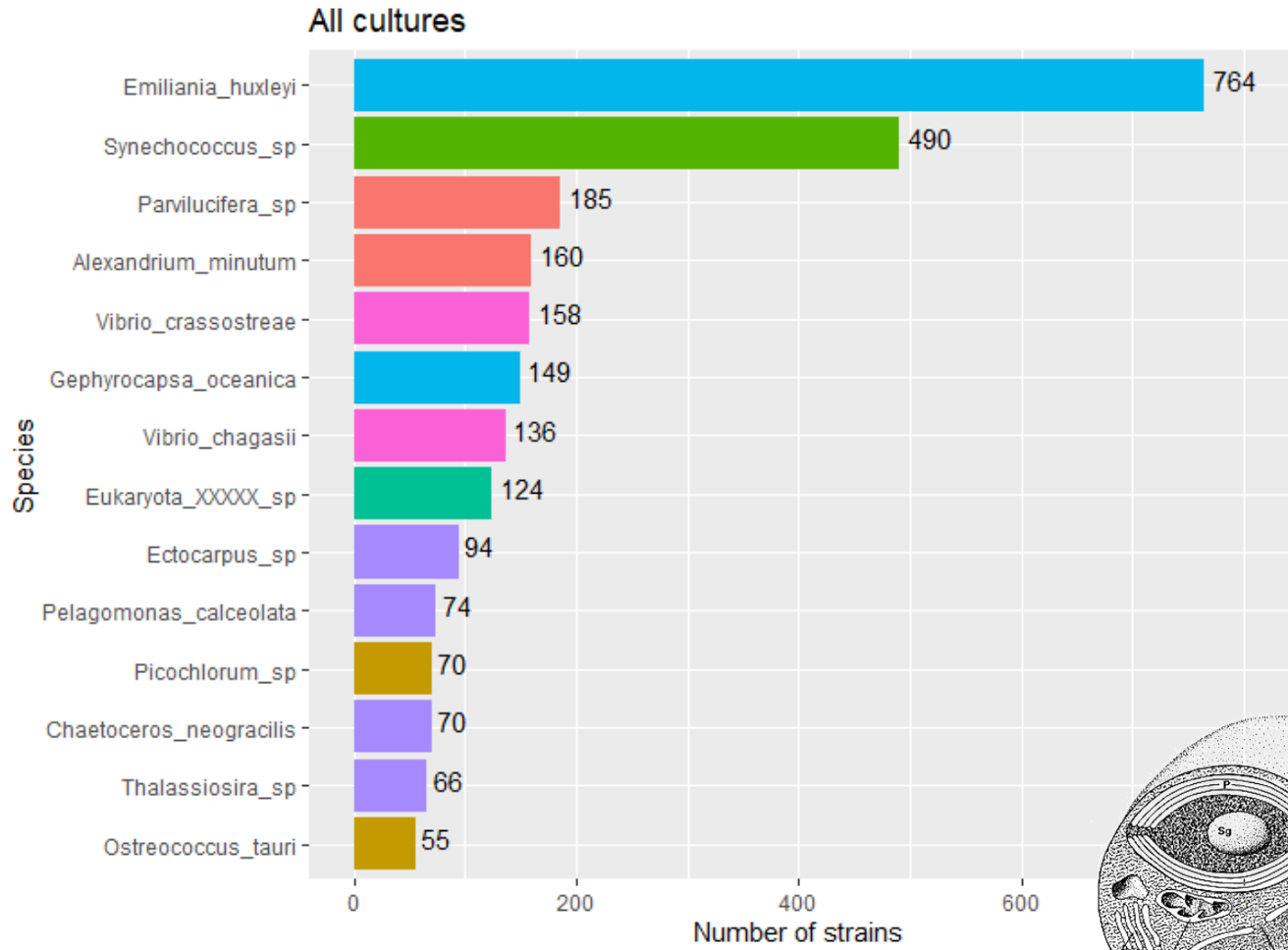
All cultures



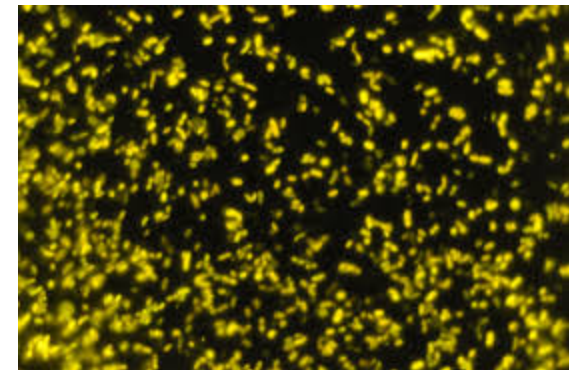
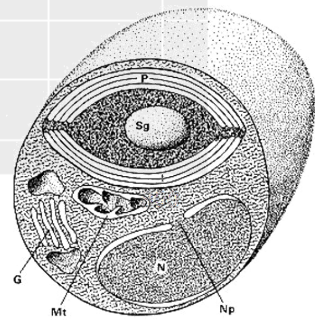
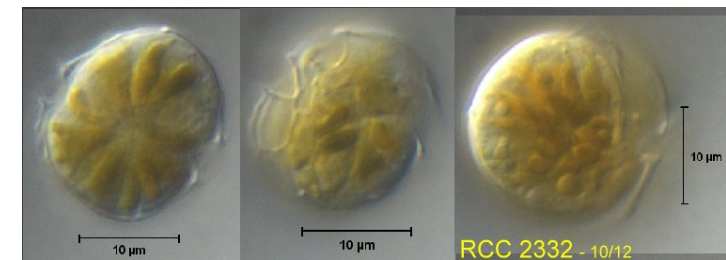
domain
■ Bacteria
■ Eukaryota
■ Virus



Major species



- division
- Alveolata
 - Chlorophyta
 - Cyanophyta
 - Eukaryota_X
 - Haptophyta
 - Heterokontophyta
 - Proteobacteria



Isolation by flow cytometry sorting



J. Phycol. *, ***-*** (2017)
 © 2016 Phycological Society of America
 DOI: 10.1111/jpy.12495

IMPROVEMENT OF PHYTOPLANKTON CULTURE ISOLATION USING SINGLE CELL SORTING BY FLOW CYTOMETRY¹

Dominique Marie, Florence Le Gall, Roseline Edern, Priscillia Gourvil, and Daniel Vaultot²

UPMC Université Paris 06, CNRS, UMR7144, Station Biologique de Roscoff, Sorbonne Universités, Roscoff, France

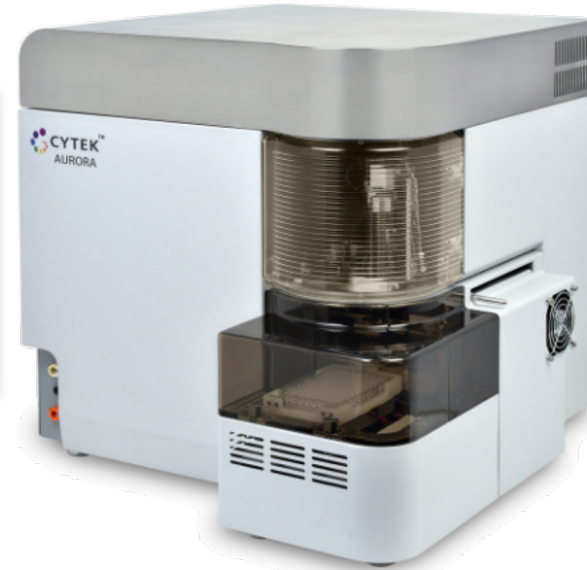
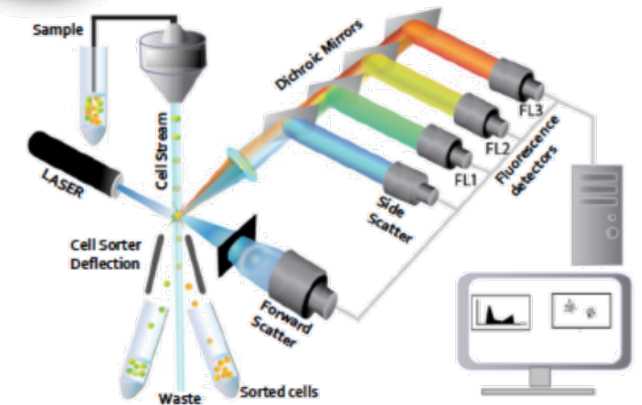
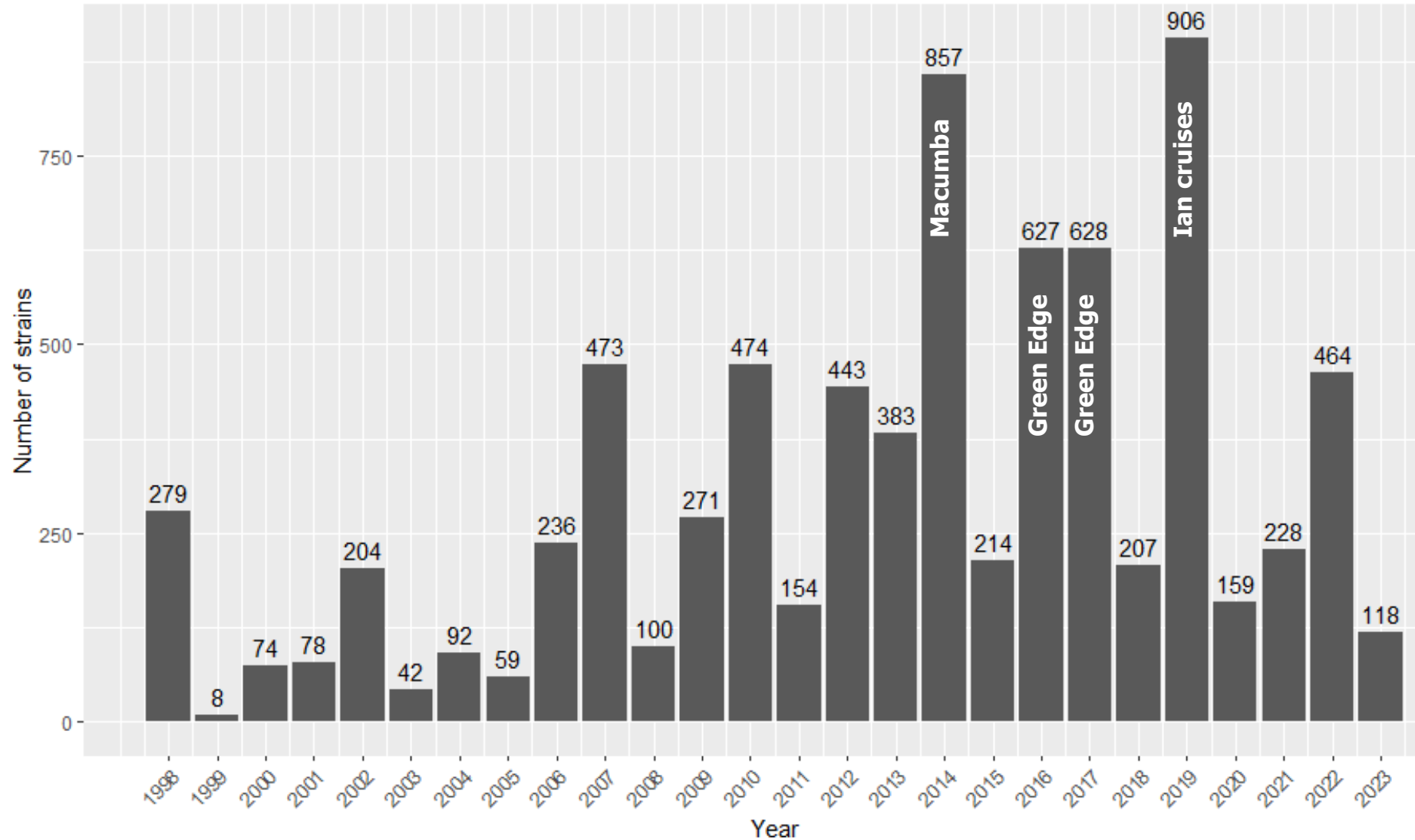


TABLE 6. Comparison of the taxonomic identity of the cultures obtained by single-cell flow cytometry sorting versus dilution or enrichment. Black rectangles correspond to the conditions that allowed the isolation of a given genus.

Division	Class	Genus	Number of precultures where genus isolated	Cell sorting	Dilution	Enrichment
Bacteria	Cyanophyceae	<i>Synechococcus</i>	8			
Heterokontophyta	Pelagophyceae	<i>Pelagomonas</i>	8			
Chlorophyta	Mamiellophyceae	<i>Micromonas</i>	5			
Haptophyta	Prymnesiophyceae	<i>Phaeocystis</i>	5			
Chlorophyta	Prasinophyceae	Clade VII	4			
Haptophyta	Prymnesiophyceae	<i>Emiliana</i>	3			
Haptophyta	Prymnesiophyceae	<i>Imantonia</i>	3			
Heterokontophyta	Pelagophyceae	Undescribed	2			
Chlorophyta	Trebouxiophyceae	Unknown	1			
Heterokontophyta	Bacillariophyceae	<i>Pseudo-nitzschia</i>	1			
Heterokontophyta	Chrysophyceae	<i>Spumella</i>	1			
Heterokontophyta	Unknown RCC853	Unknown	1			
Total number of genera isolated				8	5	6



Strains added per year

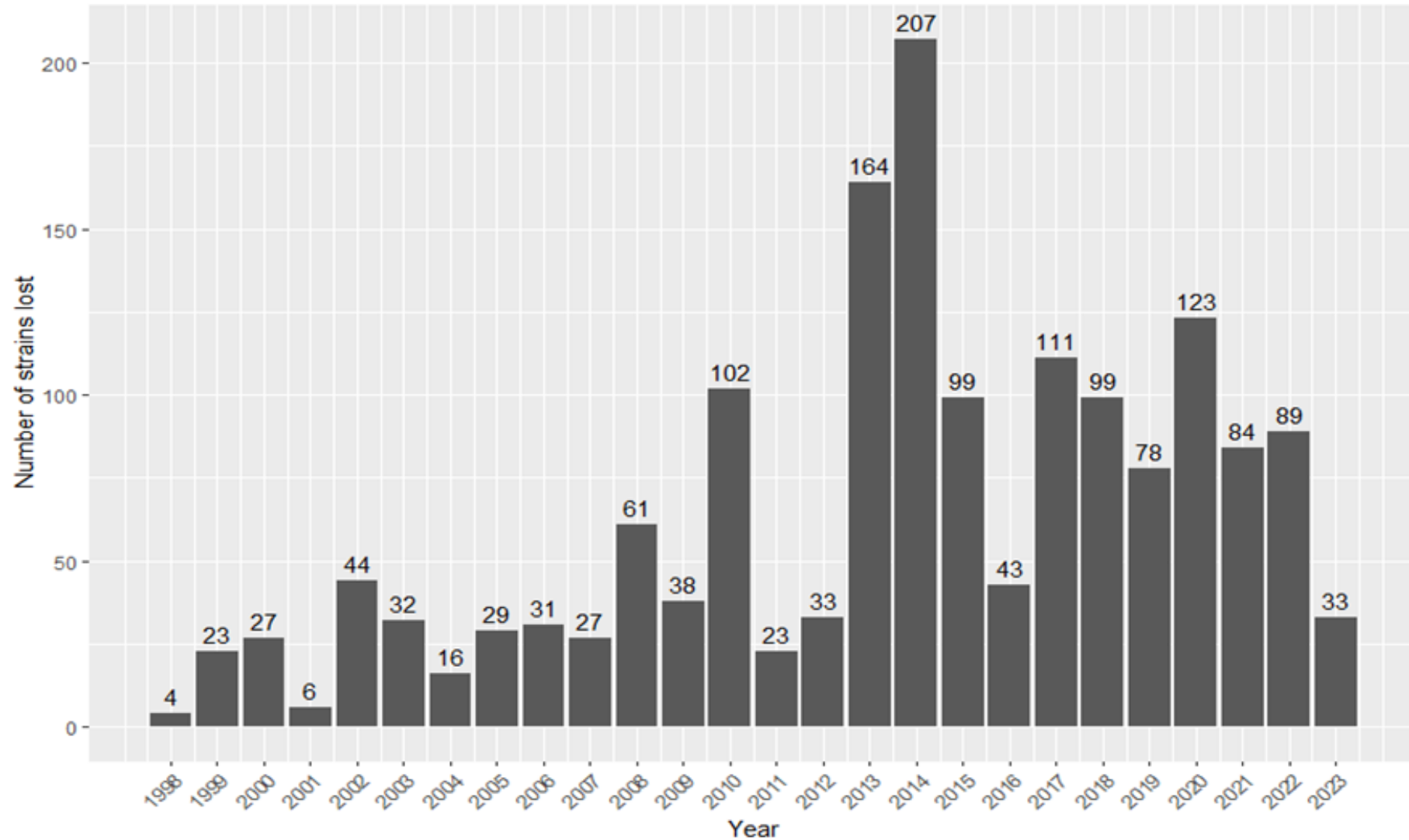


Maintenance

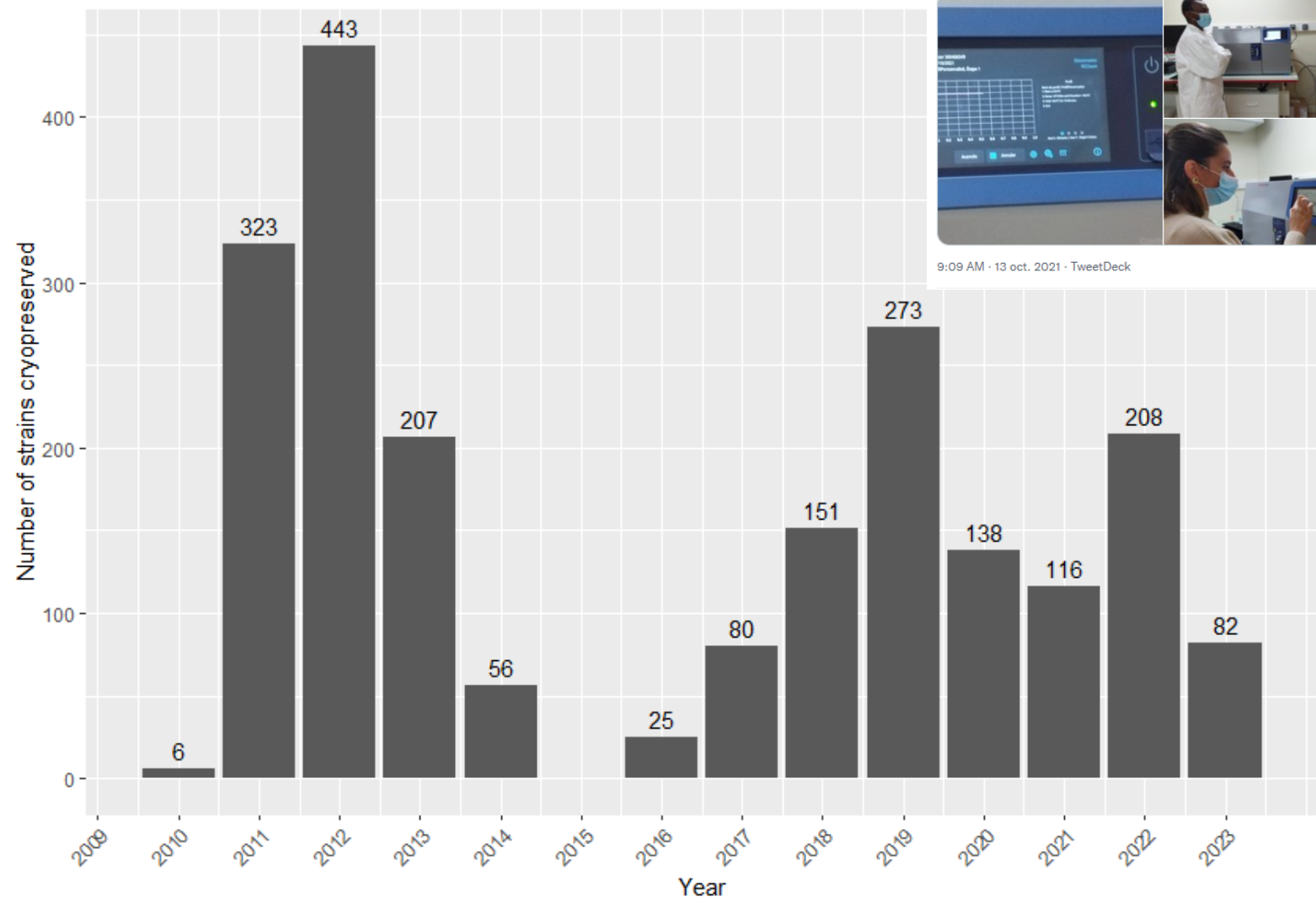
- Strains
 - Unialgal
 - Mostly clonal
 - Non-axenic
- Small volume (10-25ml) liquid culture
- Plastic tubes or plastic flasks
- Transfer once 1-3 weeks



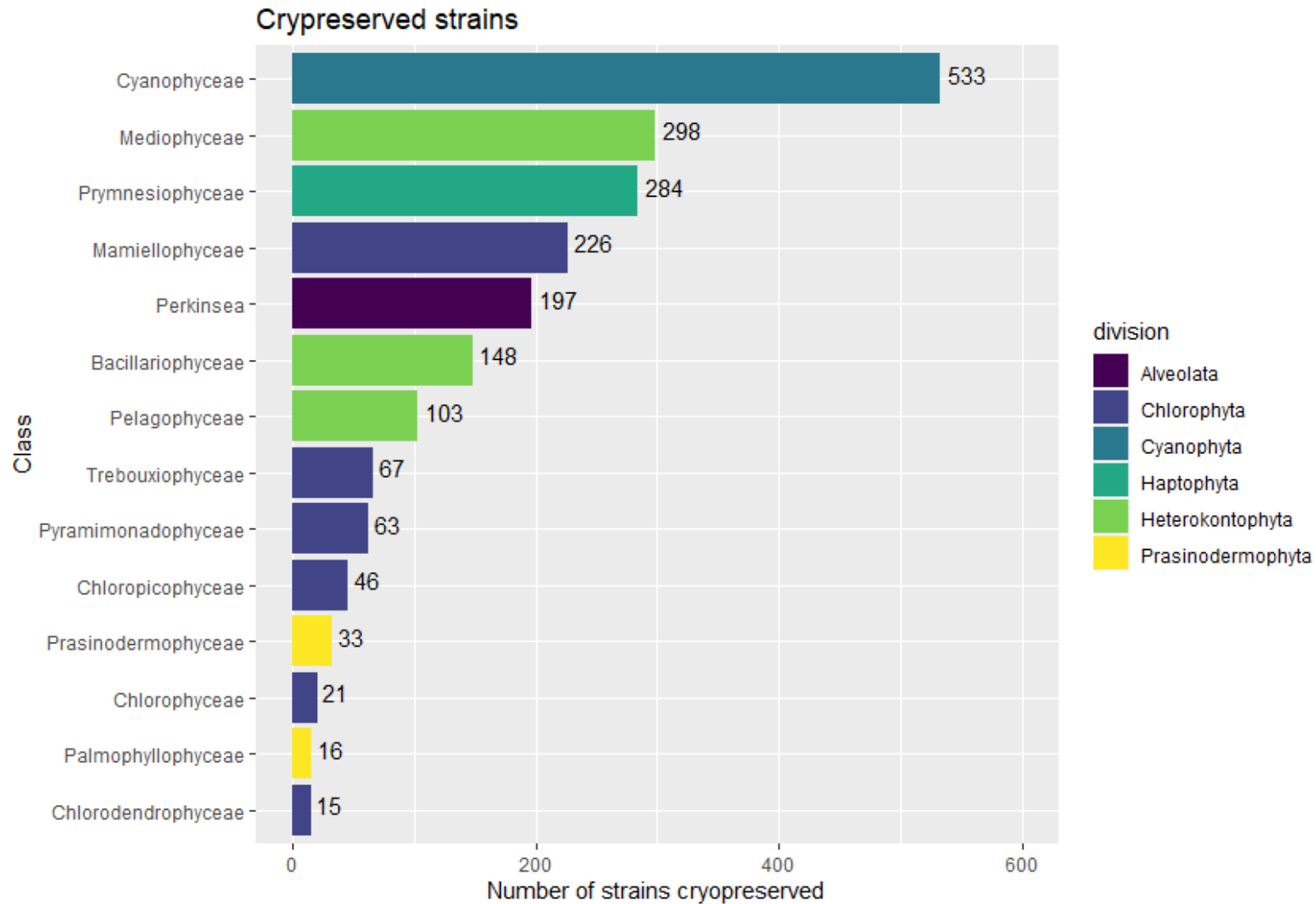
But we keep also loosing strains



Cryopreservation



Cryopreserved classes



Strain metadata

- Unique identifier
- Unified taxonomy (Algaebase)
- Origin
- ABS status
- Images
- Maintenance conditions
- Sequences
- Publications



RCC1
DISTRIBUTED ✓

Chlamydomonas_concordia

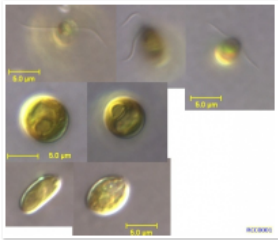
[ADD TO FAVORITES](#)
[PRINT](#)

NB: Empty fields are hidden.

ORDER THIS STRAIN

☑ Culture 30 ml, live - Collaborator
0.00 €

[ADD TO CART](#)



D. Vaoul - Inverted microscope - Olympus IX-70 - X40

IDENTITY

Chlamydomonas_concordia

Domain: Eukaryota
Division: Chlorophyta
Class: Chlorophyceae
Order: Chlamydomonadales
Family: Chlamydomonadaceae
Genus: Chlamydomonas
Strain name: PLY491
Authentic culture: ✓

STATUS

Clonal: ✓
Axenic: ✗
Pure: ✓
Heterotrophic: ✗
Toxic: ✗
Symbiotic: ✗
Transformed: ✗

MORPHOLOGY


Length: 5.00
Cell motility: flagellated

ORIGIN

Sampling ocean: Atlantic Ocean
Sampling regional sea: Bay of Biscay
Sampling site: Oléron
Sampling country: France
Sampling comment: Sampled from oyster ponds.
Isolation by: Neuville D. / Dasté P.

ABS COMPLIANCE

Are users allowed to use this biological resource without applying for formal ABS authorization?
Yes - (C) Country of origin is party to the NP but no ABS authorization required (national legislation exists but not retroactive pre-NP or not applicable to this category of resource)



SEQUENCES AVAILABLE FOR THIS RCC STRAIN

GENBANK ACCESSION	GENE NAME	GENE LOCATION	GENBANK ORGANISM	GENBANK TAXONOMY	DESCRIPTION
KT865848	18S rRNA	nucleus	Chlamydomonas concordia	Eukaryota; Viridiplantae; Chlorophyta; Chlorophyceae; Chlamydomonadales; Chlamydomonadaceae; Chlamydomonas	Chlamydomonas concordia strain RCC1 isolate Z.Zhou491618S ribosomal rRNA gene, partial sequence

ASSOCIATED REFERENCES

Displaying 1 - 7 of 7

Zhang G, Rickaby REM. 2020. **Interactions of thallium with marine phytoplankton**. *Geochimica et Cosmochimica Acta* 276:1-13. DOI: Google Scholar. BibTeX. Tagged. EndNote XML. [Download pdf \(1.95 MB\)](#)

Wilson W, Zhang G, Rickaby REM. 2019. **Susceptibility of algae to Cr toxicity reveals contrasting metal management strategies**. *Limnology and Oceanography* 64:2271-2282. DOI: Google Scholar. BibTeX. Tagged. EndNote XML. [Download pdf \(1.9 MB\)](#)

Moulier W, Dufrot-Gautier L, Thyssen M, Lissel H, Maréchal X, Courcot L, Dessalcy D, Réve AHélène, Gregori G, Alain S et al. 2017. **Evolution of the coasting properties of phytoplankton cells from flow cytometry measurements**. *PLoS ONE*. 12 DOI: Google Scholar. BibTeX. Tagged. EndNote XML. [Download pdf \(2.7 MB\)](#)

Tobolski R, Snow JT, Zhang G, Tascia NJ, Rickaby REM. 2021. **The influence of elevated [BiO]2(aq) on intracellular silice uptake and microbial metabolism**. *Geobiology* n/a/DOI: Google Scholar. BibTeX. Tagged. EndNote XML. [Download pdf \(1.9 MB\)](#)

Liu F, Goddard M, Tan G-G, Zhu K, Zhang G, Salaün P, Tagliabue A, Zhang Y, Weiss D, Achterberg EP et al. 2022. **Phyiosphere pH of uncoloured nano- and micro-phytoplankton cells and consequences for iron speciation**. *The ISME Journal*. 16:2329-2335. DOI: Google Scholar. BibTeX. Tagged. EndNote XML. [Download pdf \(1.5 MB\)](#)

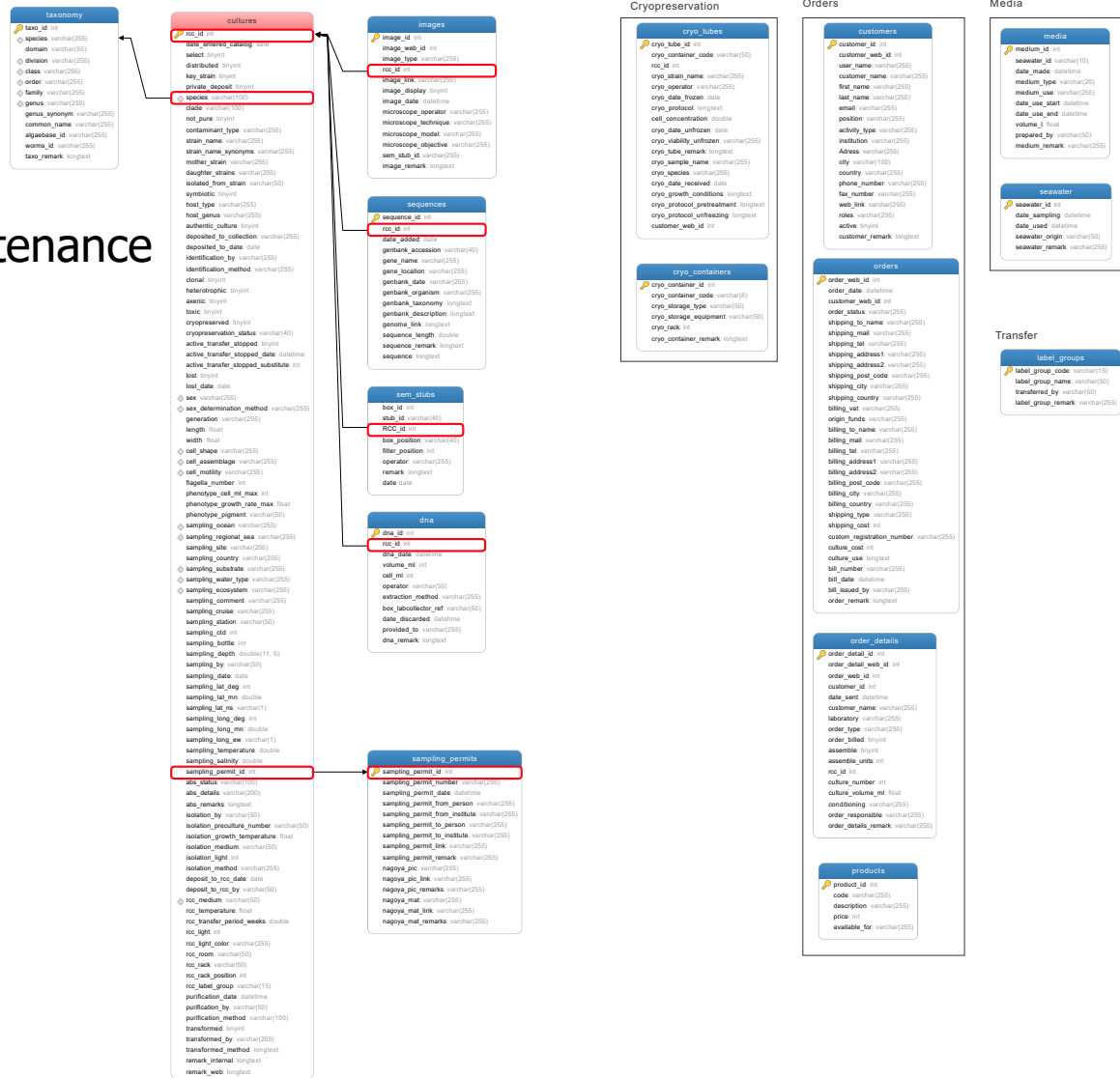
Yu J, Yang M, Batchelor-McAuley C, Barton S, Rickaby REM, Bouman HA, Compton RG. 2023. **Does the life cycle stage matter for distinguishing phytoplankton via fluoro-electrochemical microscopy?** *Cell Reports Physical Science*. 10:2223. DOI: Google Scholar. BibTeX. Tagged. EndNote XML. [Download pdf \(1.66 MB\)](#)

Barton S, Yang M, Chen H, Batchelor-McAuley C, Compton R, Bouman H, Rickaby R. 2023. **A novel fluoro-electrochemical technique for classifying diverse marine nanophytoplankton**. DOI: Google Scholar. BibTeX. Tagged. EndNote XML. [Download pdf \(2.35 MB\)](#)

Data management



- MySQL database
- Hosted on cloud
- Use Access interface for daily maintenance
 - Strain information update
 - Labels for transfer
 - Manage orders
 - Link to web site (Drupal)



Culture management



RCC number: Axenic Clonal Toxic Lost

Domain: Division: Class: Type strain for species

Order: Family: Date entered RCC: Distributed:

Genus: Species: clade:

Genus synonym:

Strain name: Strain name synonyms:

Cell shape: Cell assemblage: Cell motility: Number of flagella:

Sex: Sex Determination Method: Generation: length: um width: um

Heterotrophic Mixed contaminant typ:

Mother strain: Daughter strains:

Isolated from strain (for virus and AAPB): Identified by: Identification method:

Symbiotic Host type: Host genus:

Culture isolation Ocean: Regional Sea: Site: Country:

Substrate: Water type: Ecosystem: Sampling comment:

Culture conditions Roscoff Transfer period SBR (weeks): Portoir SBR: Etiquettes: groupe

rcc_medium: Temperature SBR (°C): Light SBR (µE): rcc_room:

RCC # 7815 - Key strain Chaoanoflagellida Hirtziopsis_kampana BEAP001 - 23-aout-23	RCC # 7816 - Key strain Chaoanoflagellida Aeophorea_cyprymena BEAP002 - 23-aout-23	RCC # 2979 - Key strain Trebouxiophyceae Ulvophyceae Ulvophyceae_XXX_sp Ishigaki 7-11-1-C4 12A-X-K 23-aout-23	RCC # 2980 - Key strain Ulvophyceae Ulvophyceae_XXX_sp Ishigaki 7-25-A4 12A-X-K 23-aout-23	RCC # 2981 - Key strain Ulvophyceae Ulvophyceae_XXX_sp Ishigaki 7-27-A8 12A-X-K 23-aout-23
RCC # 4435 Chlorodendrophyceae Tetraselmis_sp AMT 2013 - P204-G11 12A41-L1 23-aout-23	RCC # 2345 - Key strain Chlorarachniophyceae Bigeloviella_natans BOLM103-20 12A41-K 23-aout-23	RCC # 2348 - Key strain Chlorarachniophyceae Bigeloviella_natans BOLM103-8 12A41-K 23-aout-23	RCC # 2351 - Key strain Chlorarachniophyceae Bigeloviella_natans BOLM103-19 12A41-K 23-aout-23	RCC # 2352 - Key strain Chlorarachniophyceae Bigeloviella_natans BOLM103-21 12A41-K 23-aout-23
RCC # 2353 - Key strain Cercozoa_X Cercozoa_XXXX_sp BOLM103-24 12A41-K 23-aout-23	RCC # 2358 - Key strain Cercozoa_XXXX_sp BOLM 68-3 12A41-K 23-aout-23	RCC # 2360 - Key strain Chlorarachniophyceae Bigeloviella_natans BOLM103-13-1A 12A41-K 23-aout-23	RCC # 2697 - Key strain Ulvophyceae Desmochloris_sp Aka P83.A11 12A41-L1 23-aout-23	RCC # 5172 Chlorophyceae Dunaliella_sp Atacama 43 12A41-L1 23-aout-23
RCC # 5173 Chlorophyceae Dunaliella_sp Atacama 43 12A41-L1 23-aout-23	RCC # 4433 Chlorarachniophyceae Chlorarachnion_sp AMT 2013 - P165-A4 12A41-L1 23-aout-23	RCC # 475 - Key strain Trebouxiophyceae Chlorarachnion_sp PROSOPE 12-2 CRBM10-E2-4-K 23-aout-23	RCC # 533 Trebouxiophyceae Coccomyxa_sp REDSEA 24-2 CRBM10-E2-4-K 23-aout-23	RCC # 742 Eukarya_XX Eukarya_XXXXXX_sp RKZ-11/8-8 CRBM10-E2-4-K 23-aout-23
RCC # 893 Labyrinthulomycetes Aurantioytrium_mangrove CKM1 CRBM10-E2-4-YEP 23-aout-23	RCC # 942 Phaeocystis_jahnii Biosopa_231_FL1-2 CRBM10-E2-4-K 23-aout-23	RCC # 947 Eukarya_XX Eukarya_XXXXXX_sp Biosopa_219_FL3 CRBM10-E2-4-K 23-aout-23	RCC # 6305 - Key strain Picochlorum_sp PMPFPE4 CRBM10-E2-4-f2 23-aout-23	RCC # 4234 Chlorophyceae Pedinella_sp CRBM5-E3-8-L1 23-aout-23
RCC # 5152 - Key strain Cryptophyceae Geminipera_cryophyla 1-155 CRBM5-E3-8-L1 23-aout-23	RCC # 4655 - Key strain Tetraselmis_brevis_f_inomat NES-2565 CRBM5-E3-8-L1 23-aout-23	RCC # 4780 Cryptophyceae Tetraselmis_brevis_f_inomat MicroPolar 03-27 P23 CRBM5-E3-8-L1 23-aout-23	RCC # 4787 Cryptophyceae Ulvophyceae_XXX_sp MicroPolar 04-28 P24 CRBM5-E3-8-L1 23-aout-23	RCC # 4782 Chlorophyceae Ankylochrysis_sp1 MicroPolar 04-24 P24 CRBM5-E3-8-KZET 23-aout-23
RCC # 667 Eukarya_XX Eukarya_XXXXXX_sp Osis for d VII CRBM5-E3-4-K 23-aout-23	RCC # 1657 - Key strain Bolidophyceae Tripaema_sp MICROVIR 3K-0 CRBM5-E3-4-K 23-aout-23	RCC # 1880 Phaeophyceae Ectocarpales_XX_sp Sanago 07 CRBM5-E3-4-f2 23-aout-23	RCC # 2342 Trebouxiophyceae Ulvophyceae_XXX_sp CEFAS 02 PG4 CRBM5-E3-4-K 23-aout-23	RCC # 2845 - Key strain Ulvophyceae Ulvophyceae_XXX_sp CEFAS 04 PG5 CRBM5-E3-4-K 23-aout-23
RCC # 4211 Chlorophyceae Chlorophyceae_XXX_sp MAQUMBA-SC12 CRBM5-E3-4-K 23-aout-23	RCC # 5161 Trebouxiophyceae Trebouxiophyceae_XXX_sp PhaeoCozonPG2 CRBM5-E3-4-f2 23-aout-23	RCC # 5151 Phaeocystis_antarctica W6-4 Sanders-L1 23-aout-23		

RCC	strain_name	Date envoi	Species	Destinataire	Laboratoire	Volur	Forme	Resp
	PLY491	25-sept.-00	Chlamydomonas_concordia	Melkonian	University of Cologne	50	Live culture	FLG
1	PLY491	06-aout-99	Chlamydomonas_concordia	Guilloux	SOMAIGE	10	Live culture	FLG
1	PLY491	06-mars-98	Chlamydomonas_concordia	Lemée		5	Fixed sample	SB
1	PLY491	15-nov.-04	Chlamydomonas_concordia	Janvier	Lycée Saint Louis	50	Live culture	FJ
1	PLY491	19-nov.-04	Chlamydomonas_concordia	Nilès	Collège J. Prévert	50	Live culture	FLG
1	PLY491	12-janv.-05	Chlamydomonas_concordia	Dazien	Lycée Saint Louis	50	Live culture	FJ
1	PLY491	12-janv.-05	Chlamydomonas_concordia	Ramani	Lycée Saint Louis	50	Live culture	FJ
1	PLY491	24-nov.-05	Chlamydomonas_concordia	Grob	University of Warwick	500	Live culture	FLG
1	PLY491	17-sept.-07	Chlamydomonas_concordia	Wang	Umea University	50	Live culture	PG
1	PLY491	11-aout-08	Chlamydomonas_concordia	Qi	National Institute of Bik	50	Live culture	PG
1	PLY491	02-sept.-08	Chlamydomonas_concordia	Qi	National Institute of Bik	50	Live culture	PG
1	PLY491	22-oct.-08	Chlamydomonas_concordia	Dessen	SBR Eppo	50	Live culture	PG
1	PLY491	09-oct.-09	Chlamydomonas_concordia	Marie	SBR DPO	50	Live culture	PG
1	PLY491	12-déc.-11	Chlamydomonas_concordia	Lindsay	Centre for ecology an	30	Live culture	RE
1	PLY491	16-janv.-12	Chlamydomonas_concordia	Chris	ENS	30	Live culture	RE
1	PLY491	18-févr.-13	Chlamydomonas_concordia	Shin	Plant Developmental G	30	Live culture	AL
1	PLY491	23-avr.-13	Chlamydomonas_concordia	Simon	SBR DPO	30	Live culture	RE
1	PLY491	03-mars-14	Chlamydomonas_concordia	Lucile	UMR LOG 8187	1000	Live culture	PG

Tube labels

Services



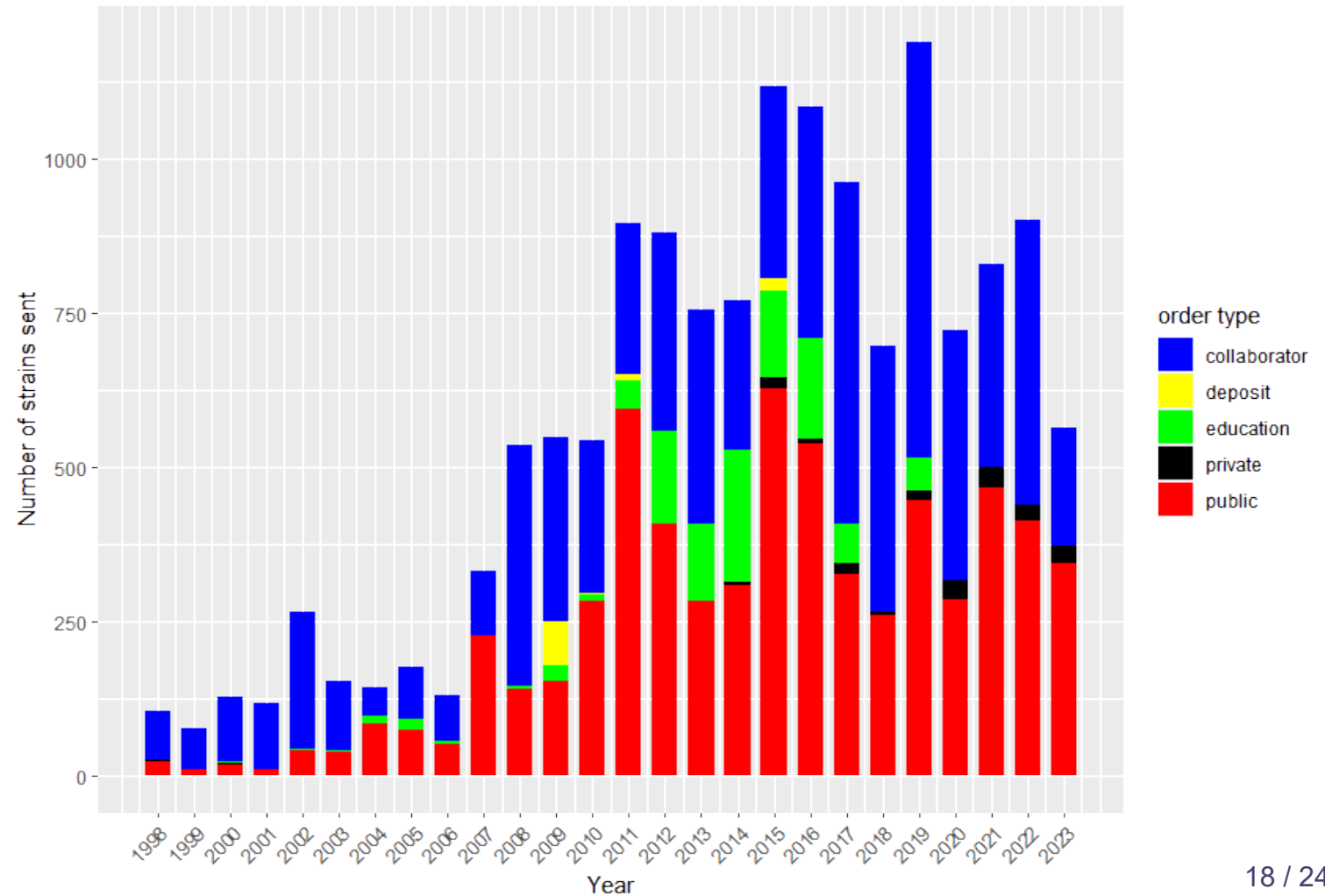
- Live cultures
- Frozen pellets
- Culture medium
- Strain cryopreservation
- Strain identification (image, sequence)
- Strain deposit
 - Free for academics
 - Paid for private

Item	UNIT PRICE	
	Public sector (University, Research center)	Private company
Culture 30 mL live	50 €	150 €
Culture 1 L live	100 €	300 €
Culture 30 mL frozen pellet	150 €	450 €
Culture 1 L frozen pellet	300 €	900 €
Culture medium 1 L	50 €	100 €
Strain identification	50 €	150 €
Strain cryopreservation	50 €	150 €
Private strain deposit (live)	150 € / year	450 € / year
Private strain deposit (cryopreserved)	50 € / year	150 € / year

Distribution of strains



- Education
 - Free of charge for school
 - > 700 strains provided
 - Advice on projects
- Private sector
 - Strain
 - Strain identification
 - Strain deposit
 - Cryopreservation



Citation

Papers published on RCC strains

529



Roscoff Culture Collection @RCC_algae · 31 août
 New paper on E hux response to Ph and temperature using strain RCC1832 co-authored by Ian Probert from the Roscoff Collection.
aslopubs.onlinelibrary.wiley.com/doi/full/10.10...

A

Roscoff Culture Collection @RCC_algae · 18 août
 New paper on Haptophytes with pictures from RCC strains.

ISEP @ISEPprotists · 18 août
 New #ISEPpapers! Genomic and meta-genomic insights into the functions, diversity and global distribution of haptophyte algae
tandfonline.com/doi/full/10.10... #algae #protists #genomics
 @DacksLab1 @RMicroscopist

Group	Percentage
Haptophytes	12%
Other groups (Diatoms, Chlorophytes, Cryptophytes, etc.)	88%

Roscoff Culture Collection @RCC_algae · 17 sept.
 The genome of Pelagomonas RCC100 just published...

Quentin Carradec @QuentinCarradec · 16 sept.
 Our first paper on the picoeukaryote Pelagomonas is out ! Many thanks to @NinaMoGuerin, @J_M_Aury team, @GenoLAGE and @TaraOcean_ for this work. The genome and the biogeography is only the beginning with this great algae.
rdcu.be/cVJZ2

Current Biology
The V-type ATPase enhances photosynthesis in marine phytoplankton and further links phagocytosis to symbiogenesis

Graphical abstract

Authors
 Daniel P. Yee, Ty J. Samo, Raffaella M. Abbriano, ..., Mark Hildebrand, Johan Decelle, Martin Tresguerres

Correspondence
daniel.p.yee@gmail.com (D.P.Y.), mitresguerres@ucsd.edu (M.T.)

In brief
 Yee et al. show that a proton pump in endosymbiotic membranes around chloroplasts of secondary endosymbiotic algae contributes to a carbon-concentrating mechanism that enhances photosynthesis. Evolution of a similar mechanism in the digestive membranes of other photosymbiotic taxa provides functional evidence for phagocytosis-derived symbiogenesis.

<https://roscoff-culture-collection.org/strains/strain-references>

Internal research



J. Phycol. **35**, 368–381 (1999)

BOLIDOMONAS: A NEW GENUS WITH TWO SPECIES BELONGING TO A NEW ALGAL CLASS, THE BOLIDOPHYCEAE (HETEROKONTA)¹

Laure Guillou²

Station Biologique, CNRS, INSU et Université Pierre et Marie Curie, BP 74, F-29682 Roscoff Cx, France



Gérikas Ribeiro, C, et al. 2020. Culturable diversity of Arctic phytoplankton during pack ice melting. *Elem Sci Anth*, 8: 6. DOI: <https://doi.org/10.1525/elementa.401>

RESEARCH ARTICLE

Culturable diversity of Arctic phytoplankton during pack ice melting

Catherine Gérikas Ribeiro^{*†}, Adriana Lopes dos Santos^{†‡}, Priscillia Gourvil[§], Dominique Marie^{*}, Margot Tragin^{*}, Ian Probert[§] and Daniel Vaultot^{*†}

OPEN

Chloropicophyceae, a new class of picophytoplanktonic prasinophytes

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ARTICLE OPEN

Check for updates

Rapid diversification underlying the global dominance of a cosmopolitan phytoplankton

El Mahdi Bendif^{1,2,3,5*}, Ian Probert⁴, Odysseas A. Archontikis^{1,5}, Jeremy R. Young⁶, Luc Beaufort⁷, Rosalind E. Rickaby¹ and Dmitry Filatov²

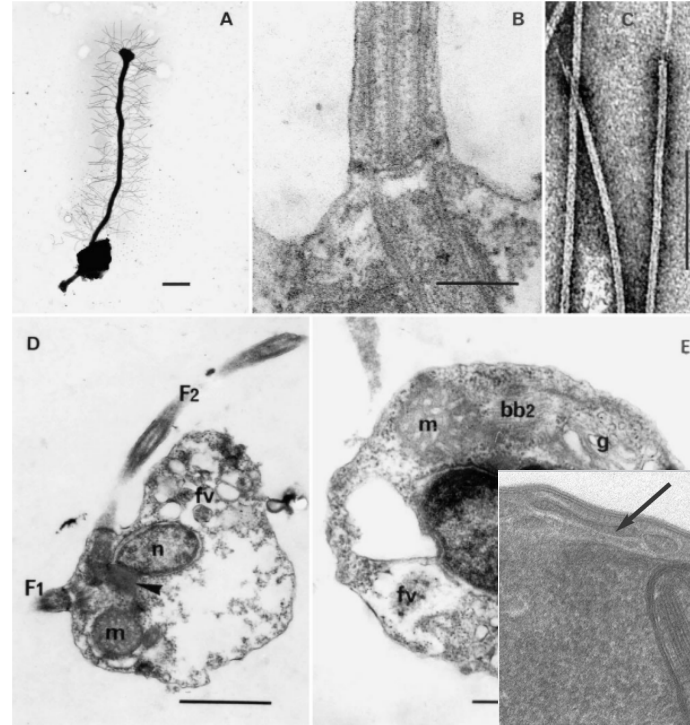
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New species, genera, classes

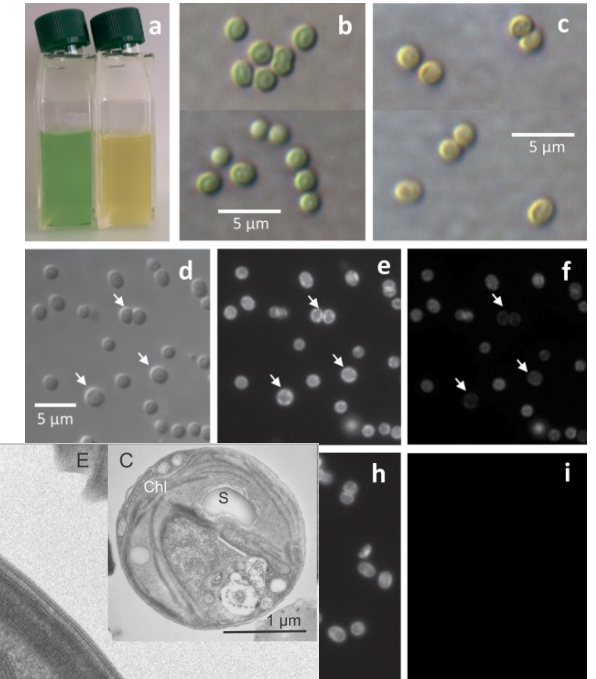


- *Bolidomonas* (now *Triparma*)
- *Picophagus* & *Symbiomonas*
- *Florenciella*
- *Partenskyella* & *Lotharella*
- *Chloropicon* & *Chloroparvula*
- *Prasinoderma*
- *Mantoniella*
- *Micromonas*
- *Pseudohaptolina*
- *Acaryochloris*
- *Gephyrocapsa huxleyi*...

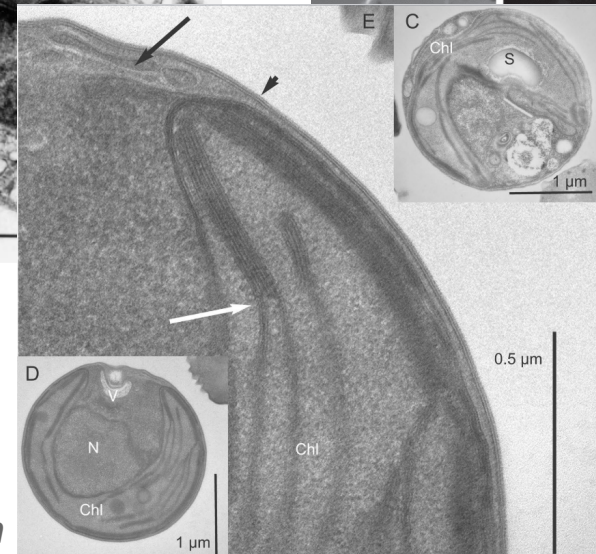
Picophagus



Acaryochloris



Chloropicon



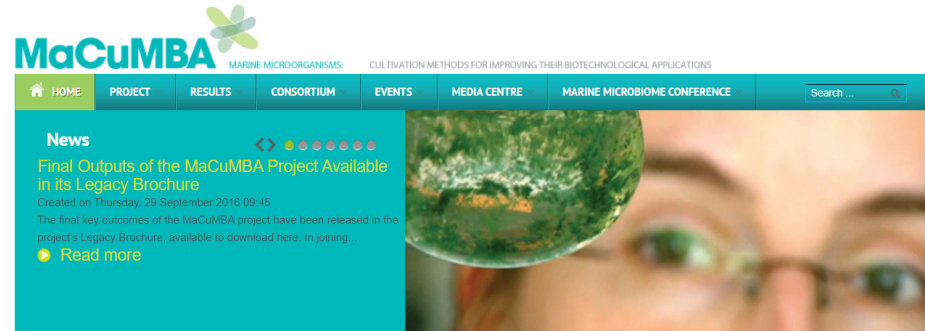
Projects

Past

- MACUMBA - EU (2012-2016)
- ASSEMBLE - EU
- EMBRIC - EU
- NomorFilm - EU
- Polyalgues - ANR

Current

- Phenomap - ANR (2020-2023) - Strain characterisation
- PelagoAdapt - ANR (2023-2026) - Pelagophyceae
- Taxi - ANR (2023-2026) - Taxonomie cyanobacteria
- ATLASea - ANR PEPR - 700 genomes
- BlueRemediomics - EU (2022-2026)
- MICROBES - EU (2022-2026)



NoMorFilm_H2020 @NoMorFilm · 17 févr. 2020
The European-Funded @NoMorFilm Project Closes a First Cycle.
The numerous results obtained after a five-year funding pave the way for other ambitious projects. More information: isglobal.org/en/-/el-proyec...

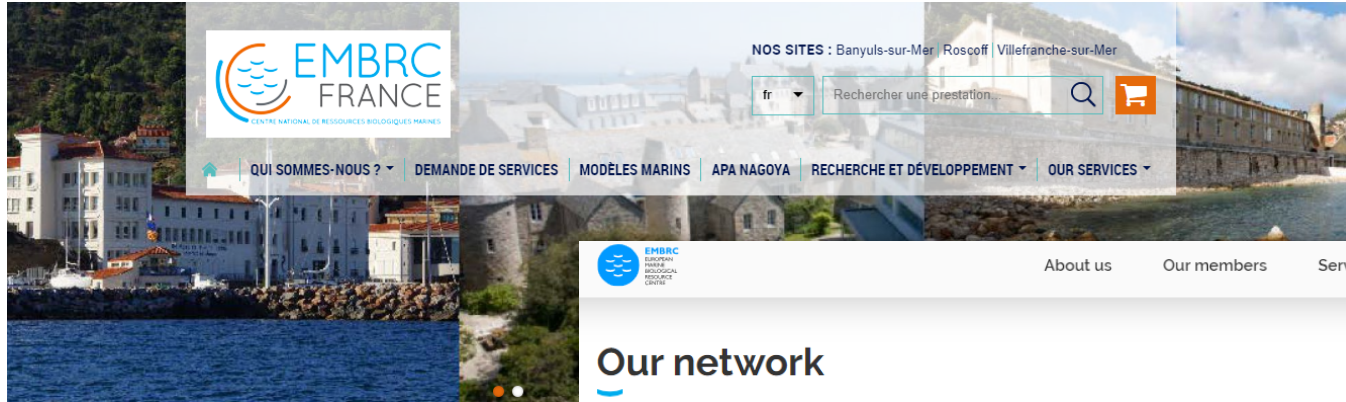


ATLASea - Atlas des génomes marins : des données massives à l'innovation



Co-piloté par le CNRS et le CEA, le programme de recherche exploratoire Atlasea vise à séquencer le génome de 4 500 espèces marines de la zone économique exclusive française. Financé à hauteur de 41 millions d'euros sur 8 ans dans le cadre de France 2030, il permettra entre autres, de comprendre, de protéger et d'étudier l'ensemble des formes du vivant dans toute leur diversité.

EMBRC-France



- Roscoff
- Banyuls
- Villefranche/Mer

A screenshot of the EMBRC website's 'Our network' section. The page features a navigation bar with links: 'About us', 'Our members', 'Services', 'Projects', 'Blog & Events', 'Press', and 'Get involved'. Below the navigation bar is the 'Our network' heading, followed by a paragraph: 'Our member countries offer a wealth of marine biological laboratories and stations dedicated to the investigation of marine organisms and ecosystems. By making their services and resources available to European and international research/innovation communities, we hope to push the frontiers of marine biological science and promote marine solutions to address societal issues (eg global warming, food shortages) and develop novel products, drugs and treatments.' Below this is another paragraph: 'EMBRC currently has 10 member countries: Belgium, France, Greece, Israel, Italy, Norway, Portugal, Spain, Sweden and the UK.' A 'Read more' link with a right-pointing arrow is provided. To the right of the text is a map of Europe with blue dots indicating the locations of member countries: Norway, Sweden, Belgium, France (highlighted with a blue circle), Portugal, Spain, Italy, Greece, and Israel. At the bottom of the page, there are four statistics: '9 Member countries', '70 Marine stations & institutes', '2018 ERIC status awarded', and '411 Services offered'.



Questions ?