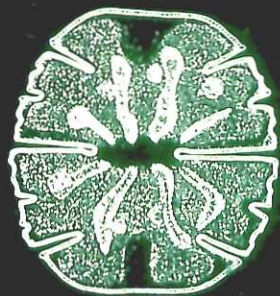
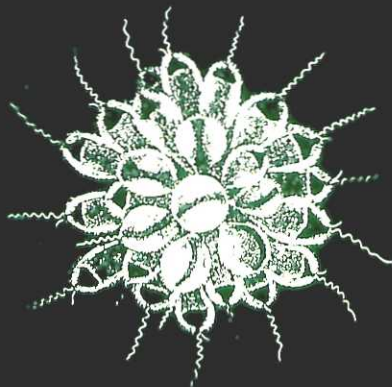
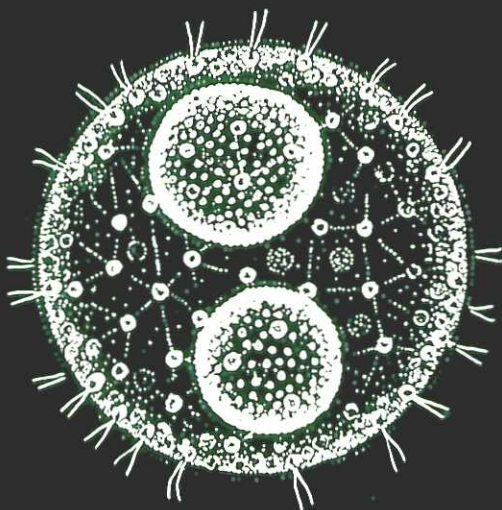
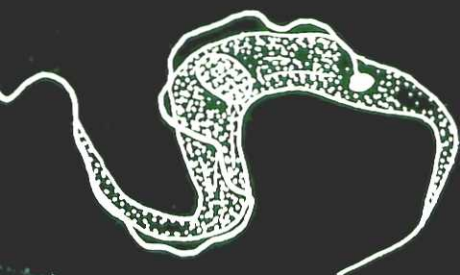


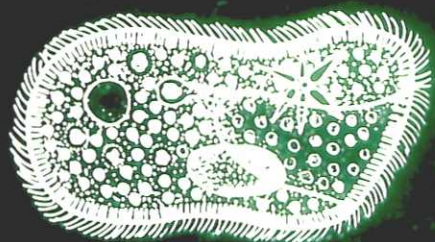
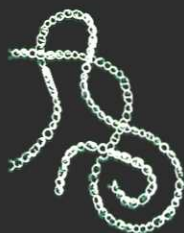
CULTURE CENTRE OF ALGAE AND PROTOZOA

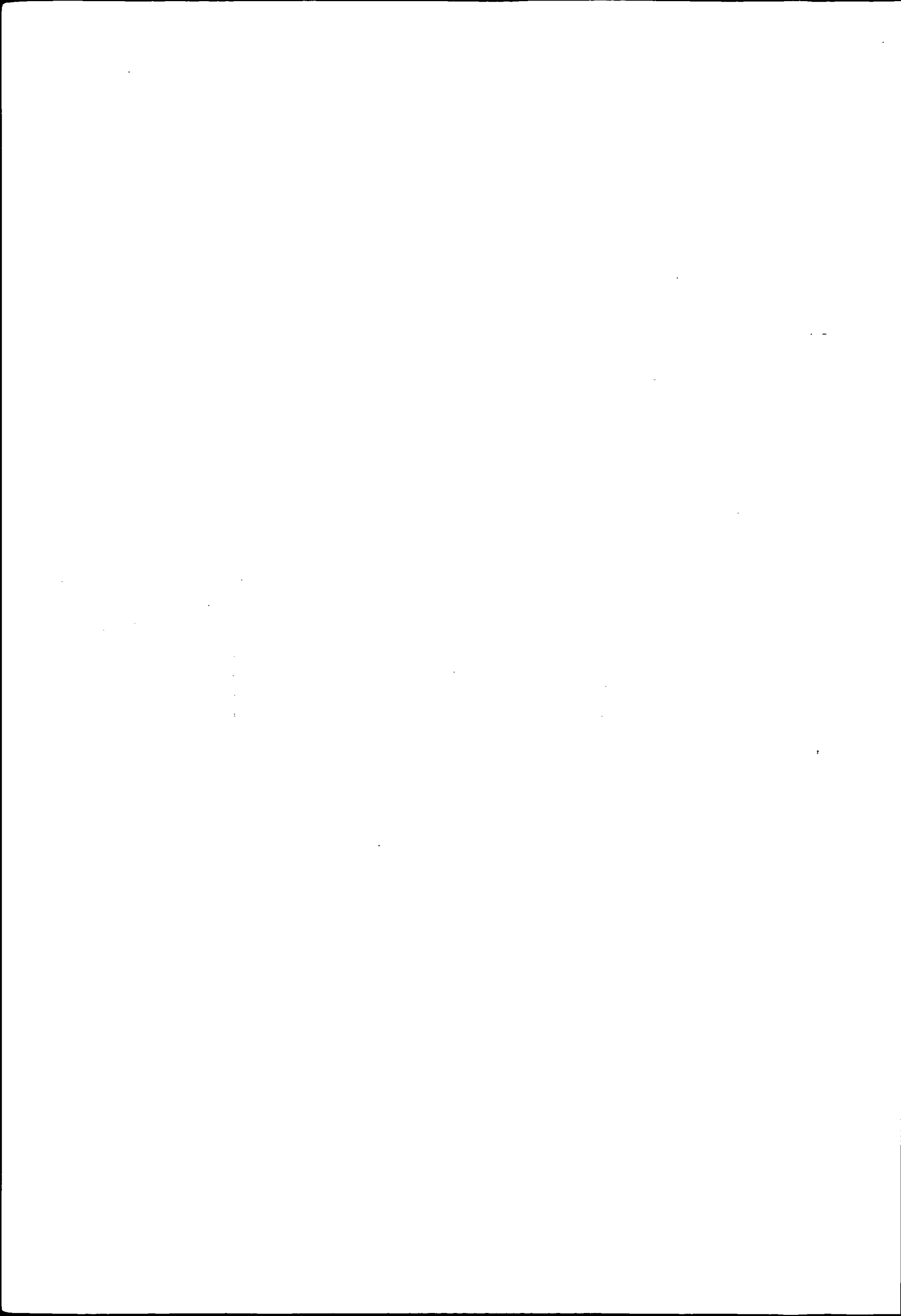
# LIST OF STRAINS



Institute of Terrestrial Ecology

Natural Environment Research Council

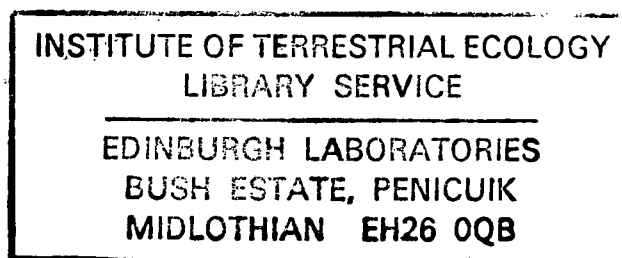




Natural Environment Research Council  
**INSTITUTE OF TERRESTRIAL ECOLOGY**

**Culture Centre of Algae and Protozoa**

# List of Strains 1982



Edited by

Ann Asher

ITE, Culture Centre of Algae & Protozoa,  
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and

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*The Institute of Terrestrial Ecology (ITE)* was established in 1973, from the former Nature Conservancy's research stations and staff, joined later by the Institute of Tree Biology and the Culture Centre of Algae and Protozoa. ITE contributes to and draws upon the collective knowledge of the fourteen sister institutes which make up the *Natural Environment Research Council*, spanning all the environmental sciences.

The Institute studies the factors determining the structure, composition and processes of land and freshwater systems, and of individual plant and animal species. It is developing a sounder scientific basis for predicting and modelling environmental trends arising from natural or man-made change. The results of this research are available to those responsible for the protection, management and wise use of our natural resources.

One quarter of ITE's work is research commissioned by customers, such as the Nature Conservancy Council, who require information for wildlife conservation, the Department of Energy and the Department of the Environment. The remainder is fundamental research supported by NERC.

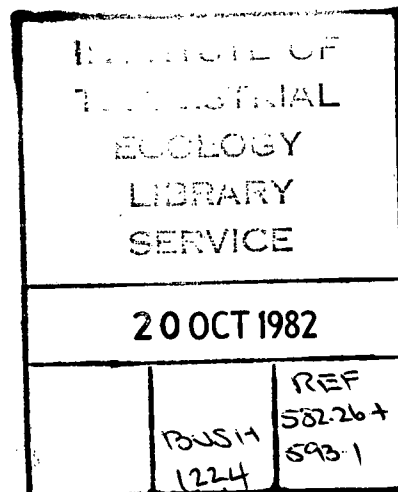
ITE's expertise is widely used by international organisations in overseas projects and programmes of research.

Dr J R Baker, Head of Station  
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0223 (Cambridge) 61378

COVER DESIGN M J Woodman  
COVER PHOTOGRAPHY P G Ainsworth  
COVER DRAWINGS J R Baker  
N C Pennick  
Erica M F Swale  
K Vickerman  
COVER ORGANISMS (not to scale)

Clock-wise, from top left:

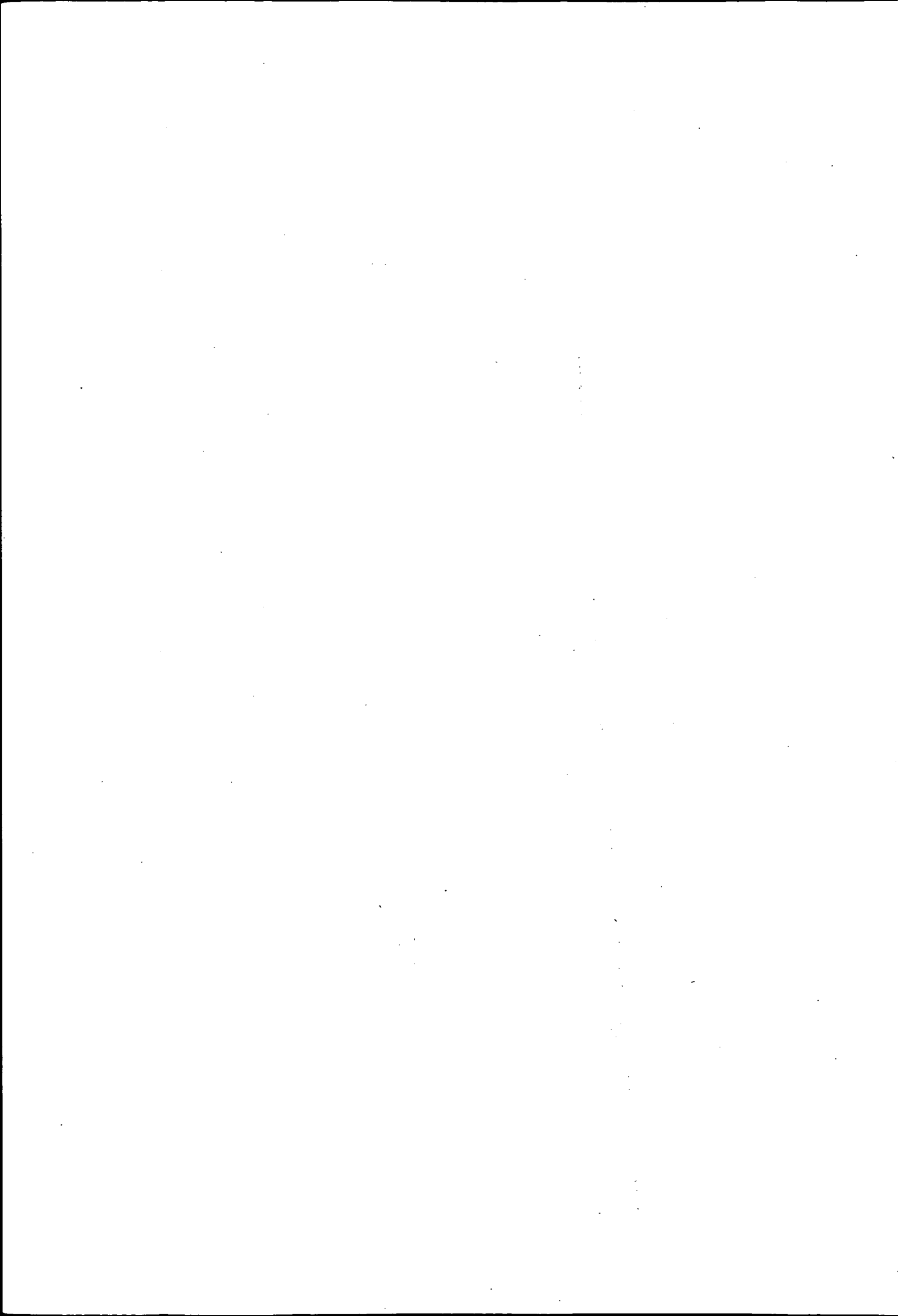
*Zygnema* sp.  
*Amoeba proteus*  
*Chlamydomonas* sp.  
*Peridinium* sp.  
*Micrasterias* sp.  
*Paramecium* sp.  
*Anabaena* sp.  
*Pyramimonas occidentalis*  
*Navicula* sp.  
*Synura* sp.  
*Trypanosoma corvi*  
Centre: *Volvox* sp.



The information for this catalogue was key-punched in machine-readable form on floppy disks using an Olivetti P6060 word processor, edited on the IBM 370/195 in the University of Cambridge, and type-set on the FR80 computer-output-microfilm camera in the SERC Rutherford Appleton Laboratory.

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## INTRODUCTION

The Culture Centre of Algae and Protozoa (CCAP) in Great Britain derived from the collection started by E. G. Pringsheim in Prague in 1928. Pringsheim's collection was expanded and eventually taken over by E. A. George for Cambridge University in 1947. In April 1970, it formed the basis of CCAP, financed by the Natural Environment Research Council (NERC). In November 1975, the Centre became part of the Institute of Terrestrial Ecology (ITE) – itself a component of NERC.

CCAP maintains (by serial cultivation or by cryopreservation) over 2000 strains of protists (including parasitic protozoa which can be cultivated *in vitro*), the smaller multicellular algae, some bryophytes, one rotifer, and one aquatic angiosperm. The collection does not include the larger seaweeds or, in general, pathogenic parasites.

CCAP supplies cultures for research and teaching, advises on identification of related material and undertakes fundamental taxonomic, morphological and cryobiological research.

## REQUESTS FOR CULTURES

Most cultures in this list are readily available: some, which may be pathogenic to man, are indicated in the list by 'P' or 'P?' and their availability is restricted. All requests should be accompanied by an official order when possible and should be addressed to:-

Culture Centre of Algae and Protozoa,  
36 Storey's Way,  
CAMBRIDGE,  
CB3 0DT,  
ENGLAND.

Payment in POUNDS STERLING is due on receipt of the cultures and invoice. Payment should not be sent in advance unless requested.

Details of charges are given in the current price sheet, available on request.

AT LEAST ONE MONTH'S NOTICE is requested, especially for large orders and for cryopreserved material: SUPPLY OF MATERIAL AT SHORTER NOTICE CANNOT BE GUARANTEED. When cultures are required on a certain date, this should be clearly indicated; otherwise they will be sent as soon as they are ready.

Cultures are dispatched by First Class Mail or by Registered Air Mail Letter Post as appropriate. A special request must be made for cultures to be sent by Air Freight.

**IMPORTANT NOTE.** Anyone using CCAP strains in work which is subsequently published is earnestly requested to give the full reference number of the strain, eg CCAP 128/1. This will help to avoid subsequent confusion in the identification of materials used.

## EXPLANATORY NOTES

Genera, and species within them, are arranged alphabetically in the body of the catalogue. A systematic list of genera is given on page 4.1: neither this list, nor the catalogue in general should be taken as an authority for taxonomy or nomenclature.

Strains are listed under the name of the species: the information given below is included whenever possible:

- (a) The reference number in the collection, which is intended to be unique and immutable. Please quote it in any published reference, including the collection initials 'CCAP'.
- (b) The name of the isolator and the year of isolation.
- (c) Number given by isolator.
- (d) Pathogenicity, whether the strain is a proven pathogen to man (P) or possibly a pathogen to man, but not proven (P?).
- (e) Method of maintenance in the collection:

A	= Agar slope (axenic when letter stands alone)
B	= Bacteria present
L	= Liquid medium (axenic when letter stands alone)
N	= Cryopreserved
X	= Organisms other than bacteria present

These code letters are combined as required; for example:

AB	= Agar + bacteria only
ABX	= Agar + bacteria + other organisms
LBX	= Liquid + bacteria + other organisms
	etc.

IT SHOULD BE NOTED THAT THE ABOVE LETTERS DO NOT FORM PART OF THE STRAIN NUMBER. The strain number is unchangeable and the letters merely indicate the method of maintenance and can be altered as the method is altered. In earlier editions of this catalogue, the method of maintenance was indicated by a code letter preceding the strain number. This practice has been discontinued, as confusion arose from the frequent erroneous inclusion of the code letter(s) in the strain number.

- (f) Country of origin.
- (g) Environment whence isolated – marine, freshwater, brackish water, plant material, etc.
- (h) Suitable media for routine cultivation (detailed recipes of selected media are given on page 5.1)  
M1, M2, M3, ...
- (i) Descent from type material (T).
- (j) Deposition relating to patent applications, under the Budapest Treaty (BT). (None to date.)

## **DEPOSITION OF CULTURES**

Intending depositors should first apply to the Head of Station. The Centre is always willing to consider the deposition of cultures of taxonomic or other importance. It is recommended that important strains be deposited in at least 2 major collections for safe keeping.

Depositors should supply as much information as possible, preferably on our data sheets (available on request), or on World Federation of Culture Collections forms SCC-4. Reprints relating to the strains should be sent if possible.

If desired, a newly-deposited culture may be withheld from issue for a limited time, for example until publication is effected.

Depositors may, within limits, receive cultures of their own strains free of charge.

Deposition of strains subject to patent applications:

CCAP has applied for approval as an International Depository Authority under the 'Treaty on the International Recognition of the Deposit of Microorganisms for the Purposes of Patent Procedure' (the Budapest Treaty), and, once approval has been granted, strains may be deposited under the terms of that Treaty, if advance application is made to the Head of Station.



**LIST OF OTHER CULTURE COLLECTIONS**

Requests for bacteria and fungi may be made to one of the other culture collections listed below:

**Bacteria of industrial importance**

National Collection of Industrial Bacteria,  
Torry Research Station,  
P. O. Box 31,  
135 Abbey Road,  
ABERDEEN, AB9 8DG,  
Scotland

**Bacteria of marine importance**

National Collection of Marine Bacteria,  
Torry Research Station,  
P. O. Box 31,  
135 Abbey Road,  
ABERDEEN, AB9 8DG,  
Scotland

**Bacteria of medical and veterinary importance**

National Collection of Type Cultures,  
Central Public Health Laboratory,  
Colindale Avenue,  
LONDON, NW9 5HT.

**Bacteria from milk and milk products**

National Collection of Dairy Organisms,  
National Institute for Research in Dairying,  
Shinfield,  
READING,  
Berkshire, RG2 9AT.

**Bacteria pathogenic for plants**

National Collection of Plant Pathogenic Bacteria,  
Plant Pathology Laboratory,  
Hatching Green,  
HARPENDEN,  
Hertfordshire, AL5 2BD.

**Fungi and yeasts pathogenic for man or other animals**

Mycological Reference Laboratory,  
London School of Hygiene and Tropical Medicine,  
Keppel Street (Gower Street),  
LONDON, WC1E 7HT.

**Fungi, wood rotting**

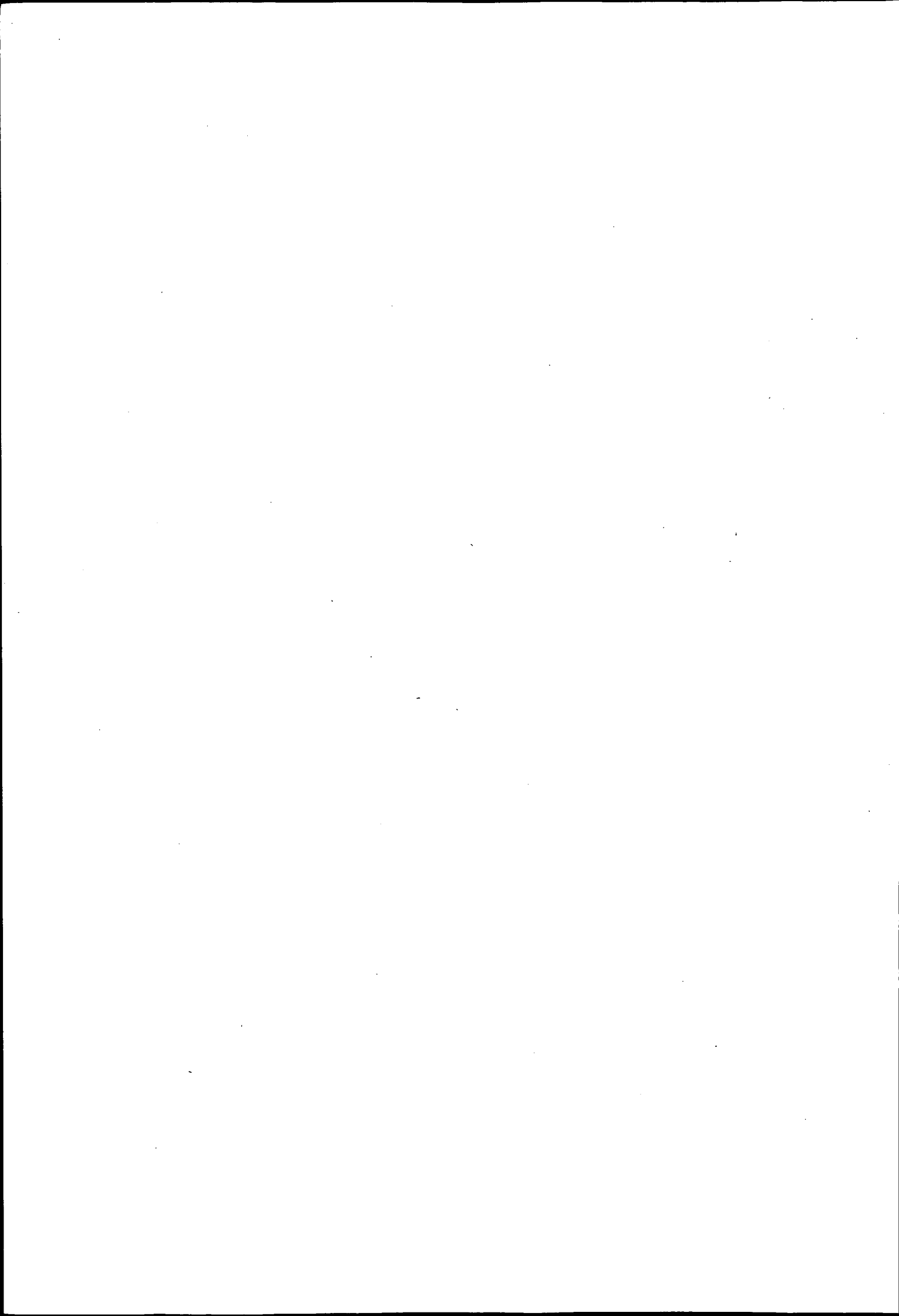
Building Research Establishment,  
Princes Risborough Laboratory,  
Princes Risborough,  
AYLESBURY,  
Buckinghamshire, HP17 9PX.

**Fungi (other than pathogens and wood rotting)**

Collection of Fungus Cultures,  
Commonwealth Mycological Institute,  
Ferry Lane,  
KEW,  
Surrey, TW9 3AF.

**Yeasts (other than pathogens)**

National Collection of Yeast Cultures,  
Agricultural Research Council,  
Food Research Institute,  
Colney Lane,  
NORWICH,  
Norfolk, NR4 7UA.



## LIST OF ORGANISMS FOR TEACHING PURPOSES

Orders from this list should be headed "For teaching". Only the genus should normally be specified; the most suitable available strain will then be supplied.

One culture is usually sufficient for 25 students (of *Acetabularia*, a minimum of 6 mature caps is supplied).

## ALGAE

## BACILLARIOPHYCEAE (DIATOMOPHYCEAE)

*Amphiprora* (marine)  
*Cyclotella* (marine)  
*Gyrosigma* (marine)  
*Melosira*  
*Navicula* (marine, motile)  
*Nitzschia* (marine, motile)  
*Phaeodactylum* (marine)  
*Skeletonema* (marine)  
*Tabellaria*  
*Thalassiosira*

## CHLOROPHYCEAE

## Volvocales

*Carteria*  
*Chlamydomonas* (for morphology  
mating strains usually available)  
*Dunaliella*  
*Eudorina*  
*Gonium*  
*Haematococcus*  
*Pandorina*  
*Pleodorina*  
*Volvox*

## Chlorococcales

*Ankistrodesmus*  
*Chlorella*  
*Chlorococcum*  
*Coelastrum*  
*Hydrodictyon*  
*Pediastrum*  
*Scenedesmus*

## Ulotrichales

*Microspora*  
*Ulothrix* (*Uronema*)

## Chaetophorales

*Chaetophora*  
*Coleochaete*  
*Stigeoclonium*

## Cladophorales

*Cladophora* (marine or freshwater)

## Conjugales

*Closterium*  
*Cosmarium*  
*Micrasterias*  
*Spirogyra*  
*Staurastrum*  
*Zygnema*

## Oedogoniales

*Bulbochaete*  
*Oedogonium* (male & female strains)

## Siphonales

*Acetabularia* (marine)

## CHRYSOPHYCEAE

*Ochromonas* (marine or freshwater)  
*Pseudopedinella* (marine)  
*Synura*

## CRYPTOPHYCEAE

*Chilomonas* (colourless)  
*Chroomonas* (marine)  
*Cryptomonas* (marine or freshwater)

## CYANOPHYCEAE

*Anabaena*  
*Chroococcus*  
*Gloeocapsa*  
*Lyngbya* (brackish)  
*Merismopedia*  
*Nodularia* (marine)  
*Nostoc*  
*Oscillatoria*  
*Phormidium* (marine)  
*Plectonema* (marine)  
*Scytonema*  
*Spirulina*  
*Tolypothrix*

**DINOPHYCEAE**

*Amphidinium* (marine)  
*Glenodinium* (marine)  
*Oxyrrhis* (marine)  
*Peridinium* (marine)  
*Prorocentrum* (marine)  
*Scrippsiella* (marine)  
*Woloszynskia*

**EUGLENOPHYCEAE**

*Astasia* (colourless)  
*Euglena gracilis* (for movement)  
*Euglena spirogyra* (cell structure)  
*Peranema* (holozoic, shows flagellum well)  
*Phacus*  
*Trachelomonas*

**EUSTIGMATOPHYCEAE**

*Chlorobotrys*  
*Eustigmatos*  
*Pseudocharaciopsis*

**PHAEOPHYCEAE (FUCOPHYCEAE)**

*Ectocarpus* (marine)

**PRASINOPHYCEAE**

*Bipedimonas* (marine)  
*Pyramimonas* (marine)  
*Tetraselmis* (marine)

**PRYMNESIOPHYCEAE (HAPTOPHYCEAE)**

*Chrysochromulina* (marine)  
*Cricosphaera*  
*Isochrysis* (marine)  
*Pseudoisochrysis* (marine)

**RHODOPHYCEAE**

*Achrochaetium* (marine)  
*Audouinella* (marine)  
*Chroothece* (marine)  
*Porphyra* (marine)  
*Porphyridium* (marine unicellular)  
*Rhodella* (marine)

**XANTHOPHYCEAE (TRIBOPHYCEAE)**

*Botrydiopsis*  
*Bumilleria* (larger than *Tribonema* and shows  
H-pieces better)  
*Ophiocytium*  
*Tribonema*  
*Vaucheria*  
*Vaucheria* (fertile, limited amount of material  
only)

**PROTOZOA****CILIOPHORA**

*Blepharisma*  
*Coleps* (with 'armour')  
*Didinium*  
*Discophrya* (suctorian)  
*Euplotes* (hypotrich)  
*Paramecium bursaria* (for conjugation,  
zoochlorellae)  
*Paramecium caudatum*  
*Spirostomum*  
*Stentor*  
*Tetrahymena* (axenic)  
*Vorticella microstoma* (cysts and telotrochs  
easily obtained)

**SARCODINA**

*Gymnamoebia*  
*Amoeba proteus*  
*Chaos carolinense* (larger than *Amoeba proteus*;  
multinucleate)  
*Entamoeba invadens*  
*Naegleria gruberi* (amoeba/flagellate  
transformation; encystment and excystment)  
*Saccamoeba limax* (medium sized; good for  
amoeboid movement and contractile vacuoles)  
*Testate amoebae*  
*Arcella*  
*Cellular slime moulds*  
*Dictyostelium* (aggregation, sorocarps)  
*Heliozoans*  
*Acanthocystis* (scales of silica)  
*Actinophrys*  
*Actinosphaerium* (larger than *Actinophrys*)

**ZOOMASTIGOPHOREA***Trypanosomatidae*

*Leishmania* (culture with promastigotes)

*Trypanosoma* (culture with mainly epimastigotes)

*Bodonidae*

*Bodo* (kinetoplast)

**ROTIFERA**

*Philodina*



## LIST OF GENERA IN THE COLLECTION

Those genera recommended for teaching purposes in the previous section "List of organisms for teaching purposes" are identified here by appending the names with the symbol (E).

## ALGAE

## BACILLARIOPHYCEAE

*Amphiprora* (E)  
*Asterionella*  
*Chaetoceros*  
*Cyclotella* (E)  
*Gomphonema*  
*Gyrosigma* (E)  
*Melosira* (E)  
*Navicula* (E)  
*Nitzschia* (E)  
*Phaeodactylum* (E)  
*Skeletonema* (E)  
*Tabellaria* (E)  
*Thalassiosira* (E)

## CHLOROPHYCEAE

## Volvocales

*Asteromonas*  
*Brachiomonas*  
*Carteria* (E)  
*Chlamydomonas* (E)  
*Chlorogonium*  
*Chloromonas*  
*Dunaliella* (E)  
*Dysmorphococcus*  
*Eudorina* (E)  
*Gloeomonas*  
*Gonium* (E)  
*Haematococcus* (E)  
*Lobomonas*  
*Pandorina* (E)  
*Phacotus*  
*Platydorina*  
*Pleodorina* (E)  
*Polytoma*  
*Polytomella*  
*Pteromonas*  
*Pyrobotrys*  
*Stephanosphaera*  
*Vitreochlamys* (see *Chlamydomonas*)  
*Volvox* (E)

## Chlorococcales

*Ankistrodesmus* (E)  
*Borodinella*  
*Bracteacoccus*  
*Characium*  
*Chlorella* (E)  
*Chlorochytrium*  
*Chlorococcum* (E)  
*Coccomyxa*  
*Coelastropsis*  
*Coelastrum* (E)  
*Coenococcus*  
*Crucigenia*  
*Crucigeniella*  
*Dactylococcus*  
*Dictyochloris*  
*Dictyochloropsis*  
*Dictyococcus*  
*Dictyosphaerium*  
*Dimorphococcus*  
*Elakotothrix*  
*Eremosphaera*  
*Franceia*  
*Fusola*  
*Glaucocystis*  
*Colenkiniopsis*  
*Comontia*  
*Halochlorella* (see *Chlorella*)  
*Halochlorococcum*  
*Heterogonium*  
*Hyaloraphidium*  
*Hydrodictyon* (E)  
*Kentrosphaera*  
*Kirchneriella*  
*Lagerheimia*  
*Micractinium*  
*Muriella*  
*Myrmecia*  
*Nannochloris*  
*Neospongiococcum*  
*Nephrochlamys*  
*Oocystis*  
*Pediastrum* (E)  
*Planktosphaeria*  
*Polyedriopsis*  
*Prototheca*  
*Pseudochlorococcum*  
*Pseudococcomyxa*  
*Pseudotrebourxia*  
*Quadrigula*  
*Radiosphaera*  
*Rhopalocystis*  
*Scenedesmus* (E)  
*Scotiella*  
*Selenastrum*

- Robinson & Preston (1971) suggest that *Glaucocystis* could be: (1) a red alga; (2) a primitive dinoflagellate; or (3) a member of an independent group; but not a blue-green symbiont in a colourless green alga.

- Sphaerocystis*  
*Spongiochloris*  
*Tetraedron*  
*Tetrastrum*  
*Trebouria*
- Tetrasporales**
- Actinochloris* (see *Radiosphaera*)  
*Asterococcus*  
*Chaetopeltis*  
*Characiosiphon*  
*Chlamydocapsa*  
*Glaucosphaera*  
*Gloeococcus*  
*Gloeocystis*  
*Heterotetracystis*  
*Nautococcus*  
*Neochloris*  
*Palmodictyon*  
*Paulschulzia*  
*Signiosphaera*  
*Tetracystis*
- Ulotrichales**
- Cylindrocapsa*  
*Fottea*  
*Geminella*  
*Hormidiella*  
*Hormidium* (see *Klebsormidium* and *Ulothrix*)  
*Interfilum*  
*Klebsormidium*  
*Microspora* (E)  
*Prasiococcus*  
*Prasiola*  
*Pseudostichococcus*  
*Schizomeris*  
*Sphaeroplea*  
*Stichococcus*  
*Ulothrix* (E) (*Uronema*)
- Chaetophorales**
- Caespitella*  
*Cephaleuros*  
*Chaetophora* (E)  
*Chlorokybus*  
*Chlorosarcina*  
*Chlorosarcinopsis*  
*Chlorosphaera*  
*Chlorosphaeropsis*  
*Coleochaete* (E)  
*Dilabifilum*  
*Diplosphaera*  
*Draparnaldia*  
*Fritschiella*  
*Gongrosira*  
*Leptosira*  
*Microthamnion*  
*Pilinia*
- Pleurastrum*  
*Pleurococcus*  
*Pseudendoconiopsis*  
*Pseudendoconium*  
*Pseudopleurococcus* (see *Dilabifilum*)  
*Raphidonema*  
*Stigeoclonium* (E)  
*Trentepohlia*
- Cladophorales**
- Cladophora* (E)  
*Pithophora*  
*Rhizoclonium*
- Conjugales**
- Closterium* (E)  
*Cosmarium* (E)  
*Cylindrocystis*  
*Euastrum*  
*Hyalotheca*  
*Mesotaenium*  
*Micrasterias* (E)  
*Mougeotia*  
*Pleurotaenium*  
*Spirogyra* (E)  
*Spondylosium*  
*Staurastrum* (E)  
*Zygnema* (E)  
*Zygnemopsis*
- Oedogoniales**
- Bulbochaete* (E)  
*Oedocladium*  
*Oedogonium* (E)
- Siphonales**
- Acetabularia* (E)  
*Derbesia*  
*Dichotomosiphon*  
*Protosiphon*
- CHRYSOPHYCEAE**
- Anthophysa*  
*Boekelovia*  
*Chromulina*  
*Chryso-sphaera*  
*Mallomonas*  
*Monas*  
*Ochromonas* (E)  
*Ochrosphaera*  
*Olisthodiscus*  
*Paraphysomonas*  
*Pedinella*  
*Poterioochromonas*  
*Pseudopedinella* (E)



*Rhizochromulina*  
*Spumella*  
*Syncrypta*  
*Synura* (E)

**CRYPTOPHYCEAE**

*Chilomonas* (E)  
*Chroomonas* (E)  
*Cryptomonas* (E)  
*Cyanophora*  
*Hemiselmis*  
*Rhodomonas*

**CYANOPHYCEAE (NOSTOCOPHYCEAE)**

*Anabaena* (E)  
*Anabaenopsis*  
*Anacystis*  
*Aphanizomenon*  
*Aphanocapsa* (see *Anacystis*)  
*Aphanothece*  
*Calothrix*  
*Chlorogloea*  
*Chlorogloeopsis*  
*Chroococcopsis*  
*Chroococcus* (E)  
*Coccochloris*  
*Coelosphaerium*  
*Cylindrospermum*  
*Dermocarpa*  
*Entophysalis*  
*Fischerella*  
*Fremyella*  
*Gloeocapsa* (E)  
*Gloeotrichia*  
*Lauterbornia* (see *Synechococcus*)  
*Lyngbya* (E)  
*Mastigocladus*  
*Merismopedia* (E)  
*Microchaete*  
*Microcoleus*  
*Microcystis*  
*Myzocarcina*  
*Nodularia* (E)  
*Nostoc* (E)  
*Oscillatoria* (E)  
*Pelogloea* (see *Coccochloris*)  
*Phormidium* (E)  
*Plectonema* (E)  
*Pseudanabaena*  
*Pseudoholopedia*  
*Schizothrix*  
*Scytonema* (E)  
*Spirulina* (E)  
*Symploca*  
*Synechococcus*  
*Synechocystis*  
*Tolypothrix* (E)

**DINOPHYCEAE**

*Amphidinium* (E)  
*Glenodinium* (E)  
*Gloeodinium*  
*Oxyrrhis* (E)  
*Peridinium* (E)  
*Prorocentrum* (E)  
*Scrippsiella* (E)  
*Woloszynskia* (E)

**EUGLENOPHYCEAE**

*Astasia* (E)  
*Cryptoglena*  
*Distigma*  
*Entosiphon*  
*Euglena* (E)  
*Eutreptia*  
*Eutreptiella*  
*Gyropaigne*  
*Hyalophacus*  
*Menoidium*  
*Parmidium*  
*Peranema* (E)  
*Phacus* (E)  
*Rhabdomonas*  
*Rhabdospira*  
*Strombomonas*  
*Trachelomonas* (E)

**EUSTIGMATOPHYCEAE**

*Chlorobotrys* (E)  
*Ellipsoidion* (see *Pseudocharaciopsis*)  
*Eustigmatos* (E)  
*Monodopsis*  
*Nannochloropsis*  
*Polyedriella* (see *Vischeria*)  
*Pseudocharaciopsis* (E)  
*Vischeria*

**PHAEOPHYCEAE**

*Ectocarpus* (E)  
*Streblonema*

**PRASINOPHYCEAE**

*Bipedimonas* (E)  
*Halosphaera*  
*Heteromastix* (see *Nephroselmis* and *Bipedimonas*)  
*Mesostigma*  
*Micromonas*  
*Nephroselmis*  
*Pedinomonas*  
*Platymonas* (see *Tetraselmis*)

*Pseudoscourfeldia*  
*Pyramimonas* (E)  
*Tetraselmis* (E)

*Pleurochloris*  
*Sphaerosorus*  
*Tribonema* (E)  
*Vaucheria* (E)  
*Xanthonema*

#### PRYMNESIOPHYCEAE (HAPTOPHYCEAE)

*Chrysochromulina* (E)  
*Coccolithus*  
*Cricosphaera* (E)  
*Diacronema*  
*Dicrateria*  
*Emiliana*  
*Hymenomonas*  
*Imantonia*  
*Isochrysis* (E)  
*Mantoniella*  
*Monochrysis*  
*Pavlova*  
*Phaeocystis*  
*Prymnesium*  
*Pseudoisochrysis* (E)

#### RHODOPHYCEAE

*Acrochaetium* (E)  
*Asterocytis*  
*Audouinella* (E)  
*Chantransia*  
*Chroothece* (E)  
 \*\* *Cyanidium*  
 \*\*\* *Glaucocystis*  
*Hildenbrandtia*  
*Porphyra* (E)  
*Porphyridium* (E)  
*Rhodella* (E)

\*\* This alga, which at first glance is a 'blue-green *Chlorella*', has been placed in various other classes.

\*\*\*See note under Chlorococcales

#### XANTHOPHYCEAE

*Botrydiopsis* (E)  
*Botrydium*  
*Botryococcus*  
*Bumilleria* (E)  
*Bumilleriopsis*  
*Chlorellidium*  
*Chloridella*  
*Chlorocloster*  
*Chloromeson*  
*Heterococcus*  
*Heterothrix*  
*Mischococcus*  
*Nephrodiella*  
*Ophiocytium* (E)

#### PROTOZOA

##### CILIOPHORA

###### Prostomatida

*Coleps* (E)  
*Didinium* (E)  
*Dileptus*

###### Colpodida

*Colpoda*

###### Nassulida

*Nassula*

###### Suctorida

*Discophrya* (E)  
*Podophrya* (see *Discophrya*)

###### Hymenostomatida

*Colpidium*  
*Paramecium* (E)  
*Tetrahymena* (E)  
*Urocentrum*

###### Scuticociliatida

*Cyclidium*  
*Uronema*

###### Peritrichida

*Opisthonecta*  
*Vorticella* (E)

###### Heterotrichida

*Blepharisma* (E)  
*Spirostomum* (E)  
*Stentor* (E)

###### Hypotrichida

*Euplotes* (E)  
*Keronopsis*

**SARCODINA***Cymnamoebia*

*Acanthamoeba*  
*Adelphamoeba*  
*Amoeba* (E)  
*Cashia*  
*Chaos* (E)  
*Dermamoeba*  
*Echinamoeba*  
*Entamoeba* (E)  
*Filamoeba*  
*Flabellula*  
*Glaeseria*  
*Hartmannella*  
*Heteramoeba*  
*Mayorella*  
*Naegleria* (E)  
*Paramoeba*  
*Paratetramitus*  
*Pelomyxa* (see *Chaos*)  
*Platyamoeba*  
*Polychaos*  
*Protacanthamoeba*  
*Pseudoparamoeba*  
*Rosculus*  
*Saccamoeba* (E)  
*Stachyamoeba*  
*Tetramitus*  
*Thecamoeba*  
*Vahlkampfia*  
*Vannella*  
*Verillifera*

*Testacealobosia*

*Arcella* (E)  
*Cochliopodium*  
*Cryptodiffugia*  
*Trichosphaerium*

*Leptomyxida*

*Leptomyxa*  
*Rhizamoeba*

*Acrasea*

*Acrasis*

*Protosteliida*

*Cavostelium*  
*Ceratiomyxella*  
*Clastostelium*  
*Microglomus*  
*Nematostelium*  
*Planoprotostelium*  
*Protosteliopsis*  
*Protostelium*

*Schizoplasmodium**Dictyosteliida*

*Dictyostelium* (E)

*Aconchulinida* (filose naked amoebae)

*Nucleosphaerium*

*Cromiida*

*Euglypha*

*Trinema*

*Heliozoa*

*Acanthocystis* (E)

*Actinophrys* (E)

*Actinosphaerium* (E)

*Echinosphaerium* (see *Actinosphaerium*)

*Raphidiophrys*

**ZOOMASTIGOPHOREA**

*Apusomonas*

*Bodo* (E)

*Endotrypanum*

*Heteromita*

*Leishmania* (E)

*Trypanosoma* (E)

**ROTIFERA**

*Bdelloidea*

*Philodina*

**BRYOPHYTA****HEPATICAE**

*Sphaerocarpaceae*

*Riella*

*Sphaerocarpos*

*Marchantiales*

*Monoselenium*

*Riccia*

*Jungermanniales*

*Fossombronia*  
*Haplomitrium*  
*Lophocolea*

**MUSCI***Sphagnales*

*Sphagnum*

*Buxbaumiales*

*Buxbaumia*

*Dicranales*

*Ceratodon*

*Pottiales*

*Phascum*

*Funariales*

*Aplodon*  
*Funaria*  
*Physcomitrella*  
*Splachnum*

*Schistostegales*

*Schistostega*

*Tetraphidales*

*Tetraphis*

*Eubryales*

*Aulacomnium*  
*Bryum*  
*Leptobryum*

*Hypnobryales*

*Hypnum (Amblystegium)*

**ANGIOSPERMAE****ARALES**

*Lemnaceae*

*Wolffia*

## LIST OF CULTURE MEDIA

Details of some of the more useful maintenance media, referred to by number in the list of strains, are given below. Special media and methods for algae are given by Venkataraman (1969) and Stein (1973); for parasitic protozoa by Taylor and Baker (1978); for free living protozoa by Page (1981), and for various microorganisms in a CRC Handbook by Rehcigl (1978). The water used should always be distilled or deionised (unless the contrary is stated). Sterilization is by autoclaving at 15 lb/in<sup>2</sup> (ca 1 bar or 101 kPa) for 15 min unless stated otherwise.

Mention of a particular supplier does not imply that other products are necessarily less satisfactory.

**Medium M1**

	g per 100 ml water
Proteose peptone (Difco)	0.1
KNO <sub>3</sub>	0.02
K <sub>2</sub> HPO <sub>4</sub>	0.002
MgSO <sub>4</sub> ·7H <sub>2</sub> O	0.002
Agar	1.0

This medium is satisfactory for many algae; it quickly reveals the presence of most contaminants. For agar cultures with bacteria, a less rich medium is necessary such as soil extract agar (e + s).

**Medium M2 (e + s)**

	g per 100 ml water
KNO <sub>3</sub>	0.02
K <sub>2</sub> HPO <sub>4</sub>	0.002
MgSO <sub>4</sub> ·7H <sub>2</sub> O	0.002
Agar	1.0
Soil extract stock solution	10% by volume

The soil extract stock solution is made by heating in a steamer a calcareous garden loam with twice its volume of supernatant water for 2 hours, or by autoclaving for 15 min. It is convenient to make up and sterilize a number of small containers of stock solution each of a size appropriate to making a batch of media, as repeated autoclaving is deleterious.

## SOIL AND WATER MEDIA

These simple media have great advantages for many purposes, so long as axenic culture is not required, and may produce excellent growth of almost any organism apart from the more exacting planktonic and parasitic forms.

**Medium M3 Basic biphasic medium**

Put a layer about 1 cm deep of good calcareous garden loam into a test tube or jar. (The use of mud from rivers or ponds is seldom satisfactory.) Carefully add water to a depth of 7 to 10 cm, plug or cover, and steam for one hour (longer for larger vessels) on each of 2 consecutive days; further sterilization is not needed. Allow to stand for a further day before inoculating, when the pH should be between 7 and 8.

Many variations of this basic medium are possible. The garden soil can be replaced by calcareous clay (Medium M3i). The addition of a little (about 3% of the volume of the soil) calcium carbonate or ammonium magnesium phosphate beneath the soil is recommended, the former (Medium M3ii) for many eutrophic Chlorophyceae, the latter (Medium M3iii) for many green euglenids. *Sphagnum* peat may be added or may replace the soil when growing forms from acid habitats (Medium M3iv). The addition of a little starch below the soil stimulates growth of many saprophytes like *Polytoma* and *Astasia* (Medium M3v). A grain of pearl barley, rice or wheat produces a bacterial flora forming suitable food for many ciliates (Medium M3vi).

When selecting soils, it is advisable to take a fair-sized sample, about one cubic foot or 30 litres, pass this through a sieve of about 1 cm mesh and then make up media and test them with appropriate organisms. If the sample is satisfactory, sufficient stock is then available for many batches of medium.

**Medium M4** Bold's basal medium (Bischoff & Bold, 1963)

This is very useful for many algae including those from more or less eutrophic waters or from soils. It may be supplemented by soil extract (see Medium M2) and/or vitamins (see Medium M11).

Six stock solutions (i - vi) are used, each containing one of the following salts dissolved in 400 ml distilled water:

(i)	NaNO <sub>3</sub>	10.0 g
(ii)	CaCl <sub>2</sub> ·2H <sub>2</sub> O	1.0 g
(iii)	MgSO <sub>4</sub> ·7H <sub>2</sub> O	3.0 g
(iv)	K <sub>2</sub> HPO <sub>4</sub>	3.0 g
(v)	KH <sub>2</sub> PO <sub>4</sub>	7.0 g
(vi)	NaCl	1.0 g

Four trace-element solutions (vii-x) are prepared as follows, all dissolved in 1 litre of distilled water:

(vii)	EDTA	50 g
	KOH	31 g
(viii)	FeSO <sub>4</sub> ·7H <sub>2</sub> O	4.98 g
	(use acidified H <sub>2</sub> O : 1.0 ml of H <sub>2</sub> SO <sub>4</sub> added to 999 ml distilled water)	
(ix)	H <sub>3</sub> BO <sub>3</sub>	11.42 g
(x)	ZnSO <sub>4</sub> ·7H <sub>2</sub> O	8.82 g
	MnCl <sub>2</sub> ·4H <sub>2</sub> O	1.44 g
	MoO <sub>3</sub>	0.71 g
	CuSO <sub>4</sub> ·5H <sub>2</sub> O	1.57 g
	Co(NO <sub>3</sub> ) <sub>2</sub>	0.49 g

10 ml of each stock solution (i) - (vi) and 1.0 ml each of solutions (vii) - (x) are added to 940 ml distilled water.

**Medium M5** Modified Chu 10 (EVT) (Chu, 1942)

	Amounts per litre
Ca(NO <sub>3</sub> ) <sub>2</sub> ·4H <sub>2</sub> O	20.0 mg
KH <sub>2</sub> PO <sub>4</sub>	6.2 mg
MgSO <sub>4</sub> ·7H <sub>2</sub> O	25.0 mg
Na <sub>2</sub> CO <sub>3</sub>	20.0 mg
Na <sub>2</sub> SiO <sub>3</sub>	25.0 mg

HCl (1N)	0.25 ml	
EDTA·Na <sub>2</sub>	2.0 mg	dissolved)
FeCl <sub>3</sub>	1.0 mg	together)
		in 1 litre)
H <sub>3</sub> BO <sub>3</sub>	2.48 mg	
MnCl <sub>2</sub> ·4H <sub>2</sub> O	1.39 mg	
(NH <sub>4</sub> ) <sub>6</sub> Mo <sub>7</sub> O <sub>24</sub> ·4H <sub>2</sub> O	1.00 mg	
vitamin B <sub>12</sub>	0.01 mg	
vitamin B <sub>1</sub>	0.001 mg	
Biotin	0.001 mg	

Many strains require more specialized media: some of the most important are given below:

**Medium M6** *Euglena gracilis* medium (E.g.)

	g per 100 ml
Sodium acetate (hydrated)	0.1
Beef extract	0.1
Yeast extract	0.2
Bacto tryptone	0.2
CaCl <sub>2</sub>	0.001
Agar (optional)	1.0

**Medium M7** *Ochromonas* medium (Ochr)

(for axenic freshwater *Ochromonas* spp. only)

	g per 100 ml
Liver infusion (dehydrated) Oxoid	0.1
Glucose	0.1
Bacto tryptone	0.1

**Medium M8** *Tetrahymena* medium (P.Y.)

	g per 100 ml
Proteose peptone	1.0 or 2.0
Yeast extract	0.25

**Medium M9** *Polytoma* medium (Polyt.)

	g per 100 ml
Sodium acetate (hydrated)	0.2
Yeast extract	0.1
Bacto tryptone	0.1
Agar	1.0

**Medium M10** PPG medium for axenic *Acanthamoeba*

	g per 100 ml
Proteose peptone	1.0
Glucose	1.8
<i>Amoeba</i> saline *	100 ml

\* *Amoeba* saline: Five stock solutions are prepared as follows:

	g per 100 ml glass distilled water
(i) NaCl	1.2
(ii) MgSO <sub>4</sub> ·7H <sub>2</sub> O	0.04
(iii) CaCl <sub>2</sub> ·6H <sub>2</sub> O	0.06
(iv) Na <sub>2</sub> HPO <sub>4</sub>	1.42
(v) KH <sub>2</sub> PO <sub>4</sub>	1.36

Make final medium by adding 10 ml of each stock solution to 950 ml of glass distilled water.

**MARINE ALGAE**

The standard medium for marine algae used at CCAP is:

**Medium M11** (M)

See also Pennick & Cann (in press)

Stock solutions	Quantities per litre
(i) Major salts	
'Natura' or 'Synthetica' Sea Salts **	33.6 g
Tris(hydroxymethyl)amino- methane (NH <sub>2</sub> C(CH <sub>2</sub> OH) <sub>3</sub> )	0.5 g

\*\* Supplied by Water Life Research Industries.

## (ii) Extra salts

NaNO <sub>3</sub>	30.0 g
Na <sub>2</sub> HPO <sub>4</sub>	1.2 g
K <sub>2</sub> HPO <sub>4</sub>	1.0 g

## (iii) Vitamins

Biotin	0.2 mg
Calcium pantothenate	20.0 mg
Cyanocobalamin	4.0 mg
Folic acid	0.4 mg
Inositol	1000.0 mg
Nicotinic acid	20.0 mg
Thiamine	100.0 mg
Thymine	600.0 mg

(Vitamin solution may be stored frozen at -20°C)

Preparation: 50 ml of soil extract is added to 950 ml of stock solution (i) and 3.75 ml of stock solution (ii), then the pH is adjusted to 7.6 - 7.8 using 1N HCl. It is then filtered, dispensed into appropriate containers and autoclaved. Vitamin solution (iii) is added after sterilization through a 0.22 micrometre filter, 0.25% by volume.

Many marine algae grow in Erdschreiber medium:

**Medium M12**

Natural seawater (or artificial sea salts, see Medium M11)	1 litre
Soil extract stock solution (see Medium M2)	50.0 ml
NaNO <sub>3</sub>	0.2 g
Na <sub>2</sub> HPO <sub>4</sub> ·12H <sub>2</sub> O	0.03 g

Some marine ciliates and amoebae are also grown in this medium.

**Medium M13**

Media such as ASP2 (Provasoli et al., 1957) can also be used, often mixed with an equal part of Erdschreiber medium (Medium M12).

Organisms from polluted marine or estuarine habitats often grow in a soil and water medium made with an appropriate concentration of seawater.

Other useful media for marine organisms are:

**Medium M14 Nutrient agar (half seawater)**

Artificial sea salts (or natural seawater)	50 ml
Glass distilled water	50 ml
Nutrient agar (Oxoid)	2.8 g

**Medium M15 BEESW**

Beef extract	0.1 ml
Soil extract (see Medium M2)	10.0 ml
Artificial sea salts (or natural seawater)	88.9 ml
Agar	1.0 g

**Medium M16 Porphyridium agar (Porph)**

Soil extract	10.0 ml
Yeast extract	1.0 ml of 10% soln.
Tryptone	0.1 g
Artificial seawater (double strength) (refer to Medium M11)	34.0 ml
K <sub>2</sub> HPO <sub>4</sub>	2.0 ml of 0.1% soln.
MgSO <sub>4</sub> ·7H <sub>2</sub> O	2.0 ml of 0.1% soln.
KNO <sub>3</sub>	2.0 ml of 0.1% soln.
Distilled water	50.0 ml
Agar	1.0 g

**BLUE-GREEN ALGAE**

Medium C of Kratz & Myers (1955) is useful for *Anacystis nidulans* and other blue-green algae:

**Medium M17**

	g per litre
MgSO <sub>4</sub> ·7H <sub>2</sub> O	0.25
K <sub>2</sub> HPO <sub>4</sub>	1.00
Ca(NO <sub>3</sub> ) <sub>2</sub> ·4H <sub>2</sub> O	0.025
KNO <sub>3</sub>	1.000
Na <sub>3</sub> citrate·2H <sub>2</sub> O	0.165
Fe(SO <sub>4</sub> ) <sub>3</sub> ·6H <sub>2</sub> O	0.004
Trace elements stock solution *	1.0 ml
Agar (optional)	10.0

\* Trace elements stock solution:

	g per litre
H <sub>3</sub> BO <sub>3</sub>	2.86
MnCl <sub>2</sub> ·4H <sub>2</sub> O	1.81
ZnSO <sub>4</sub> ·7H <sub>2</sub> O	0.222
MoO <sub>3</sub> (85%)	0.0177
CuSO <sub>4</sub> ·5H <sub>2</sub> O	0.079

Several other media for blue-green algae are given by Carr and Whitton (1973).

**PROTOZOA**

Free-living protozoa, apart from the phytoflagellates, are nearly all facultative or obligate phagotrophs. Only a few forms such as *Tetrahymena* and *Acanthamoeba* thrive in axenic liquid culture. Some protozoa grow best in agnotoxic culture with bacteria and perhaps other micro-organisms as food: many can be grown in monoxenic culture with one known food organism. Free swimming ciliates such as *Paramecium* and *Spirostomum* thrive in soil and water medium (Medium M3) with the addition of a barley grain or other source of nutrient to provide a flourishing bacterial flora as food for the ciliate, or in grain infusions without soil.



**Medium M18** Cerophyl-*Prescott liquid*

This is a very useful medium, especially for certain testate amoebae such as *Trinema*, *Arcella*, and for some ciliates.

Boil 1 g of Cerophyl\* (dehydrated cereal grass leaves) for 5-10 minutes in 1 litre of Prescott's and James's solution (Medium M21). Filter, restore volume with distilled water, and sterilize. This can also be used with the addition of a cereal grain (eg barley) for several ciliates, or as the liquid component of an agar medium for amoebae, using 15 g of a non-nutrient agar (Oxoid No. 1 or Difco-Bacto agar) per litre.

\* Cerophyl can be obtained from The International Marketing Corporation, USA

**Medium M19** Malt extract/yeast extract 75% seawater agar (MY75S)

This is used to maintain many marine amoebae:

Malt extract	0.1 g
Yeast extract	0.1 g
Agar (Oxoid No. 1)	15.0 g
Seawater (or artificial sea salts, see Medium M11)	750.0 ml
Glass distilled water	250.0 ml

Add dry ingredients to hot dilute (75%) seawater, dispense in 500 ml flasks, autoclave and pour into petri dishes.

**Medium M20** Non-nutrient agar

This is used to maintain many freshwater/soil amoebae:

Heat 1 litre of *Amoeba* saline (Medium M10), add 15 g of Oxoid agar No. 1 and stir until dissolved. Dispense as above. (*Escherichia coli* is streaked on to the agar just before amoebae are inoculated as a food source.)

A simple method for the cultivation of *Amoeba proteus*:

This method is very satisfactory for maintaining cultures for teaching purposes, assuming that the inoculum includes not only *Amoeba proteus*, but also a food organism (eg *Chilomonas paramecium*).

Pour Prescott's & James's solution (Medium M21) into a dish such as a crystallizing dish (diameter ca 100 mm or a little smaller), to a depth of approximately 1 cm. *Amoeba proteus* seems to need a few bacteria, so sterilization of the medium is not recommended.

Add 3 or 4 uncooked rice grains, and then inoculate with 1 or 2 ml of healthy culture of *Amoeba proteus* containing food organisms. Cover with half a petri dish or other loose cover and keep preferably at 18-19°C. Subculture every 2 months. In 6 or 8 weeks, the culture should contain good numbers of amoebae, including some among the fungal mycelia usually growing out from the rice grains, and it should still be usable after 3 months. In a healthy culture, amoebae move with pseudopodia well extended. When most amoebae consist of only monopodial elongated forms, the culture is no longer in good condition; rounded cells are usually unhealthy.

**Medium M21** Prescott's and James's solution

Make up 3 stock solutions	g per 100 ml distilled water
(i) CaCl <sub>2</sub>	0.327
KCl	0.162
(ii) K <sub>2</sub> HPO <sub>4</sub>	0.512
(iii) MgSO <sub>4</sub> ·7H <sub>2</sub> O	0.280

Final solution: 1 ml each of (i), (ii) and (iii) in 997 ml distilled water

## TRYPANOSOMATIDAE

See also Taylor and Baker (1978)

**Medium M22 (L4NCS)**

g per litre

## (i) Basal solution:

Proteose peptone (Oxoid L46)	15.0
Liver digest (Oxoid L27)	2.5
Yeast extract (Oxoid L20)	5.0
NaCl	5.0

This basal solution can be replaced by nutrient broth No. 2 (Oxoid CM67), 25 g per litre.

## (ii) Foetal bovine serum - heat inactivated (56°C, 30 min).

## (iii) 10% erythrocyte lysate - prepared by lysing 1 ml of packed erythrocytes from defibrinated rabbit blood (or horse blood, Oxoid SR50) in 9 ml distilled water.

## Complete medium:

Basal solution (i)	20 parts by vol.
Serum (ii)	1 part by vol.
Lysate (iii)	2 parts by vol.

Sterilize by filtration (0.22 micrometre pore size) and store in a deep freeze.

Cultures in this medium should be incubated at 25-28°C if possible.

Cultures of trypanosomatids are usually despatched in medium M22.

**Medium M23 4N nutrient agar-blood medium**

## (i) Add 40 g blood-agar base No. 2 (Oxoid) to 1 litre of distilled water, mix and dissolve by steaming or autoclaving. Dispense 5 ml aliquots while molten into screw-capped glass bottles (30 ml capacity) and autoclave if necessary.

## (ii) When cooled to about 45°C, add aseptically to each bottle 20 drops (ca 1 ml) of fresh rabbit blood and allow to set in a slant at the base of the bottle. Alternatively, add

1 ml of sterile defibrinated horse blood (Oxoid SR50) previously inactivated at 56°C for 30 min.

## (iii) Add aseptically to each bottle 1 ml of sterile Hanks's solution, or the following modification of Locke's solution:

	g per litre
NaCl	8.0
KCl	0.2
CaCl <sub>2</sub>	0.2
KH <sub>2</sub> PO <sub>4</sub>	0.3
Glucose	2.

Antibiotics (penicillin, 200 iu and streptomycin, 2 micrograms/ml) can be included if desired.

Cultures in this medium should be incubated at 25-28°C if possible.

Smaller aliquots (eg 2 ml) can be used in test tubes with air-tight caps; the volumes of blood and saline added should be reduced proportionately. Store the medium at 4°C (not frozen).

## LIST OF ALGAE, PROTOZOA AND ROTIFERS

- Acanthamoeba* Volkonsky
- Acanthamoeba astronyxis* (Ray & Hayes)
- CCAP 1534/1 Ray; 1944; L; USA; freshwater; M10; T
- CCAP 1501/9 Page; 1964; (20); AB; USA; freshwater; M20
- Acanthamoeba castellanii* (Douglas)
- CCAP 1501/1a Neff; 1957; L; USA; soil; M10
- CCAP 1501/1b Neff; 1957; Korn; L; USA; soil; M10
- CCAP 1501/2a Castellani; 1930; L; England; *Cryptococcus pararoseus* culture; M10; T
- CCAP 1501/2b Chang; 1959; P?; L; USA; freshwater; M10
- CCAP 1501/2g Nagington; 1974; P?; AB; England; human cornea; M20
- CCAP 1501/10 Castellani; 1930; AB; England; *Cryptococcus pararoseus* culture; M20; T
- CCAP 1534/2 Lewin; 1951; L; USA; freshwater; M10
- CCAP 1534/3 Singh; 1952; L; England; soil; M10; as *Hartmannella rhyodes*
- Acanthamoeba comandoni* Pussard
- CCAP 1501/5 Comandon; (AIP); AB; France; soil; M20; T
- Acanthamoeba culbertsoni* (Singh & Das)
- CCAP 1501/6 Culbertson; 1959; (A-1); P; AB; USA; tissue culture; M20; T
- CCAP 1501/11 Tyndall; ca. 1977; (HA); P; AB; USA; tissue culture; M20
- CCAP 1501/12 Tyndall; ca. 1977; (HA/CS); P; AB; USA; tissue culture; M20
- CCAP 1501/13 Tyndall; ca. 1977; (KA); P; AB; USA; tissue culture; M20
- Acanthamoeba griffini* Sawyer
- CCAP 1501/4 Griffin; 1962; (5-7); L; USA; marine; M20; T
- Acanthamoeba palestinensis* (Reich)
- CCAP 1547/1 Reich; 1933; L; Israel; soil; M10; T
- Acanthamoeba polyphaga* (Puschkarew)
- CCAP 1501/3a Page; 1964; (23); L; USA; freshwater; M10
- CCAP 1501/3b Page; 1965; (45); L; USA; freshwater; M10
- CCAP 1501/3c Sawyer; 1967; (OX-1); L; USA; freshwater; M10; T
- CCAP 1501/3d Nagington; 1974; P?; AB; England; human cornea; M20
- CCAP 1501/3g Jones; 1974; P?; L; USA; human cornea; M10
- CCAP 1501/3h Wang; 1959; P?; L; USA; respiratory swab; M10
- CCAP 1501/8 Bremner; AB; Wales; tomato plant; M20
- CCAP 1501/14 Page; 1964; (14); AB; USA; freshwater; M20
- CCAP 1501/15 Page; 1964; (21); AB; USA; freshwater; M20
- CCAP 1501/16 Page; 1964; (31); AB; USA; freshwater; M20; has an intracellular parasite
- CCAP 1501/17 Page; 1964; (42); AB; USA; freshwater; M20
- Acanthamoeba royreba* Willaert, Stevens & Tyndall
- CCAP 1501/7 Tyndall; 1977; A; USA; tissue culture; M20; T
- ACANTHOCYSTIS* Carter
- Acanthocystis erinaceoides* Petersen & Hansen
- CCAP 1504/1 Ockleford; 1970; LBX; Scotland; freshwater; medium on request
- ACETABULARIA* Lamouroux
- Acetabularia acetabulum* (L.) Silva
- CCAP 702/1 Brachet; LB; marine; M11

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- ACRASIS* van Tieghem  
*Acrasis rosea* Olive & Stoianovitch  
 CCAP 1508/2 Olive; 1978; (BA 78-1); AX; Barbados; plant material; medium on request
- ACROCHAETIUM* Naeg.  
*Acrochaetium sagraeanum* (Mont.) Born.  
 CCAP 1350/1 Ott; pre-1965; LB; marine; M11
- ACTINOCHLORIS* Korsh.  
*Actinochloris sphaerica* Korsh.; see *Radiosphaera dissecta* (Korsh.) Starr
- ACTINOPHRYS* Ehr.  
*Actinophrys sol* Ehr.  
 CCAP 1502/2 Page; 1973; LBX; England; freshwater; medium on request
- ACTINOSPHAERIUM* Stein  
*Actinosphaerium eichhorni* (Ehr.)  
 CCAP 1507/3 Jones; 1977; LBX; Scotland; freshwater; medium on request  
*Actinosphaerium nucleophilum* Barrett  
 CCAP 1507/1 LBX; from Carolina Biol. Co.; USA; freshwater; medium on request
- ADELPHAMOEBA* Napolitano, Wall & Ganz  
*Adelphamoeba galeacystis* Napolitano, Wall & Gantz  
 CCAP 1506/1 Napolitano; 1967; AB; USA; soil; medium on request; T
- AMOEBA* Bory  
*Amoeba proteus* Leidy  
 CCAP 1503/2 Taylor; LBX; as *Amoeba lescherae*; freshwater; M21  
 CCAP 1503/3 LBX; Ward's strain; USA; freshwater; M21
- CCAP 1503/4 LBX; Chapman-Andresen "A"; freshwater; M21
- AMPHIDIINIUM* Clap. & Lach.  
*Amphidinium carterae* Hulburt  
 CCAP 1102/1 Parke; 1954; LB; England; marine; M11  
 CCAP 1102/2 Butcher; LB; England; marine; M11  
*Amphidinium klebsii* Kofoid & Swezy  
 CCAP 1102/3 Butcher; LB; England; marine; M11  
*Amphidinium* spp. indet.  
 CCAP 1102/4 Butcher; 1956; LB; England; brackish; M11  
 CCAP 1102/5 Butcher; 1960; LB; England; marine; M11
- AMPHIPRORA* Ehr.  
*Amphiprora hyalina* Eulen. ex van Heurck  
 CCAP 1003/1 Grell; 1956; LB; Germany; marine; M11
- ANABAENA* (Bory) Born. & Flah.  
*Anabaena ambigua* Rao  
 CCAP 1403/7 Mitra; LB; freshwater; M3  
*Anabaena catenula* (Kuetz.) Born. & Flah.  
 CCAP 1403/1 Manten; AB; Holland; freshwater; M17  
*Anabaena circinalis* Rabenh.  
 CCAP 1403/18 Fitzsimons; 1972; AB; Ireland; freshwater; M17  
*Anabaena cylindrica* Lemmermann  
 CCAP 1403/2a Chu; 1939; AB; England; freshwater; M17  
 CCAP 1403/2b Forest; AB; England; freshwater; M17; derived from 1403/2a  
*Anabaena flos-aquae* (Lyngbye) Breb.  
 CCAP 1403/13a Tischer; 1964; A; USA; freshwater; M17; identity in question; non-planktonic

- CCAP 1403/13c Jaworski; 1972; LB; England; freshwater; M3
- CCAP 1403/13d Booker & Walsby; 1976; LB; Wales; freshwater; M3; mutant, no gas vacuoles
- CCAP 1403/13e Booker & Walsby; 1976; LB; Wales; freshwater; M3; mutant, helical filaments
- CCAP 1403/13f Booker & Walsby; 1976; LB; Wales; freshwater; M3; reisolation of FBA 102 which was CCAP 1403/13b
- CCAP 1403/13g Booker & Walsby; 1976; LB; Wales; freshwater; M3; mutant, deficient gas vacuoles
- CCAP 1403/13h Lund; 1964; LB; England; freshwater; M3
- CCAP 1403/20 Jaworski; 1972; LB; England; freshwater; M3
- Anabaena inequalis* (Kuetz.) Born. & Flah.
- CCAP 1446/1a A; Utrecht P31; M17; origin unknown
- CCAP 1446/1c AB; Utrecht P32; M17; origin unknown
- Anabaena oscillarioides* (Bory) Born. & Flah.
- CCAP 1403/9 Murray; 1963; A; USA; soil; M17
- CCAP 1403/10 Drouet; 1954; AB; USA; freshwater; M17
- CCAP 1403/11 de Halperin; 1959; A; freshwater; M17
- Anabaena solitaria* Klebahn
- CCAP 1403/19 Jaworski; 1968; LB; England; freshwater; M3
- Anabaena subcylindrica* Borge = *Anabaena variabilis* q.v.
- Anabaena variabilis* (Kuetz.) Born. & Flah.
- CCAP 1403/4b AB; Utrecht P40; Holland; freshwater; M17
- CCAP 1403/8 LB; origin doubtful; M17; grows well and is used to demonstrate *Anabaena*
- CCAP 1403/12 A; Griefswald A92; Germany; freshwater; M17; readily develops spores
- Anabaena* spp. indet.
- CCAP 1403/14 Atkinson 1964/65; AB; Malacca; freshwater; M17
- CCAP 1403/15 Wilcox; 1971; AB; England; freshwater; M17
- CCAP 1403/16 Wilcox; 1971; AB; England; freshwater; M17
- CCAP 1403/17 AB; Rothamsted 31A; England; freshwater; M17
- ANABAENOPSIS* Woloszynska
- Anabaenopsis circularis* (G. S. West) Woloszynska & Miller
- CCAP 1402/1 Watanabe; (M4); A; Sumatra; freshwater; M17
- ANACYSTIS* Meneghini
- Anacystis cyanea* (Kuetz.) Drouet & Daily; see *Microcystis aeruginosa* Kuetz.
- Anacystis dimidiata* (Kuetz.) Drouet & Daily; see *Chroococcus turgidus* (Kuetz.) Naeg.
- Anacystis marina* (Hansgirg) Drouet & Daily
- CCAP 1479/1a Pringsheim; 1940; AB; England; freshwater; M2; syn. *Synechococcus elongatus* Naeg.
- Anacystis montana* (Lightfoot) Drouet & Daily
- CCAP 1404/1 Pringsheim; 1947; AB; England; freshwater; M17; syn. *Aphanocapsa rivularis* (Carm.) Rabenh.
- CCAP 1430/1 Allen; AB; freshwater; M17
- Anacystis montana* f. *minor* Drouet & Daily
- CCAP 1405/3 Provasoli; AB; freshwater; M17
- Anacystis nidulans* (Richt.) Drouet; = *Synechococcus leopoliensis*
- The Kratz/Allen strain widely used under this name is NOT *Anacystis*.

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*ANKISTRODESMUS* CordaIncluding *Monoraphidium* Fott & Novakova*Ankistrodesmus acicularis* (A. Br.) Korsh.

- CCAP 202/11a George; 1951; N; England; freshwater; M1
- CCAP 202/11b George; 1951; N; England; freshwater; M1
- CCAP 202/11c Lewin; 1951; N; USA; freshwater; M1
- CCAP 202/11d Starr; N; USA; freshwater; M1
- CCAP 202/11e Wurtz; N; France; freshwater; M1
- CCAP 202/11f George; 1950; N; Denmark; freshwater; M1

*Ankistrodesmus angustus* Bernard = *Ankistrodesmus spirilliformis*

- CCAP 202/2 Vischer; 1923; N; Switzerland; freshwater; M1
- CCAP 202/3a Rodhe; N; Sweden; freshwater; M1
- CCAP 202/3b Wurtz; N; France; freshwater; M1
- CCAP 202/3c Chodat; N; Czechoslovakia; freshwater; M1
- CCAP 202/4a Czurda; ca. 1929; N; Czechoslovakia; freshwater; M1
- CCAP 202/4b George; 1950; N; England; freshwater; M1
- CCAP 202/4c Wurtz; N; France; freshwater; M1
- CCAP 202/4d George; 1951; N; England; freshwater; M1
- CCAP 202/4e George; 1951; N; Finland; freshwater; M1
- CCAP 202/4f George; 1954; N; Nigeria; freshwater; M1
- CCAP 202/4g Ross; 1952; N; USA; freshwater; M1

*Ankistrodesmus braunii* Brunthaler

- CCAP 202/7a Vischer; 1933; N; Switzerland; freshwater; M1
- CCAP 202/7b George; 1948; N; South Africa; freshwater; M1
- CCAP 202/7c Norris; 1954; N; USA; freshwater; M1
- CCAP 202/7d George; 1951; N; England; freshwater; M1
- CCAP 202/7e George; 1953; N; England; freshwater; M1
- CCAP 202/7f Wurtz; N; France; freshwater; M1
- CCAP 202/8a Vischer; N; freshwater; M1
- CCAP 202/8b George; 1950; N; England; freshwater; M1
- CCAP 202/8c Pirson; N; Germany; freshwater; M1
- CCAP 202/8d Fox; 1953; N; Nigeria; freshwater; M1
- CCAP 202/9 George; 1950; N; England; freshwater; M1

*Ankistrodesmus convolutus* Corda

- CCAP 202/10a George; 1952; N; England; freshwater; M1
- CCAP 202/10b George; 1952; N; Wales; freshwater; M1
- CCAP 202/10c George; 1952; N; England; freshwater; M1
- CCAP 202/10d Wurtz; 1947; N; France; freshwater; M1
- CCAP 202/10e Lewin; 1950; N; USA; freshwater; M1
- CCAP 202/10f George; 1951; N; France; freshwater; M1
- CCAP 202/10g George; 1950; N; Sweden; freshwater; M1
- CCAP 202/10h Weis; 1952; N; USA; freshwater; M1
- CCAP 202/10j Golterman; 1958; N; Holland; freshwater; M1

*Ankistrodesmus cucumiformis* Belcher & Swale

- CCAP 202/22 Belcher; 1961; N; England; freshwater; M1; T

*Ankistrodesmus curvulus* Belcher & Swale

- CCAP 202/16 Belcher; 1958; N; England; freshwater; M1; T

*Ankistrodesmus densus* Korsh.

- CCAP 202/1 Vischer; 1923; N; Switzerland; freshwater; M1; T; Type strain of *Ankistrodesmus amalloides* nomen nudum
- CCAP 202/20 Belcher; 1961; N; England; freshwater; M1

*Ankistrodesmus falcatus* (Corda) Ralfs

- CCAP 202/5a Czurda; 1942; N; Czechoslovakia; freshwater; M1
- CCAP 202/5c Algeus; 1942; N; Sweden; freshwater; M1
- CCAP 202/14a George; 1951; N; France; freshwater; M1
- CCAP 202/14b Wurtz; 1947; N; France; freshwater; M1
- CCAP 202/14c Christensen; N; Denmark; freshwater; M1
- CCAP 202/15a Golterman; 1958; N; Holland; freshwater; M1
- CCAP 202/15b Pringsheim; 1955; N; Germany; freshwater; M1

*Ankistrodesmus falcatus* var. *terrestris* Bristol

- CCAP 202/23 Flint; N; New Zealand; freshwater; M1

<i>Ankistrodesmus longissimus</i> (Lemmermann) Wille		<i>APHANIZOMENON</i> Morren
CCAP 202/13	Myers; N; USA; freshwater; M1	<i>Aphanizomenon flos-aquae</i> (L.) Born. & Flah.
<i>Ankistrodesmus lunulatus</i> Belcher & Swale		CCAP 1401/1 Heaney; 1968; LB; Ireland; freshwater; M3
CCAP 202/17	Belcher; 1960; N; England; freshwater; M2; T	CCAP 1401/2 Jaworski; 1968; LB; England; freshwater; M3
<i>Ankistrodesmus marinus</i> Butcher		<i>Aphanizomenon</i> sp. indet.
CCAP 202/24	Butcher; A; England; marine; M14	CCAP 1401/3 Jaworski; 1970; LB; England; freshwater; M3
<i>Ankistrodesmus nannoselene</i> Skuja		<i>APHANOCAPSA</i> Naeg.
CCAP 202/6a	Rodhe; pre-1948; N; Sweden; freshwater; M1; T	<i>Aphanocapsa rivularis</i> (Carm.) Rabenh.; see <i>Anacystis montana</i> (Lightfoot) Drouet & Daily
CCAP 202/6b	George; 1951; N; England; freshwater; M1	
<i>Ankistrodesmus pseudobraunii</i> Belcher & Swale		<i>APHANOTHECE</i> Naeg.
CCAP 202/19	Belcher; 1962; N; England; freshwater; M2; T	<i>Aphanothece</i> sp. indet.
<i>Ankistrodesmus sabrinensis</i> Belcher & Swale		CCAP 1408/1 Lund; 1971; LB; England; freshwater; M3
CCAP 202/21	Belcher; 1961; N; England; freshwater; M2; T	
<i>Ankistrodesmus spiralis</i> (Turner) Lemmermann		<i>APUSOMONAS</i> Alex.
CCAP 202/12	Christensen; 1948; N; Denmark; freshwater; M1	<i>Apusomonas proboscidea</i> Alexeieff
<i>Ankistrodesmus subcapitatus</i> Korsh.		CCAP 1905/1 Darbyshire; 1971; LB; Scotland; soil; medium on request
CCAP 202/18	Belcher; 1960; N; England; freshwater; M2	<i>ARCELLA</i> Ehr.
<i>ANTHOPHYSA</i> Bory		<i>Arcella polypora</i> Penard
<i>Anthophysa vegetans</i> (OFM) Stein		CCAP 1505/2b Page; 1974; LB; England; freshwater; M18
CCAP 905/1	Pringsheim; 1950; LB; England; freshwater; M3vi	<i>ASTASIA</i> Duj.
		<i>Astasia applanata</i> Pringsheim
		CCAP 1204/1 Pringsheim; 1936; (ON 351); LB; Austria; freshwater; M3vi; T

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*Astasia curvata* Klebs

- CCAP 1204/5 Pringsheim; 1940; (ON 354); LB;  
England; freshwater; M3vi

*Astasia dangeardii* Lemmermann var. *parva*  
Pringsheim

- CCAP 1204/7 Pringsheim; (ON 356); LB; Brazil;  
soil; M3vi; T

*Astasia fritschii* Pringsheim

- CCAP 1204/8a Pringsheim; 1940; ('CR'); LB;  
England; freshwater; M3vi  
CCAP 1204/8b Pringsheim; 1940; ('U2'); LB;  
England; freshwater; M3vi

*Astasia hallii* (Jahn & McKibben) Pringsheim

- CCAP 1204/12 Pringsheim; 1940; (ON 361); LB;  
England; freshwater; M3vi

*Astasia inflata* Klebs

- CCAP 1204/14 Pringsheim; (ON 363); LB;  
Czechoslovakia; freshwater; M3vi

*Astasia klebsii* Lemmermann

- CCAP 1204/15 Pringsheim; (ON 364); LB;  
Czechoslovakia; freshwater; M3vi

*Astasia linealis* Pringsheim

- CCAP 1204/25 Christen; LB; freshwater; M3vi

*Astasia longa* Pringsheim

- CCAP 1204/17a Pringsheim; (ON 366A); L;  
Czechoslovakia; freshwater; M6; T  
CCAP 1204/17b Hall; (ON 366d); LB; USA?;  
freshwater; M3vi  
CCAP 1204/17c Pringsheim; (ON 366C); L; England;  
freshwater; M6  
CCAP 1204/17d Pringsheim; (4D); L; Scotland;  
freshwater; M6; arose from  
*Euglena* 1224/5g  
CCAP 1204/17e Lackey; ('A'); L; freshwater; M6;  
arose from *Euglena* 1224/5h  
CCAP 1204/17f Provasoli; ('A8'); L; Italy;  
freshwater; M6  
CCAP 1204/17g Dach; 1940; L; freshwater; M6  
CCAP 1204/17j Provasoli; 1947; L; as *Astasia*  
*lombardica*; Italy; freshwater; M6

*Astasia longa* var. *truncata* Pringsheim

- CCAP 1204/18 Pringsheim; 1938; (ON 366B); LB;  
Czechoslovakia; freshwater; M3vi; T

*Astasia ocellata* Khawkiné var. *provasolii*  
Pringsheim

- CCAP 1204/9 Pringsheim/Provasoli; 1947; LB;  
Czechoslovakia; freshwater; M3vi; T

*Astasia pertyi* Pringsheim

- CCAP 1204/3 Pringsheim; 1939; LB; England;  
freshwater; M3vi

*Astasia quartana* (Moroff) Pringsheim

- CCAP 1204/17h Provasoli; 1947; LB; as *Astasia*  
*gambarone*; Italy; freshwater; M3vi  
CCAP 1204/20a Pringsheim; 1939; ('Q'); LB;  
freshwater; M3vi  
CCAP 1204/20b Pringsheim; 1940; ('U'); LB;  
England; freshwater; M3vi

*Astasia solea* Pringsheim

- CCAP 1204/19 Pringsheim; 1947; LB; England;  
freshwater; M3vi

*Astasia torta* Pringsheim

- CCAP 1204/21 Pringsheim; 1936; (ON 370); LB;  
Austria; freshwater; M3vi; T

*Astasia* spp. indet.

- CCAP 1204/22 Starr; 1950; LB; England;  
freshwater; M3vi  
CCAP 1204/23 Pringsheim; LB; England;  
freshwater; M3vi

## ASTERIONELLA Hassall

*Asterionella formosa* Hassall

- CCAP 1005/1b Jaworski; 1974; LB; England;  
freshwater; M3

## ASTEROCOCCUS Scherffel

*Asterococcus siderogloeus* (Pascher & Jahoda)  
Novakova

- CCAP 31/2 George; 1950; LB; England;  
freshwater; M3

*Asterococcus superbis* (Cienkowski) Scherffel

- CCAP 3/3a George; 1949; A; France;  
freshwater; M1  
CCAP 3/3b George; 1950; A; England;  
freshwater; M1



*ASTEROCYTIS* Gobi

*Asterocytis ornata* (Ag.) Hamel; see *Chrootheca richterianum*

*Asterocytis ramosa* (Thwaites) Gobi

CCAP 1353/2 Lewin; 1965; LB; USA; marine; M11

*ASTEROMONAS* Artari

*Asteromonas gracilis* Artari

CCAP 80/1 Lewin; 1955; LB; USA; marine; M11

*AUDOUINELLA* Bory

*Audouinella asparagopsis* (Chemin) Dixon

CCAP 1360/1 Garbary; 1976; LB; Isle of Man; marine; M11

*Audouinella britannica* Garbary

CCAP 1360/2 Garbary; 1960; LB; Wales; marine; M11; T

*Audouinella davisii* (Dillwyn) Woelkerling

CCAP 1360/3 Garbary; 1976; LB; Isle of Man; marine; M11

*Audouinella dixonii* Garbary

CCAP 1360/4 Garbary; 1976; LB; Wales; marine; M11; T

*Audouinella endophytica* (Batters) Dixon

CCAP 1360/5 Garbary; 1976; LB; Isle of Man; marine; M11

*Audouinella floridula* (Dillwyn) Woelk.

CCAP 1360/6 Garbary; 1975; LB; Wales; marine; M11

*Audouinella manziana* Garbary

CCAP 1360/7 Garbary; 1976; LB; Isle of Man; marine; M11; T

*Audouinella newtonii* Garbary

CCAP 1360/8 Garbary; 1977; LB; Wales; marine; M11; T

*Audouinella parvula* (Kylin) Dixon

CCAP 1360/9 Garbary; 1976; LB; Wales; marine; M11

*Audouinella purpurea* (Lightfoot) Woelk.

CCAP 1360/10 Garbary; 1977; LB; Isle of Man; marine; M11

*Audouinella secundata* (Lyngbye) Dixon

CCAP 1360/11 Garbary; 1976; LB; Isle of Man; marine; M11

*Audouinella tetraspora* Garbary & Rueness

CCAP 1360/12 Rueness; 1975; LB; Norway; marine; M11; T

*Audouinella thuretii* (Born.) Woelk.

CCAP 1360/13 Garbary; 1976; LB; England; marine; M11

*Audouinella violaceum* (Kuetz.) Hamel

CCAP 1360/14 Ott; LB; freshwater; M5

*BIPEDINOMONAS* Carter; see also *Heteromastix* and *Nephroselmis*

*Bipedinomonas rotunda* ?auct.

CCAP 1960/1 Butcher; LB; marine; M11; syn. *Nephroselmis rotunda* (Carter) Manton

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*BLEPHARISMA* Perty*Blepharisma americanum* Suzuki

CCAP 1607/1 Hirshfield; 1961; LB; USA;  
freshwater; medium on request

*Blepharisma japonicum* Suzuki

CCAP 1607/2 Suzuki; 1946; LB; Japan;  
freshwater; medium on request; T

*BODO* Ehr.*Bodo caudatus* (Duj.) Stein

CCAP 1907/4 Brooker; 1963; LB; England; pig  
dung; medium on request

*Bodo lens* ? auct.

CCAP 1907/5 Fuller; 1978; LB; USA; freshwater;  
M3vi

*Bodo saltans* Ehr.

CCAP 1907/2 George; 1962; LB; Wales;  
freshwater; M3vi

CCAP 1907/3 Brooker; 1962; LB; USA; brackish;  
M3vi

*BOEKELOVIA* Nicolai & Baas-Becking*Boekelovia* spp. indet.

CCAP 908/1 Butcher; 1960; LBX; England;  
marine; M11

CCAP 908/2 Butcher; 1953; LBX; England;  
marine; M11

CCAP 908/3 Butcher; 1953; LBX; England;  
marine; M11

CCAP 908/4 Butcher; 1957; LBX; England;  
marine; M11

CCAP 908/5 Butcher; LBX; England; marine; M11

*BORODINELLA* Miller*Borodinella* ? sp. indet.

CCAP 207/1a Vischer; N; Switzerland;  
freshwater; M1

*BOTRYDIORSIS* Borzi*Botrydiopsis alpina* Vischer

CCAP 806/1 Vischer; 1940; N; Switzerland;  
soil; M1; T

*Botrydiopsis arrhiza* Borzi

CCAP 806/2 Pringsheim; N; England; soil; M1  
CCAP 222/1b George; 1947; A; England;  
freshwater; M1

*Botrydiopsis constricta* Broady

CCAP 806/4 Broady; 1973; N; Antarctic;  
freshwater; M1; T

*Botrydiopsis intercedens* Vischer & Pascher

CCAP 806/3 Pringsheim; N; Switzerland;  
freshwater; M1

*BOTRYDIUM* Wallroth*Botrydium bechererianum* Vischer

CCAP 805/1 Vischer; 1937; A; France; soil; M1;  
T

*Botrydium cystosum* Vischer

CCAP 805/2 Vischer; 1937; AB; Switzerland;  
soil; M2

*Botrydium granulatum* (L.) Greville

CCAP 805/3a Vischer; A; freshwater; M1

CCAP 805/3b Vischer; A; freshwater; M1

*Botrydium granulatum* var. *kolkwitzianum* Vischer

CCAP 805/4 Vischer; 1936; A; Germany; sewage;  
M1

*Botrydium stoloniferum* Mitra

CCAP 805/5 Mitra; N; freshwater; M1; T

*BOTRYOCOCCUS* Kuetz.*Botryococcus braunii* Kuetz.

CCAP 807/1 Droop; 1950; LB; England;  
freshwater; M2

**BRACHIOMONAS** Bohlin*Brachiomonas submarina* Bohlin

- CCAP 7/1a Droop; 1950; A; heterothallic pair with 7/1b; Finland; marine; M14  
 CCAP 7/1b Droop; 1950; A; heterothallic pair with 7/1a; Finland; marine; M14

*Brachiomonas submarina* var. *pulsifera* Droop

- CCAP 7/2b Droop; AB; Scotland; brackish; M1

**BRACTEACOCCLUS** Tereg*Bracteacoccus cinnabarinus* (Kol & Chodat) Starr

- CCAP 221/2 F. Chodat; N; Switzerland; freshwater; M1

*Bracteacoccus engadinensis* (Kol & Chodat) Starr

- CCAP 221/3 F. Chodat; A; Switzerland; freshwater; M1

*Bracteacoccus minor* (Chodat) Petrova

- CCAP 221/1 Chodat; 1913; N; freshwater; M1

*Bracteacoccus minor* f. *desertorum* Friedmann & O-Paus

- CCAP 221/6 Friedmann; 1966; N; Israel; desert; M1; T

*Bracteacoccus terrestris* (Kol & Chodat) Starr

- CCAP 221/4 Vischer; A; freshwater; M1

**BULBOCHAETE** Ag.*Bulbochaete* sp. indet.

- CCAP 555/1 Bold; LB; female strain; freshwater; M3

**BUMILLERIA** Borzi*Bumilleria exilis* Klebs

- CCAP 808/2 Lewin; 1951; A; Alaska; snow; M1

*Bumilleria sicula* Borzi

- CCAP 808/1 George; 1950; A; England; soil; M1

*Bumilleria* sp. indet.

- CCAP 808/3 Lewin; 1951; A; Alaska; snow; M1

**BUMILLERIOPSIS** Printz*Bumilleriopsis filiformis* Vischer

- CCAP 809/2 Vischer; 1943; A; Switzerland; soil; M1; T

*Bumilleriopsis peterseniana* Vischer & Pascher

- CCAP 809/3 Vischer; 1927; A; Switzerland; freshwater; M1; T

**CAESPITELLA** Vischer*Caespitella pascheri* Vischer

- CCAP 410/1 Vischer; 1928; AB; Switzerland; freshwater; M2; syn. *Stigeoclonium pascheri* (Vischer) Cox & Bold  
 CCAP 410/2 Lewin; 1950; AB; USA; freshwater; M2; syn. *Stigeoclonium pascheri* (Vischer) Cox & Bold

**CALOTHRIX** (Ag.) Born. & Flah.*Calothrix anomala* Mitra nom. nud.; see *Scytonema**Calothrix brevissima* West

- CCAP 1410/7 Watanabe; 1950?; AB; Caroline Islands; freshwater; M17

*Calothrix membranacea* Schmidle

- CCAP 1410/1 Pringsheim; AB; freshwater; M17

*Calothrix pulvinata* Born. & Flah.

- CCAP 1410/9 Butcher; 1956; AB; England; marine; medium on request

Abbreviations: **A** = agar slope; **+b** = bacteria added to medium as a food organism; **B** = bacteria present; **BT** = patent applied for under the conditions of the Budapest Treaty; **L** = liquid medium; **M1, M2, M3** ... = media suitable for routine cultivation; **N** = cryopreserved; **P** = proven pathogen to man; **P?** = possibly pathogenic to man but not proven; **T** = descent from type material; **X** = organisms other than bacteria present.

- Calothrix scopulorum* Born. & Flah.  
 CCAP 1410/5 Stewart; A; Scotland; M17
- Calothrix viguieri* Fremy  
 CCAP 1410/6 Komarek; A; Cuba; freshwater; M17
- Calothrix* sp. indet.  
 CCAP 1410/8 Wilcox; 1971; AB; England; freshwater; M17
- CARTERIA** Diesing
- Carteria crucifera* Korsh.  
 CCAP 8/7a Lewin; 1950; A; USA; freshwater; M1  
 CCAP 8/7b Lewin; 1950; AB; USA; freshwater; M1  
 CCAP 8/7c Lewin; 1950; AB; USA; freshwater; M1
- Carteria eugametos* Mitra - *Carteria lunzensis* Pascher & Jahoda (see Fott 1968)  
 CCAP 8/3 Mitra/Pringsheim; A; India; freshwater; M1; T
- Carteria incisa* Pringsheim nom. prov.  
 CCAP 8/4 Pringsheim; 1941; LB; England; freshwater; M3
- Carteria* sp. indet.  
 CCAP 8/5 Pringsheim; 1936; AB; Austria; freshwater; M1
- CASHIA** Page
- Cashia limacoides* Page  
 CCAP 1534/5 Page; 1965; (44); AB; USA; freshwater; M20+b; T
- CAVOSTELIUM** Olive
- Cavostelium bisporum* Olive & Stoianovitch  
 CCAP 1510/2 Stoianovitch & Olive; 1967; (F67-59); AB; Fiji; plant material; medium on request; T
- CEPHALEUROS** Kuenze
- Cephaleuros virescens* Kuenze  
 CCAP 411/1 George; 1969; AB; India; plant material; M2
- CERATIOMYXELLA** Olive & Stoianovitch
- Ceratiomyxella tahitiensis* Olive & Stoianovitch  
 CCAP 1512/1 Olive; 1967; (Ta 67-7); ABX; Tahiti; plant material; medium on request; T
- CHAETOCEROS** Ehr.
- Chaetoceros calcitrans* (Paulsen) Takano  
 CCAP 1010/1 Takano; LB; Japan; marine; M11; for oyster feeding only; morphology degenerate
- CHAETOPELTIS** Berthold
- Chaetopeltis orbicularis* Berthold  
 CCAP 412/1 Reynolds; pre-1950; LB; Wales; freshwater; M3
- CHAETOPHORA** Schrank
- Chaetophora incrassata* (Huds.) Hazen  
 CCAP 413/1 George; 1949; LB; England; freshwater; M3
- Chaetophora* sp. indet.  
 CCAP 413/2 Reynolds; LB; freshwater; M3
- CHANTRANSIA** DC.
- Chantransia* sp. indet.  
 CCAP 1354/1 Ott; 1965; LB; freshwater; M3
- CHAOS** L.
- Chaos carolinense* (Wilson)  
 CCAP 1511/1 LBX; USA; freshwater; medium on request

*CHARACIOSIPHON* Iyengar*Characiosiphon rivularis* Iyengar

CCAP 208/1 Starr; 1968; LB; India; soil; M3  
 CCAP 208/2 Starr; 1968; LB; India; soil; M3

*CHARACIUM* Braun*Characium starrii* Fott

CCAP 209/1a Starr; 1951; N; +strain; South Africa; freshwater; M1; T  
 CCAP 209/1b Starr; 1951; N; -strain; South Africa; freshwater; M1; T

*CHILOMONAS* Ehr.*Chilomonas curvata* (?auct.) Pringsheim

CCAP 977/1 Pringsheim; 1940; (ON 203, strain 3); LB; England; freshwater; M3vi

*Chilomonas paramecium* Ehr.

CCAP 977/2a Pringsheim; pre-1940; (ON 201, strain 1, PP 14); L; freshwater; medium on request  
 CCAP 977/2b Hall; (strain 8); LB; freshwater; M3vi  
 CCAP 977/2c Pringsheim; (strain 4); LB; freshwater; M3vi

*CHLAMYDOCAPSA* Fott*Chlamydocapsa ampla* (Kuetz.) Fott

CCAP 31/3 Lewin; 1950; A; USA; freshwater; M1

*CHLAMYDOMONAS* Ehr.

Many *Chlamydomonas* mutants are available, details of which can be supplied on request.

*Chlamydomonas acidophila* Negoro

CCAP 11/96 Lewin; 1951; A; Scotland; freshwater; M2

*Chlamydomonas agloeiformis* Pascher

CCAP 11/1 Mainx; 1925; A; Czechoslovakia; freshwater; M1

*Chlamydomonas angulosa* Dill

CCAP 11/59 Tsubo; A; Japan; freshwater; M1

*Chlamydomonas applanata* Pringsheim

CCAP 11/2 Pringsheim; 1930; A; homothallic; Czechoslovakia; freshwater; M1; T

*Chlamydomonas asymmetrica* Korsh.

CCAP 11/41 Lewin; 1951; A; USA; freshwater; M1

*Chlamydomonas baca* Ettl

CCAP 11/77 Ettl; 1960; A; Czechoslovakia; freshwater; M1; T

*Chlamydomonas brannonii* Pringsheim nom. prov.

CCAP 11/3 Brannon; 1938; A; USA; freshwater; M1

*Chlamydomonas bullosa* Butcher

CCAP 11/83 Butcher; A; marine; M14

*Chlamydomonas callosa* Gerloff

CCAP 11/24 Pringsheim; 1929; A; Czechoslovakia; freshwater; M1; T; type of *Chlamydomonas pulchra*

*Chlamydomonas chlamydogama* Bold

CCAP 11/48b Bold; 1949; A; -strain; Venezuela; soil; M1

*Chlamydomonas chlorostellata* Flint & Ettl

CCAP 11/93 Flint; 1957; AB; New Zealand; soil; M2; T

*Chlamydomonas coccooides* Butcher

CCAP 11/81 Parke; 1957; LB; England; marine; M14

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- Chlamydomonas cribrum* Ettl  
 CCAP 11/75 Hindak; 1962; A; Czechoslovakia; freshwater; M1; T
- Chlamydomonas debaryana* Gorosh.  
 CCAP 11/40b Lewin; 1953; A; USA; freshwater; M6; mutant B6  
 CCAP 11/56a Lewin; 1953; A; Mexico; soil; M1; heterothallic mating pair with 11/56b  
 CCAP 11/56b Lewin; 1953; A; Mexico; soil; M1; heterothallic mating pair with 11/56a  
 CCAP 11/94 Ettl; 1968; AB; Czechoslovakia; freshwater; M1
- Chlamydomonas debaryana* var. *cristata* Ettl  
 CCAP 11/74 Ettl; A; Czechoslovakia; soil; M1; T
- Chlamydomonas dorsoventralis* Pascher  
 CCAP 11/4 Mainx; 1926; A; Czechoslovakia; freshwater; M1; T
- Chlamydomonas dysosmos* Moewus; see *Chlamydomonas sphagnicola* var. *dysosmos*
- Chlamydomonas eugametos* Moewus; see also *Chlamydomonas moewusii* Gerloff  
 CCAP 11/5a Czurda; A; +strain; freshwater; M1  
 CCAP 11/5b Czurda; A; -strain; freshwater; M1  
 CCAP 11/5c Moewus; 1951; AB; +strain; freshwater; M1  
 CCAP 11/5d Moewus; 1951; A; -strain; freshwater; M1
- Chlamydomonas euryale* Lewin  
 CCAP 11/62 Lewin; 1957; A; Canada; marine; M1; T
- Chlamydomonas fimbriata* Ettl  
 CCAP 11/69 Hindak; 1962; A; Czechoslovakia; freshwater; M1; T
- Chlamydomonas foveolarum* Skuja  
 CCAP 11/68 Pringsheim; 1950; LB; England; freshwater; M3
- Chlamydomonas gerloffii* Ettl  
 CCAP 11/72 Ettl; A; Czechoslovakia; freshwater; M1; T
- Chlamydomonas globosa* Snow; see *Chloromonas rosae* Ettl
- Chlamydomonas gloeopara* Rodhe & Skuja  
 CCAP 11/7 Rodhe; A; Sweden; freshwater; M1; T
- Chlamydomonas gregaria* Butcher  
 CCAP 11/84b Butcher; A; Wales; salt marsh; M14
- Chlamydomonas gyrus* Pascher  
 CCAP 11/8 Pringsheim; A; Czechoslovakia; freshwater; M1; T
- Chlamydomonas humicola* Lucksch  
 CCAP 11/9 Lucksch; 1929; A; Czechoslovakia; soil; M1; T
- Chlamydomonas hydra* Ettl  
 CCAP 11/6a Czurda; A; +strain; freshwater; M1  
 CCAP 11/6b Czurda; A; -strain; freshwater; M1  
 CCAP 11/6c Czurda; A; -strain; freshwater; M1
- Chlamydomonas hydra* Ettl var. *micropapillata* Ettl  
 CCAP 11/76 Ettl; A; Czechoslovakia; soil; M1; T
- Chlamydomonas incisa* Pringsheim; see *Vitreochlamys incisa*
- Chlamydomonas indica* Mitra  
 CCAP 11/11 Mitra; 1947; A; India; soil; M1; T
- Chlamydomonas inepta* Ettl  
 CCAP 11/70 Ettl; A; Czechoslovakia; soil; M1; T
- Chlamydomonas intermedia* Chodat  
 CCAP 11/13 Pringsheim; 1939; A; England; freshwater; M1
- Chlamydomonas intermedia* var. *antarctica*  
 CCAP 11/13b Ellermeier; 1971; LB; Antarctica; freshwater; M3
- Chlamydomonas iyengarii* Mitra  
 CCAP 11/14 Mitra; 1947; A; India; soil; M1

*Chlamydomonas komma* Skuja

CCAP 11/63 Tsubo; A; Japan; freshwater; M1

*Chlamydomonas mexicana* LewinCCAP 11/55a Lewin; 1953; A; Mexico; soil; M1;  
T: heterothallic pair with 11/55bCCAP 11/55b Lewin; 1953; A; Mexico; soil; M1;  
T: heterothallic pair with 11/55a*Chlamydomonas moewusii* Gerloff = *Chlamydomonas eugametos* var. *moewusii* (Gerloff) Gowans

Information on the strains available and their mutants is available on request.

*Chlamydomonas moewusii* var. *rotunda* TsuboCCAP 11/64a Tsubo; 1952; A; +strain; Japan;  
freshwater; M1CCAP 11/64b Tsubo; 1952; A; -strain; Japan;  
freshwater; M1*Chlamydomonas monoica* StrehlowCCAP 11/17 Pringsheim; A; Czechoslovakia;  
freshwater; M1*Chlamydomonas nivalis* Wille

CCAP 11/51b Sutton; 1968; A; USA; snow; M1

*Chlamydomonas oblonga* PringsheimCCAP 11/18 Pringsheim; 1930; A;  
Czechoslovakia; freshwater; M1; T*Chlamydomonas orbicularis* PringsheimCCAP 11/19 Pringsheim; 1930; A;  
Czechoslovakia; freshwater; M1; T*Chlamydomonas parvula* GerloffCCAP 11/95 Lewin; 1951; AB; Scotland;  
freshwater; M1*Chlamydomonas perforata* Pascher & Jahoda;  
= *Chloromonas perforata**Chlamydomonas philotes* LewinCCAP 11/53 Lewin; 1953; A; Mexico; soil; M1;  
T: homothallic*Chlamydomonas plethora* ButcherCCAP 11/84a Butcher; 1975; A; England; marine;  
M14CCAP 11/86a Butcher; A; England; brackish; M14;  
designated "subtype" by Butcher

CCAP 11/86b Butcher; A; England; brackish; M14

*Chlamydomonas proboscigera* Korsh. var. *conferta*  
(Korsh.) Ettl

CCAP 11/38 Lewin; 1951; A; USA; freshwater; M1

*Chlamydomonas proteus* PringsheimCCAP 11/21 Pringsheim; 1930; A;  
Czechoslovakia; freshwater; M1; T*Chlamydomonas pseudagloe* Pascher

CCAP 11/22b Lewin; 1950; A; USA; freshwater; M1

*Chlamydomonas pseudococcum* LuckschCCAP 11/23 Lucksch; 1929; A; Czechoslovakia;  
plant material; M1; T*Chlamydomonas pseudomacrostigma* PeterfiCCAP 11/82 Blakey; 1973; A; England;  
freshwater; M1*Chlamydomonas pulchra* Pringsheim = *Chlamydomonas callosa* Gerloff*Chlamydomonas pulsatilla* WollenweberCCAP 11/44 Pringsheim; 1950; A; Finland;  
freshwater; M1*Chlamydomonas pulvinata* VischerCCAP 11/25 Vischer; 1923; A; Switzerland;  
freshwater; M1; T*Chlamydomonas rapa* Ettl f. *vasta* EttlCCAP 11/73 Ettl; 1962; A; Czechoslovakia;  
freshwater; M1; T*Chlamydomonas reginae* Ettl & GreenCCAP 11/78 Jowett; 1966; LB; France; marine;  
M11; T

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M1, M2, M3 ... = media suitable for routine cultivation; N = cryopreserved; P = proven pathogen to man;  
P? = possibly pathogenic to man but not proven; T = descent from type material;  
X = organisms other than bacteria present.

*Chlamydomonas reinhardtii* Dang.

A list of the large number of mutant strains of this species is available on request.

CCAP 11/32b Smith; A; USA; soil; M1  
 CCAP 11/32c Smith; A; USA; soil; M1  
 CCAP 11/32d Smith; A; USA; soil; M1

*Chlamydomonas reisiigii* Ettl

CCAP 11/104 Hibberd; 1977; AB; England; 'Actinolichen'; M2

*Chlamydomonas rosae* H. & O. Ettl

CCAP 11/66 Ettl; A; Czechoslovakia; soil; M1; T

*Chlamydomonas* aff. *rotula* Playfair

CCAP 11/33 Vischer; A; Switzerland; freshwater; M1

*Chlamydomonas segnis* Ettl

CCAP 11/71 Ettl; 1965; A; Czechoslovakia; soil; M1; T

*Chlamydomonas* aff. *snowiae* Prinz

CCAP 8/2 A; from a *Carteria* culture; M1

*Chlamydomonas sphaerella* Pringsheim nom. prov.

CCAP 11/27 Pringsheim; A; England; freshwater; M1

*Chlamydomonas sphaeroides* Gerloff

CCAP 11/29 Pringsheim; 1929; A; Czechoslovakia; freshwater; M1; T; also type of *C. subglobosa* Pringsheim

*Chlamydomonas sphagnicola* Fritsch & Takeda var. *dysosmos* Moewus

CCAP 11/31 Neish; A; Canada; soil; M1  
 CCAP 11/36a Lewin; 1951; A; USA; M1  
 CCAP 11/36b Lewin; 1951; (mutant 270); A; USA; M1  
 CCAP 11/36c Lewin; (mutant D2075); A; USA; M1  
 CCAP 11/36d Lewin; (mutant D381); A; USA; M1  
 CCAP 11/36e Lewin; (mutant D2048); A; USA; M1  
 CCAP 11/36f Lewin; (mutant D2377); A; USA; M1

*Chlamydomonas spreata* Butcher

CCAP 11/87 Butcher; LB; England; marine; M11

*Chlamydomonas stercoraria* Pringsheim nom. prov.

CCAP 11/49 Pringsheim; 1951; A; England; freshwater; M1

*Chlamydomonas subangulosa* Fritsch & John

CCAP 11/28 Pringsheim; 1940; A; England; soil; M1; T

*Chlamydomonas subehrenbergii* Butcher

CCAP 11/88 Butcher; A; England; marine; M14

*Chlamydomonas subtilis* Pringsheim

CCAP 11/30 Pringsheim; 1929; A; Czechoslovakia; freshwater; M1; T

*Chlamydomonas terricola* Gerloff

CCAP 11/37 Lewin; 1950; A; USA; freshwater; M1

*Chlamydomonas ulvaensis* Lewin

CCAP 11/58 Lewin; 1951; A; Scotland; freshwater; M1; T

*Chlamydomonas uva-maris* Butcher

CCAP 11/89 Butcher; A; England; marine; M14

*Chlamydomonas vectensis* Butcher

CCAP 11/90 Butcher; A; England; marine; M14

*Chlamydomonas* spp. indet.

CCAP 11/26 Pringsheim; A; as *Chlamydomonas simplex*; freshwater; M1  
 CCAP 11/42 Lewin; 1951; A; USA; freshwater; M1  
 CCAP 11/46 George; 1948; LB; England; freshwater; M3  
 CCAP 11/47 Droop; 1951; A; Finland; freshwater; M1  
 CCAP 11/52 Lewin; 1952; A; Alaska; snow; M1  
 CCAP 11/54 Lewin; 1953; A; Mexico; soil; M1  
 CCAP 11/57 Lewin; 1951; A; Scotland; freshwater; M1  
 CCAP 11/91 Butcher; A; England; marine; M14  
 CCAP 11/98 Provasoli; AB; marine; medium on request  
 CCAP 11/99 Provasoli; AB; marine; medium on request  
 CCAP 11/100 Provasoli; AB; marine; medium on request  
 CCAP 11/101 Provasoli; AB; marine; medium on request



*CHLORELLA* Beijerinck

It has long been recognised that the specific names given to strains of *Chlorella* have in many cases been useless or even misleading. The names *C. pyrenoidosa* and *C. vulgaris* especially have been used with little regard for either the characters of the alga or the code and practice of nomenclature. In general, we follow the revision of Fott & Novakova (1969) as modified by Kessler (1976). Unfortunately, over the years, there has been some confusion of strains in all the main culture collections. Where the Goettingen strains have proved different from ours of the same designation, we have distinguished them by adding "Goe" or "CCAP" to the strain number.

The marine species have not yet been taxonomically revised.

*Chlorella antarctica* (Fritsch) Wille

CCAP 211/45 Sutton; 1970; LB; Antarctica; freshwater; M2

*Chlorella autotrophica* Shihira & Krauss;  
-*Chlorella vulgaris* var. *autotrophica*

*Chlorella candida* Shihira & Kraus = *Chlorella vulgaris* var. *vulgaris*

*Chlorella ellipsoidea* Gerneck = *Chlorella saccharophila* var. *ellipsoidea*

*Chlorella emersonii* Shihira & Kraus var.  
*emersonii*; formerly *Chlorella fusca* var.  
*vacuolata*

CCAP 211/8a Pringsheim; N; Czechoslovakia; freshwater; M1; type of *Chlorella photophila* Shihira & Kraus

CCAP 211/8b Emerson; 1923; A & N; USA; plant material; M1; type of *Chlorella fusca* var. *vacuolata*

CCAP 211/8c Emerson; 1926; N; Germany; freshwater; M1

CCAP 211/8g Emerson; (Emerson 3); N; freshwater; M1; from Camb. Univ. Botany School

CCAP 211/8h Emerson; (Emerson 3); A & N; freshwater; M1; from A. H. Brown

CCAP 211/11m (Cornell 11); AB; soil; M1

CCAP 211/11n Emerson; pre-1939; N; freshwater; M1

CCAP 211/15 Pringsheim; c. 1945; N; England; freshwater; M1

*Chlorella emersonii* var. *rubescens* Fott et al.

CCAP 232/1 Dangeard; 1966; A & N; freshwater; M1; type of *Halochlorella rubescens* Dang.

*Chlorella fusca* var. *fusca* = *Scenedesmus* sp. indet.

*Chlorella fusca* var. *rubescens* = *Chlorella emersonii* var. *rubescens*

*Chlorella fusca* var. *vacuolata* = *Chlorella emersonii* var. *emersonii*

*Chlorella homosphaera* Skuja

CCAP 211/8e Rodhe; A; freshwater; M1

*Chlorella kessleri* Fott & Novakova

CCAP 211/11g Winokur; 1945; N; USA; freshwater; M1; T; also type of *Chlorella regularis* (Artari) Oltmanns

CCAP 211/11h Emerson; pre-1946; N; USA; freshwater; M1

*Chlorella luteoviridis* Chodat

CCAP 211/2a Kufferath; 1912; A & N; Belgium; freshwater; M1; T

CCAP 211/2b Beijerinck; N; freshwater; M1

CCAP 211/3 Kluyver?; N; as *Chlorella aureoviridis*; Holland; freshwater; M1

CCAP 211/4 Kufferath; 1912; N; Belgium; freshwater; M1; type of var. *lutescens* Chodat

CCAP 211/5a Pringsheim; N; Czechoslovakia; freshwater; M1; type of *Chlorella mutabilis* Shihira & Krauss

CCAP 211/5b Gaffron; N; freshwater; M1

CCAP 211/10a Beijerinck; N; freshwater; M1

CCAP 211/10b Beijerinck; N; freshwater; M1

CCAP 211/10d Beijerinck; N; freshwater; M1

CCAP 211/10e N; freshwater; M1; received from Prague 1946

*Chlorella marina* Butcher

CCAP 211/27 Collyer; A; marine; M14; T?

*Chlorella miniata* (Naeg.) Oltmanns = *Chlorella zofingiensis* Donz

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*Chlorella minutissima* Fott & Novakova

CCAP 211/52 Cassie; AB; New Zealand;  
freshwater; M2

*Chlorella mutabilis* Shihira & Krauss = *Chlorella luteoviridis* Chodat*Chlorella nocturna* Shihira & Krauss = *Chlorella luteoviridis* Chodat*Chlorella ovalis* Butcher = *Chlorella vulgaris* var. *vulgaris*

CCAP 211/21a Butcher; A; England; marine; M14; T  
CCAP 211/21b Butcher; 1953; A; England; marine;  
M14

*Chlorella photophila* Shihira & Krauss = *Chlorella emersonii* var. *emersonii**Chlorella pringsheimii* Shihira & Krauss;  
= *Chlorella saccharophila**Chlorella protothecoides* Krueger

CCAP 211/7a Krueger; 1892; N; plant material;  
M1; T  
CCAP 211/7b Kluuyver?; N; Holland; freshwater;  
M6  
CCAP 211/7c Kluuyver?; N; Holland; freshwater;  
M6  
CCAP 211/7d Czurda; N; Czechoslovakia;  
freshwater; M6; type of var.  
*galactophila* Shihira & Krauss  
CCAP 211/8d Pringsheim; 1947; N; plant  
material; M6  
Goe 211/10a N; M6  
CCAP 211/10c Beijerinck; N; freshwater; M6  
Goe 211/10d N; M6  
Goe 211/10e N; M6  
CCAP 211/11a Pringsheim; N; freshwater; M6;  
-var. *mannophila* Shihira & Krauss  
CCAP 211/11i Beijerinck; N; freshwater; M6;  
selected as type of *Chlorella*  
*vulgaris* by Drouet & Daily  
CCAP 211/13 Beijerinck; N; as *Chlorella*  
*xanthella*; Holland; freshwater; M6  
CCAP 211/17 Beijerinck; N; Holland; freshwater;  
M6

*Chlorella pyrenoidosa* Chick nomen confusum  
Several strains used under this name are now listed as  
*Chlorella emersonii*.

*Chlorella regularis* (Artari) Oltmanns nom. illeg.;  
= *Chlorella kessleri**Chlorella saccharophila* (Krueger) Nadson

CCAP 211/1a Pringsheim; N; freshwater; M1; type  
material of var. *ellipsoidea*  
(Gerneck) Fott & Novakova  
CCAP 211/1b Brannon; 1938; N; USA; freshwater;  
M1  
Goe 211/1c N; freshwater; M1  
CCAP 211/1d Kellner; 1951; N; freshwater; M1  
CCAP 211/1f Wood; N; Australia; freshwater; M1  
Goe 211/9a N; freshwater; M1  
Goe 211/9b N; freshwater; M1  
CCAP 211/47 Tschermak-Woess; AB; lichen; M3  
CCAP 211/48 Tschermak-Woess; AB; lichen; M3  
CCAP 211/49 Tschermak-Woess; AB; lichen; M3  
CCAP 211/50 Tschermak-Woess; AB; lichen; M3

*Chlorella salina* Kufferath

CCAP 211/25 Parke; 1963; A; England; marine;  
M14

*Chlorella sorokiniana* Shihira & Krauss;  
= *Chlorella vulgaris* f. *tertia* Fott & Novakova*Chlorella spaerckii* Aalvik

CCAP 211/29a Butcher; A; Wales; marine; M14  
CCAP 211/29b Butcher; A; Wales; marine; M14

*Chlorella stigmatophora* Butcher

CCAP 211/20 Parke; 1935; A; Isle of Man;  
marine; M14; T

*Chlorella variabilis* Shihira & Krauss = *Chlorella protothecoides**Chlorella variegata* Beijerinck nomen nudum;  
= *Chlorella protothecoides**Chlorella vulgaris* Beijerinck var. *vulgaris*

CCAP 211/1e Gaffron; N; freshwater; M1  
CCAP 211/9a Krueger; 1892; A & N; plant  
material; M1; type of  
*Chlorothecium saccharophilum*  
CCAP 211/9b Pringsheim; 1939?; N; England;  
freshwater; M1  
CCAP 211/11b Beijerinck; N; Holland; freshwater;  
M1; T; = *Chlorella candida* according  
to Shihira & Krauss  
CCAP 211/11c Pringsheim; N; freshwater; M1; type  
of *Chlorella candida* Shihira &  
Krauss  
CCAP 211/11f Pringsheim; 1939; N; England; plant  
material; M1  
CCAP 211/11j Rodhe; N; freshwater; M1; type of  
*Chlorella simplex* Shihira &  
Krauss

- CCAP 211/11p Algeus; 1942; N; Sweden; freshwater; M1
- CCAP 211/11q Czurda; N; freshwater; M1
- CCAP 211/11r Krollpfeiffer; N; freshwater; M1
- CCAP 211/11s N; from Pirson 1952; freshwater; M1
- CCAP 211/12 Chodat; N; freshwater; M1; type of *Chlorella vulgaris* var. *viridis*
- CCAP 211/19 N; from Harder 1950; freshwater; M1
- Chlorella vulgaris* f. *tertia* Fott & Novakova
- CCAP 211/8k Sorokin & Myers; 1953; A & N; USA; freshwater; M1; high temperature strain
- CCAP 211/11d Brannon; 1938; N; freshwater; M1
- CCAP 211/11k Rice; N; freshwater; M1
- CCAP 211/18 Kylin; N; Sweden; freshwater; M1
- Chlorella vulgaris* var. *viridis* = var. *vulgaris* according to Fott & Novakova
- Chlorella xanthella* nom. nud. = *Chlorella protothecoides*
- Chlorella zofingiensis* Donz
- CCAP 211/14 Donz; 1933; N; Switzerland; soil; M1; T; also type of *Chlorella miniata*
- CCAP 211/51 Patterson; AB; France; freshwater; M1
- Chlorella* spp. indet.
- CCAP 211/8p A & N; freshwater; M1; derived from Cornell 11, rec. from Syrett 1965
- CCAP 211/9c Thain; 1970; N; Australia; M1; endophyte from *Selaginella*
- CCAP 211/22 Lewin; 1957; N; USA; M1; endozoon from *Spongilla fluvialilis*
- CCAP 211/26 Fogg; 1956; N; Arctic Sweden; freshwater; M1
- CCAP 211/28 Ho; 1972; N; Malaya; freshwater; M1
- CCAP 211/31 Taddei; N; Italy; freshwater; M1
- CCAP 211/32 Taddei; N; Italy; freshwater; M1
- CCAP 211/33 Taddei; N; Italy; freshwater; M1
- CCAP 211/34 Taddei; N; Italy; freshwater; M1
- CCAP 211/35 Taddei; N; Italy; freshwater; M1
- CCAP 211/36 Taddei; N; Italy; freshwater; M1
- CCAP 211/37 Taddei; N; Italy; freshwater; M1
- CCAP 211/38 Taddei; N; Italy; freshwater; M1
- CCAP 211/39 Taddei; N; Italy; freshwater; M1
- CCAP 211/40 Taddei; N; Italy; freshwater; M1
- CCAP 211/41 Taddei; N; Italy; freshwater; M1
- CCAP 211/42 Taddei; N; Italy; freshwater; M1
- CCAP 211/46 Belcher; 1979; A; Kuwait; marine; medium on request; from Kuwait shrimp tanks
- CHLORELLIDIUM** Vischer & Pascher
- Chlorellidium tetrabotrys* Vischer & Pascher
- CCAP 811/1a Vischer; 1935; A; Switzerland; freshwater; M1; T
- CCAP 811/1b Vischer; 1935; AB; Czechoslovakia; freshwater; M1; T
- CHLORIDELLA** Pascher
- Chloridella minuta* Moewus
- CCAP 813/2 Moewus; A; freshwater; M1; T
- Chloridella neglecta* Pascher
- CCAP 813/1 Vischer; 1940; N; Switzerland; soil; M1
- CHLOROBOTRYS** Bohlin
- Chlorobotrys regularis* (W. West) Bohlin
- CCAP 810/1 Hibberd; 1967; LB; England; freshwater; M3
- CHLOROCHYTRIUM** Cohn
- Chlorochytrium* spp. indet.
- CCAP 212/1 Mitra; N; freshwater; M1
- CCAP 212/2 George; 1952; LB; England; freshwater; M3
- CHLOROCLOSTER** Pascher
- Chlorocloster engadinensis* Vischer
- CCAP 812/1 Vischer; 1940; N; Switzerland; soil; M1; T

Abbreviations: A = agar slope; +b = bacteria added to medium as a food organism; B = bacteria present; BT = patent applied for under the conditions of the Budapest Treaty; L = liquid medium; M1, M2, M3, ... = media suitable for routine cultivation; N = cryopreserved; P = proven pathogen to man; P? = possibly pathogenic to man but not proven; T = descent from type material; X = organisms other than bacteria present.

*CHLOROCOCCUM* Meneghini*Chlorococcum echinozygotum* Starr

CCAP 213/5 Starr; N; Philippines; soil; M1; T

*Chlorococcum hypnosporum* StarrCCAP 213/6 Starr; A; USA; soil; M1; T  
CCAP 237/1 Pringsheim; 1940; A; England; soil; M1*Chlorococcum infusionum* (Schrank) MeneghiniCCAP 213/2a Mainx; pre-1939; A; freshwater; M1  
CCAP 213/2b Mainx; pre-1939; A; freshwater; M1*Chlorococcum macrostigmatum* Starr

CCAP 213/9 Lewin; A; USA; soil; M1; T

*Chlorococcum minutum* Starr

CCAP 213/7 Bold; A; India; soil; M1; T

*Chlorococcum multinucleatum* Starr;  
-*Neospongiococcum granatum* (Starr) Deason*Chlorococcum submarinum* AalvikCCAP 213/10 Russell and Mott; 1976; AB;  
England; marine; medium on request*Chlorococcum vacuolatum* StarrCCAP 213/8 Starr; 1952; A; South Africa; soil;  
M1; T*Chlorococcum wimmeri* Rabenh. = *Neochloris wimmeri* (Rabenh.) Archibald & Bold*CHLOROGLOEA* Wille*Chlorogloea fritschii* Mitra

CCAP 1411/1a Mitra; 1950; LB; India; soil; M3; T

*Chlorogloea* sp. indet.

CCAP 1411/2 Kunisawa; LB; USA; freshwater; M3

*CHLOROGLOEOPSIS* Mitra & Pandey*Chlorogloeopsis* sp. indet. : originally  
*Chlorogloea fritschii*CCAP 1411/1b A; from Berkeley 1967; USA;  
freshwater; M17*CHLOROGONIUM* Ehr.*Chlorogonium elongatum* Dang.CCAP 12/1 Pringsheim; 1942; LB; England;  
freshwater; M3  
CCAP 12/2a Hartmann; A; Germany; freshwater;  
M6  
CCAP 12/2b George; 1948; AB; South Africa;  
mud; M2  
CCAP 12/2c Pringsheim; 1949; A; France;  
freshwater; M1  
CCAP 12/2d Pringsheim; 1951; AB; South Africa;  
M2  
CCAP 12/4 Meyer; AB; Czechoslovakia;  
freshwater; M2*Chlorogonium euchlorum* Ehr.

CCAP 12/3 Kniep; LB; Germany; freshwater; M3

*Chlorogonium* spp. indet.CCAP 12/5 Pringsheim; LB; freshwater; M3  
CCAP 12/6 Pringsheim; LB; freshwater; M3*CHLOROKYBUS* Geitler*Chlorokybus atmophyticus* Geitler

CCAP 403/1 Rieth; 1962; AB; freshwater; M2

*CHLOROMESON* Pascher*Chloromeson* sp. indet.CCAP 814/1 Butcher; 1954; LB; England; marine;  
M11*CHLOROMONAS* Gobi*Chloromonas perforata* (Pascher & Jahoda) Gerloff  
& EttlCCAP 11/43 Pringsheim; 1950; A; Finland;  
freshwater; M1*Chloromonas rosae* EttlCCAP 11/60 George; 1954; A; Uganda; soil; M1;  
syn. *Chlamydomonas globosa* Snow*Chloromonas palmelloides* BroadyCCAP 11/97 Broady; 1973; N & AB; Antarctic;  
plant material; M2; T

*Chloromonas* sp. indet.

CCAP 11/50 Droop; 1951; A; Finland;  
freshwater; M6

*CHLOROSARCINA* Gerneck*Chlorosarcina brevispinosa* (?auct.)

CCAP 214/2 A; rec. from P. Archibald 1977;  
freshwater; M1

*CHLOROSARCINOPSIS* Herndon*Chlorosarcinopsis aggregata* (?auct.)

CCAP 14/3 A; rec. from P. Archibald 1977;  
freshwater; M1

*Chlorosarcinopsis negevensis* Friedmann &  
Ocampo-Paus f. *ferruginea*

CCAP 14/1 Baldinger; AB; Israel; desert; M2;  
T

*Chlorosarcinopsis negevensis* f. *negevensis*  
Friedmann & Ocampo-Paus

CCAP 14/2 Baldinger; A; Israel; desert; M1; T

*Chlorosarcinopsis sempervirens* Groover & Bold

CCAP 214/1 Pringsheim; pre-1939; A;  
freshwater; M1; T

*CHLOROSPHAERA* Klebs*Chlorosphaera klebsii* Vischer

CCAP 215/1 Vischer; pre-1939; A; freshwater;  
M1

*CHLOROSPHAEROPSIS* Vischer*Chlorosphaeropsis lemnae* Moewus

CCAP 409/1 Lewin; 1977; AB; from *Lemna*; M1  
CCAP 409/2 Lewin; 1977; AB; from *Lemna*; M1  
CCAP 409/3 Lewin; 1976; AB; from *Lemna*; M1

*CHROMULINA* Cienkowski*Chromulina chionophila* Stein

CCAP 909/9 Hoham; AB; USA; snow; M2

*Chromulina ochromonoides* (?auct.)

CCAP 909/1 Butcher; 1959; LB; England; marine;  
M11

CCAP 909/3 Butcher; 1956; LB; England; marine;  
M11

*Chromulina* spp. indet.

CCAP 909/2 Butcher; 1956; LB; England; marine;  
M11

CCAP 909/5 Butcher; LB; England; marine; M11

CCAP 909/6 Butcher; 1957; LB; England; marine;  
M11

CCAP 909/7 Butcher; 1956; LB; England; marine;  
M11

CCAP 909/8 Butcher; LB; England; marine; M11

*CHROOCOCCOPSIS* Geitler*Chroococcopsis* sp. indet.

CCAP 1409/1 Butcher; LB; England; marine;  
medium on request

*CHROOCOCCUS* Naeg.*Chroococcus minutus* (Kuetz.) Naeg.

CCAP 1412/5 Laporte; 1965; AB; thermal waters;  
M2; thermal strain

*Chroococcus prescottii* Drouet & Daily

CCAP 1412/4 George; 1954; AB; Hong Kong;  
freshwater; M17

*Chroococcus turgidus* (Kuetz.) Naeg.

CCAP 1412/1b Starr; LB; freshwater; M3; syn.  
*Anacystis dimidiata* (Kuetz.)  
Drouet & Daily

*Chroococcus versicolor* ? ?auct.; see

*Coccolithis penicystis* (Kuetz.) Drouet & Daily

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M1, M2, M3, ... = media suitable for routine cultivation; N = cryopreserved; P = proven pathogenic to man;  
P? = possibly pathogenic to man but not proven; T = descent from type material;  
X = organisms other than bacteria present.

## CHROOMONAS Hansgirg

*Chroomonas atrorosea* Butcher

- CCAP 978/6a Butcher; LB; England; marine; M11;  
T  
CCAP 978/6b Butcher; LB; England; marine; M11

*Chroomonas collegionis* Butcher

- CCAP 978/11 Butcher; 1961; LB; England; marine;  
M11; T

*Chroomonas dispersa* Butcher

- CCAP 978/10 Butcher; 1960; LB; England; marine;  
M11; T

*Chroomonas falcata* Butcher

- CCAP 978/5a Butcher; LB; Wales; marine; M11; T  
CCAP 978/5b Butcher; LB; England; marine; M11

*Chroomonas heteromorpha* Butcher

- CCAP 978/7 Butcher; 1960; LB; England; marine;  
M11

*Chroomonas placoidea* Butcher

- CCAP 978/8 Butcher; 1959; LB; England; marine;  
M11; T

*Chroomonas salina* (Wislouch) Butcher

- CCAP 978/24 Butcher; 1959; LB; England; marine;  
M11  
CCAP 978/27 Butcher; 1954; LB; England; marine;  
M11

*Chroomonas salina* f. *adolescens* Butcher

- CCAP 978/12a Butcher; 1957; LB; England; marine;  
M11  
CCAP 978/12b Butcher; 1958; LB; England; marine;  
M11

*Chroomonas salina* f. *carterae* ?auct.

- CCAP 978/13 Butcher; 1956; LB; England; marine;  
M11  
CCAP 978/14 Butcher; 1958; LB; England; marine;  
M11

*Chroomonas salina* f. *eroticon* Butcher

- CCAP 978/15a Butcher; LB; Isle of Wight; marine;  
M11  
CCAP 978/15b Butcher; LB; England; marine; M11

*Chroomonas salina* f. *granulata* Butcher

- CCAP 978/16 Butcher; 1954; LB; England; marine;  
M11  
CCAP 978/17 Butcher; LB; England; marine; M11

*Chroomonas salina* f. *leucofera* Butcher

- CCAP 978/19 Butcher; 1955; LB; England; marine;  
M11  
CCAP 978/20 Butcher; LB; Wales; marine; M11

*Chroomonas salina* f. *oculus-bovis* Butcher

- CCAP 978/21a Butcher; 1957; LB; England; marine;  
M11  
CCAP 978/21b Butcher; 1959; LB; England; marine;  
M11

*Chroomonas salina* f. *refracta* Butcher

- CCAP 978/22 Butcher; 1956; LB; England; marine;  
M11  
CCAP 978/23 Butcher; LB; England; marine; M11

*Chroomonas virescens* (Butcher) Butcher

- CCAP 978/25 Butcher; 1958; LB; England; marine;  
M11

*Chroomonas* spp. indet.

- CCAP 978/2 Pringsheim; LB; freshwater; M3  
CCAP 978/3 Pringsheim; LB; freshwater; M3  
CCAP 978/4 Pringsheim; LB; freshwater; M3

## CHROOTHECE Hansgirg

*Chrootheca richterianum* Hansgirg - *Asterocytis ornata* ?

- CCAP 1353/1 Belcher; 1956; AB; Isle of Man;  
brackish; medium on request  
CCAP 1353/4 Ott; LB; USA; marine?; M11

## CHRYSOCHROMULINA Lackey

*Chrysochromulina chiton* Parke & Manton

- CCAP 910/7 Parke; 1955; LB; England; marine;  
M11; T

*Chrysochromulina ericina* Parke & Manton

- CCAP 910/4 Parke; 1950; LB; England; marine;  
M11; T

- Chrysochromulina kappa* Parke & Manton  
 CCAP 910/1 Parke; 1939; LB; Isle of Man; marine; M1; T
- Chrysochromulina minor* Parke & Manton  
 CCAP 910/3 Parke; LB; England; marine; M1; T
- Chrysochromulina pringsheimii* Parke & Manton  
 CCAP 910/11 Parke; 1957; LB; England; marine; M1
- CHRYSOPHAERA** Pascher
- Chrysophaera magna* Belcher  
 CCAP 911/1 Belcher; 1972; LB; England; freshwater; M3; T
- CLADOPHORA** Kuetz.
- Cladophora coelothrix* Kuetz.  
 CCAP 505/10 Van den Hoek; 1960; LB; Algeria; marine; M1
- Cladophora fracta* Kuetz. var. *fracta*  
 CCAP 505/1b George; 1950; LB; Sweden; freshwater; M3  
 CCAP 505/2a George; 1948; LB; England; freshwater; M3  
 CCAP 505/2b Van den Hoek; 1960; LB; Holland; freshwater; M3
- Cladophora fracta* var. *intricata* (Lyngbye) van den Hoek  
 CCAP 505/1a George; 1947; LB; England; freshwater; M3
- Cladophora globulina* Kuetz.  
 CCAP 505/5 Van den Hoek; 1961; LB; France; freshwater; M3
- Cladophora glomerata* (L.) Kuetz.  
 CCAP 505/3 George; 1950; LB; England; freshwater; M3
- Cladophora kosterae* Van den Hoek  
 CCAP 505/6 Van den Hoek; 1961; LB; France; freshwater; M3; T
- Cladophora parriaudii* Van den Hoek  
 CCAP 505/9 Van den Hoek; 1960; LB; France; marine; M1; T
- Cladophora* sp. indet.  
 CCAP 505/11 Westlake; 1957; LB; freshwater; M3
- CLASTOSTELIUM** Olive & Stoianovitch
- Clastostelium recurvatum* Olive & Stoianovitch  
 CCAP 1513/1 Stoianovitch; 1976; (Gu 76-13); AB; Guam; plant material; medium on request; T
- CLOSTERIUM** Ralfs
- Closterium acerosum* (Schrank) Ehr.  
 CCAP 611/4 George; 1951; LB; England; freshwater; M3
- Closterium braunii* Reinsch  
 CCAP 611/7 Lefevre; 1954; LB; France; freshwater; M3
- Closterium ehrenbergii* Meneghini var. *malinvernianum* De Not  
 CCAP 611/8 Hibberd; 1970; LB; Scotland; freshwater; M3
- Closterium leibleinii* Kuetz.  
 CCAP 611/2 Starr; 1951; LB; France; freshwater; M3
- Closterium littorale* Gay  
 CCAP 611/6 Starr; 1956; LB; USA; freshwater; M3; homothallic

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*Closterium moniliferum* Ehr.

CCAP 611/1 Starr; 1951; LB; France;  
freshwater; M3

*Closterium parvulum* Naeg.

CCAP 611/5 Starr; LB; USA; freshwater; M3

*COCCOCHLORIS* Sprengel*Coccochloris elabens* (Breb.) Drouet & Daily

CCAP 1413/1 Lewin; LB; USA; saline; M11

*Coccochloris peniocystis* (Kuetz.) Drouet & Daily

CCAP 1412/2 Pringsheim; LB; freshwater; M3;  
syn. *Chroococcus versicolor*?  
?auct.

CCAP 1461/1 Pringsheim; 1948; LB; as *Pelagioia*;  
England; freshwater; M3

*COCCOLITHUS* Schwartz*Coccolithus pelagicus* (Wallich) Schiller

CCAP 913/2 Parke; LB; England; marine; M11  
CCAP 913/3 Parke; 1964; LB; England; marine;  
M11

*Coccolithus* spp. indet.

CCAP 913/4a Butcher; 1961; LB; England; marine;  
M11  
CCAP 913/4b Butcher; 1960; LB; England; marine;  
M11  
CCAP 913/5 Butcher; 1956; LB; England; marine;  
M11  
CCAP 913/6 Butcher; 1961; LB; Guernsey;  
marine; M11  
CCAP 913/7 Butcher; LB; England; marine; M11

*COCCOMYXA* Schmidle*Coccomyxa arvernensis* Jaag

CCAP 216/1 Jaag; N; France; plant material;  
M1; T

*Coccomyxa chodatii* Jaag

CCAP 216/2 Chodat; N; Switzerland; freshwater;  
M1; T

*Coccomyxa elongata* Jaag

CCAP 216/3a Pringsheim; 1927; N;  
Czechoslovakia; M1; from *Paramecium*  
culture

CCAP 216/3b Chodat; N; Switzerland; freshwater;  
M1

CCAP 216/3c Brannon; 1938; N; USA; freshwater;  
M1

*Coccomyxa mucigena* Jaag

CCAP 216/4 Jaag; N; Switzerland; plant  
material; M1

*Coccomyxa parasitica* Stevenson & South

CCAP 216/18 Stevenson; N; Newfoundland; marine;  
M14; T; parasite of *Placopecten*  
*megellanicus*

*Coccomyxa peltigerae* Waren

CCAP 216/5 Jaag; N; freshwater; M1

*Coccomyxa peltigerae variolosae* Jaag

CCAP 216/6 Jaag; N; Norway; freshwater; M1; T

*Coccomyxa pringsheimii botrydinae* Jaag

CCAP 216/7 Pringsheim; N; Finland; plant  
material; M1; T

*Coccomyxa rayssiae* Chodat & Jaag

CCAP 216/8 Rayss; N; Rumania; freshwater; M1

*Coccomyxa simplex* (Pringsheim) Mainx

CCAP 216/9a Pringsheim; N; Czechoslovakia; M1;  
from *Paramecium* culture  
CCAP 216/9b Mainx; N; Germany; freshwater; M1

*Coccomyxa solorinae bisporae* Jaag

CCAP 216/10 Jaag; N; Switzerland; freshwater;  
M1; T

*Coccomyxa solorinae crocae* Chodat

CCAP 216/11a Chodat; N; Switzerland; freshwater;  
M1; T

CCAP 216/11b Jaag; N; Switzerland; freshwater;  
M1

*Coccomyxa solorinae saccatae* Chodat

CCAP 216/12 Jaag; N; Switzerland; freshwater;  
M1



- Coccomyza subellipsoidea* Acton  
 CCAP 216/13 Pringsheim; N; plant material; M1  
 CCAP 216/15 Richardson; 1964; N; England; plant material; M1
- Coccomyza viridis* Chodat  
 CCAP 216/14 Chodat; N; Switzerland; freshwater; M1; T
- Coccomyza* spp. indet.  
 CCAP 216/16 Bednar; N; USA; plant material; M1  
 CCAP 216/17 Butcher; pre-1961; N; England; marine; M14
- COCHLIPODIUM** Hertwig & Lesser  
*Cochliopodium actinophorum* (Auerbach)  
 CCAP 1537/2 Page; 1964; (19); AB; USA; freshwater; M20 +b
- Cochliopodium minus* Page  
 CCAP 1537/1a Page; 1965; (47); AB; USA; freshwater; M20 +b; T
- COELASTROPSIS** Fott & Kalina  
*Coelastropsis costata* (Korsh.) Fott & Kalina  
 CCAP 217/5 Droop; 1950; LB; Finland; freshwater; M3; T
- COELASTRUM** Naeg.  
*Coelastrum microporum* Naeg.  
 CCAP 217/1a Pringsheim; 1940; N; England; freshwater; M1  
 CCAP 217/1c Starr; 1951; N; England; freshwater; M1
- Coelastrum morus* W. & G. S. West  
 CCAP 217/4 Lewin; 1950?; N; USA; freshwater; M1
- Coelastrum proboscideum* Bohlin var. *dilatatum* Vischer  
 CCAP 217/2 Vischer; 1924; N; Switzerland; freshwater; M1; T
- Coelastrum proboscideum* var. *gracile* Vischer  
 CCAP 217/3 Vischer; 1924; N; Switzerland; freshwater; M1; T
- COELOSPHAERIUM** Naeg.  
*Coelosphaerium kuetzingianum* Naeg.  
 CCAP 1414/1 George; 1951; LB; freshwater; M3
- COENOCOCCUS** Korsh.  
*Coenococcus planctonicus* Korsh.  
 CCAP 112/1 Lund; 1967; LB; England; freshwater; M3
- COLEOCHAETE** Breb.  
*Coleochaete scutata* Breb.  
 CCAP 414/1 George; 1949; LB; England; freshwater; M3
- COLEPS** Nitzsch  
*Coleps hirtus* OFM  
 CCAP 1613/1 George; 1950; LBX; England; freshwater; M3vi  
 CCAP 1613/2 George; 1965; LBX; England; freshwater; M3vi
- COLPIDIUM** Stein  
*Colpidium campylum* Stokes  
 CCAP 1614/3 Taylor; 1973; LB; Canada; freshwater; M18

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*Colpidium colpidium* (Schew.) Corliss

CCAP 1614/1 George; 1953; LB; Ireland;  
freshwater; M3vi

*Colpidium striatum* Stokes

CCAP 1614/2 Jankowsky; 1959; LB; USSR;  
freshwater; M3vi

## COLPODA Mueller

*Colpoda inflata* (Stokes)

CCAP 1615/2 West; 1971; LB; England;  
freshwater; M3vi

*Colpoda steinii* Maupas

CCAP 1615/3 Page; 1974; LB; England; soil; M3vi

## COSMARIUM Ralfs

*Cosmarium bioculatum* Breb.

CCAP 612/17 Jaworski; 1967; LB; England;  
freshwater; M3

*Cosmarium botrytis* Meneghini

CCAP 612/1a Pringsheim; A; Germany; freshwater;  
M1  
CCAP 612/4 Ondracek; AB; freshwater; M2  
CCAP 612/5 Ondracek; A; freshwater; M1

*Cosmarium botrytis* var. *depressum* W. & G. S.  
West

CCAP 612/1b Christensen; 1956; LB; Denmark;  
freshwater; M3

*Cosmarium contractum* Kirch. var. *ellipsoideum*  
(Elfv.) W. & G.S. West

CCAP 612/16 Lund; 1958; LB; England;  
freshwater; M3

*Cosmarium cucumis* Corda

CCAP 612/10 Ondracek; AB; freshwater; M2

*Cosmarium formulosum* Hoff

CCAP 612/7 Ondracek; A; freshwater; M2

*Cosmarium impressulum* Elfv.

CCAP 612/2 Czurda; 1925; A; Czechoslovakia;  
freshwater; M1

*Cosmarium lundellii* Delponte

CCAP 612/15 Lefevre; 1929; LB; France;  
freshwater; M3

*Cosmarium praemorsum* Breb.

CCAP 612/13 George; 1951; AB; England;  
freshwater; M2

*Cosmarium subtumidum* Nordsted

CCAP 612/8a Ondracek; A; freshwater; M1  
CCAP 612/8b Ondracek; A; freshwater; M1  
CCAP 612/11 Ondracek; AB; freshwater; M2  
CCAP 612/12 Lewin; 1950; A; USA; freshwater; M1

*Cosmarium turpinii* Breb.

CCAP 612/14a Starr; LB; heterothallic pair with  
612/14b; freshwater; M3  
CCAP 612/14b Starr; LB; heterothallic pair with  
612/14a; freshwater; M3

## CRICOSPHAERA Braarud

*Cricosphaera carterae* (Braarud & Fagerland)  
Braarud = *Hymenomonas carterae* (Braarud  
& Fagerland) Braarud*Cricosphaera* aff. *carterae*

CCAP 961/2 Adams; 1958; LB; England; marine;  
M11  
CCAP 961/5 Adams; 1956; LB; England; marine;  
M11

*Cricosphaera elongata* (Droop) Braarud

CCAP 961/3 Droop; LB; England; marine; M11; T

*Cricosphaera gayraliae* Beuffe

CCAP 912/1 Pringsheim; LB; Isle of Man;  
marine; M11

*Cricosphaera* sp. indet.

CCAP 961/4 Von Stosch; LB; marine; M11

*CRUCIGENIA* Morren*Crucigenia tetrapedia* (Kirch.) W. & G. S. West

CCAP 218/3 Starr; N; USA; freshwater; M1

*CRUCIGENIELLA* Lemmermann*Crucigeniella apiculata* (Lemmermann) Komarek

CCAP 218/1 Burrelly; N; freshwater; M1

*Crucigeniella rectangularis* (Naeg.) Komarek

CCAP 218/2 Pringsheim; 1951; A &amp; N; France; freshwater; M1

*CRYPTODIFFLUCIA* Penard*Cryptodiffugia oviformis* Penard

CCAP 1514/1 Page; 1964; (28); AB; USA; freshwater; M20 +b

CCAP 1514/2 Hedley; 1968; AB; Wales; moss; M20 +b

*CRYPTOGLENA* Ehr.*Cryptoglana pigra* Ehr.

CCAP 1212/1 Pringsheim; 1947; LB; England; freshwater; M3

*CRYPTOMONAS* Ehr.*Cryptomonas abbreviata* Butcher

CCAP 979/16 Butcher; 1960; LB; Guernsey; marine; M11

*Cryptomonas acuta* Butcher

CCAP 979/10 Butcher; LB; Wales; marine; M11; T

*Cryptomonas appendiculata* Butcher

CCAP 979/13 Parke; 1950; LB; Scotland; marine; M11

*Cryptomonas calceiformis* Lucas

CCAP 979/6 Jowett; 1966; LB; England; marine; M11; T

*Cryptomonas chrysoidea* Butcher

CCAP 979/8 Butcher; 1953; LB; England; brackish; M11; T

*Cryptomonas irregularis* Butcher

CCAP 979/7 Butcher; LB; England; marine; M11; T

*Cryptomonas maculata* Butcher

CCAP 979/14 Parke; 1950; LB; England; marine; M11; T

CCAP 979/17 Butcher; LB; England; marine; M11

*Cryptomonas major* Butcher

CCAP 979/11 Butcher; 1958; LB; England; marine; M11; T

*Cryptomonas ozolini* Skuja

CCAP 979/60 Fuller; 1978; LB; USA; freshwater; M3

*Cryptomonas pseudobaltica* Butcher

CCAP 979/9 Butcher; 1961; LB; Germany; marine; M11; T

*Cryptomonas reticulata* Lucas

CCAP 979/15 Jowett; 1965; LB; England; marine; M11

*Cryptomonas* spp. indet.

CCAP 979/18 LB; Plymouth No. 65; marine; M11

CCAP 979/20 Pringsheim; LB; freshwater; M3

CCAP 979/21 Pringsheim; LB; freshwater; M3

CCAP 979/22 Pringsheim; LB; freshwater; M3

CCAP 979/23 Pringsheim; LB; freshwater; M3

CCAP 979/25 Pringsheim; LB; freshwater; M3

CCAP 979/26 Pringsheim; LB; freshwater; M3

CCAP 979/27 Pringsheim; LB; freshwater; M3

CCAP 979/28 Pringsheim; LB; freshwater; M3

CCAP 979/29 Pringsheim; LB; freshwater; M3

CCAP 979/30 Pringsheim; LB; freshwater; M3

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CCAP 979/32 Pringsheim: LB; freshwater; M3  
 CCAP 979/33 Pringsheim: LB; freshwater; M3  
 CCAP 979/35 Pringsheim: LB; freshwater; M3  
 CCAP 979/36 Pringsheim: LB; freshwater; M3  
 CCAP 979/37 Pringsheim: LB; freshwater; M3  
 CCAP 979/38 Pringsheim: LB; freshwater; M3  
 CCAP 979/39 Pringsheim: LB; freshwater; M3  
 CCAP 979/40 Pringsheim: LB; freshwater; M3  
 CCAP 979/41 Pringsheim: LB; freshwater; M3  
 CCAP 979/42 Pringsheim: LB; freshwater; M3  
 CCAP 979/44 Pringsheim: LB; freshwater; M3  
 CCAP 979/45 Pringsheim: LB; freshwater; M3  
 CCAP 979/46 Pringsheim: LB; freshwater; M3  
 CCAP 979/47 Pringsheim: LB; freshwater; M3  
 CCAP 979/48 Pringsheim: LB; freshwater; M3  
 CCAP 979/49 Pringsheim: LB; freshwater; M3  
 CCAP 979/50 Pringsheim: LB; freshwater; M3  
 CCAP 979/51 Pringsheim: LB; freshwater; M3  
 CCAP 979/52 Pringsheim: LB; freshwater; M3  
 CCAP 979/53 Pringsheim: LB; France; freshwater;  
 M3  
 CCAP 979/54 Pringsheim: LB; freshwater; M3  
 CCAP 979/55 Pringsheim: LB; freshwater; M3  
 CCAP 979/56 Pringsheim: LB; freshwater; M3  
 CCAP 979/57 Pringsheim: LB; freshwater; M3  
 CCAP 979/58 Pringsheim: LB; freshwater; M3  
 CCAP 979/59 Pringsheim: LB; freshwater; M3

*CYANIDIUM* Geitler*Cyanidium caldarium* Geitler emend. Hirose

CCAP 1355/1 Allen: LB; freshwater; medium on request  
 CCAP 1355/2 Taddei: AB; Italy; freshwater; medium on request  
 CCAP 1355/3 Taddei: AB; Italy; freshwater; medium on request  
 CCAP 1355/4 Taddei: AB; Italy; freshwater; medium on request  
 CCAP 1355/5 Taddei: AB; Italy; freshwater; medium on request  
 CCAP 1355/6 Taddei: AB; Italy; freshwater; medium on request  
 CCAP 1355/7 Taddei: AB; Italy; freshwater; medium on request  
 CCAP 1355/8 Taddei: AB; Italy; freshwater; medium on request  
 CCAP 1355/9 Taddei: AB; Italy; freshwater; medium on request  
 CCAP 1355/10 Taddei: AB; Italy; freshwater; medium on request  
 CCAP 1355/11 Taddei: AB; Italy; freshwater; medium on request  
 CCAP 1355/12 Taddei: AB; Italy; freshwater; medium on request  
 CCAP 1355/13 Taddei: AB; Italy; freshwater; medium on request

CCAP 1355/14 Taddei: AB; Italy; freshwater; medium on request  
 CCAP 1355/15 Taddei: AB; Italy; freshwater; medium on request  
 CCAP 1355/16 Taddei: AB; Italy; freshwater; medium on request

*CYANOPHORA* Korsh.*Cyanophora paradoxa* Korsh.

CCAP 981/1 Pringsheim: LB; freshwater; M3

*CYCLIDIUM* Mueller*Cyclidium glaucoma* Mueller

CCAP 1616/1 George: 1962; LB; USSR; freshwater; M3vi

*CYCLOTELLA* Kuetz.*Cyclotella cryptica* Reimann et al.

CCAP 1070/2 Provasoli (?); LB; marine; M11

*CYLINDROCAPSA* Reinsch*Cylindrocapsa involuta* Reinsch

CCAP 314/1 George: 1950; LB; England; freshwater; M3; identity doubtful

*CYLINDROCYSTIS* Meneghini*Cylindrocystis brebissonii* Meneghini

CCAP 615/1a George: 1948; A; England; moss; M3  
 CCAP 615/2 Hoham: 1968; A; USA; snow; M2

*CYLINDROSPERMUM* Kuetz.*Cylindrospermum* aff. *alatosporum* Fritsch

CCAP 1415/3 Wilcox: 1971; AB; England; freshwater; M17

*Cylindrospermum maius* Kuetz.

CCAP 1415/2 Komarek: AB; Czechoslovakia; freshwater; M17

*Cylindrospermum* sp. indet.

CCAP 1415/1 Fogg; 1945; LB; freshwater; M3

*DICRATERIA* Parke*Dicrateria inornata* Parke*DACTYLOCOCCUS* Naeg.*Dactylococcus bicaudatus* A. Br.

CCAP 915/1 Gross; 1935/6; LB; England; marine; M1; T

CCAP 223/1 Flint; 1959; N; New Zealand; soil; M1

*DICTYOCHLORIS* Vischer ex Starr*Dictyochloris fragrans* Vischer ex Starr*DERBESIA* Solier*Derbesia tenuissima* (DeNot) Crouan

CCAP 220/1 Vischer; 1942; AB; Switzerland; soil; M2; T

CCAP 706/1 Starr; 1959; LB; Mediterranean; marine; M1

CCAP 249/3 Pringsheim; 1940; A; England; soil; M1

*DERMAMOEBIA* Page & Blakey*Dermamoeba granifera* (Greeff)*DICTYOCHLOROPSIS* Geitler*Dictyochloropsis splendida* GeitlerCCAP 1583/5 Page; 1973; ABX; accompanied by *Acanthamoeba*; England; soil; M1Bagar + b

CCAP 225/1 Tschermak-Woess; 1975; AB; Austria; lichen; M2

*DERMOCARPA* Crouan*Dermocarpa violacea* Crouan*DICTYOCOCCUS* Gerneck*Dictyococcus varians* Gerneck emend. Starr

CCAP 1416/1 Lewin; 1965; AB; USA; marine; medium on request

CCAP 221/5 Starr; 1951; LB; Scotland; freshwater; M3; T

*DIACRONEMA* Prauser*Diacronema ulkianum* Prauser*DICTYOSPHAERIUM* Naeg.*Dictyosphaerium ehrenbergianum* Naeg.CCAP 914/1 Butcher; LB; England; marine; M1  
CCAP 914/2 Hibberd; 1975; LB; England; soil; M3

CCAP 222/1c Jaworski; 1966; LB; England; freshwater; M3

*Dictyosphaerium pulchellum* Wood*DICHOTOMOSIPHON* Ernst*Dichotomosiphon tuberosus* (A. Br.) Ernst

CCAP 222/1a Pringsheim; 1940; A; England; freshwater; M1

CCAP 222/2a George; 1949; A; France; freshwater; M1

CCAP 222/2b Lewin; 1952; A; Canada; freshwater; M1

CCAP 707/1 Korn; 1960; LB; USA; freshwater; M3

CCAP 222/2c Bucka; AB; Poland; freshwater; M2

CCAP 222/2d Jaworski; 1972; LB; England; freshwater; M3

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*DICTYOSTELIUM* Brefeld*Dictyostelium discoideum* RaperCCAP 1515/2 Ashworth; 1969: (Ax-2); AB;  
England; M20 +b*Dictyostelium mucoroides* BrefeldCCAP 1515/1 Page; 1964; AB; USA; freshwater;  
M20 +b*DIDINIUM* Stein*Didinium nasutum* (Mueller)

CCAP 1617/2 LBX; England; freshwater; M18

*DILABIFILUM* Tschermak-Woess*Dilabifilum arthopyreniae* (Vischer & Klement)  
Tschermak-WoessCCAP 415/2 Tschermak-Woess; AB; Jugoslavia;  
freshwater; M2*Dilabifilum incrustans* (Vischer) Tschermak-WoessCCAP 415/1 Tschermak-Woess; 1970; AB; Austria;  
plant material; M2*Dilabifilum printzii* (Vischer) Tschermak-WoessCCAP 467/1 Vischer; 1926; AB; Switzerland;  
freshwater; M2; T; type of  
*Pseudopleurococcus printzii*  
Vischer*DILEPTUS* Duj.*Dileptus anser* (OFM)CCAP 1612/1 Golinska; 1974; LBX; Poland;  
freshwater; M21*DIMORPHOCOCCUS* A. Br.*Dimorphococcus lunatus* A. Br.

CCAP 224/1 Bourrelly; N; freshwater; M1

*DIPLOSPHAERA* Bialosuknia emend. Vischer*Diplosphaera* sp. indet.

CCAP 416/1 Vischer; N; freshwater; M1

*DISCOPHYRYA* Lachmann*Discophrya collini* (Root)CCAP 1618/2 Paulin & Cook; 1967; LBX; USA;  
freshwater; medium on request*DISTIGMA* Ehr.*Distigma curvata* Pringsheim var. *major*  
PringsheimCCAP 1216/1 Pringsheim; 1935; (ON 375); LB;  
Czechoslovakia; freshwater; M3vi; T*Distigma gracilis* PringsheimCCAP 1216/2 Pringsheim; 1936; (ON 376); LB;  
Austria; soil; M3vi; T*Distigma proteus* Ehr.CCAP 1216/3a Pringsheim; (ON 378); LB;  
Czechoslovakia; soil; M3viCCAP 1216/3b Pringsheim; LB; England;  
freshwater; M3viCCAP 1216/3c Pringsheim; 1948; LB; England;  
freshwater; M3vi*Distigma sennii* PringsheimCCAP 1216/4 Pringsheim; 1940; (ON 377); LB;  
England; freshwater; M3vi; T*DRAPARNALDIA* Bory*Draparnaldia plumosa* (Vaucher) Ag.

CCAP 418/1a Reynolds; LB; Wales; freshwater; M3

*DUNALIELLA* Teodoresco*Dunaliella bioculata* Butcher

CCAP 19/4 Mainx; N; USSR; marine; M12; T

*Dunaliella euchlora* Lerche

CCAP 19/11 Frost; N; marine; M12

*Dunaliella minuta* Lerche

CCAP 19/5 Jowett; 1967; N; France; marine;  
M12

*Dunaliella parva* Lerche

CCAP 19/9 Butcher; 1956; LB; England; marine;  
M11

CCAP 19/10 Ginzberg; 1967; A; Dead Sea;  
saline; M14

*Dunaliella parva* Lerche f. *eugametos* Lerche

CCAP 19/1 Pringsheim; A & N; Germany?;  
marine; M12; material from Lerche

*Dunaliella perpei* Nicolai

CCAP 19/2 Pringsheim; 1935; A; marine; medium  
on request

*Dunaliella polymorpha* Butcher

CCAP 19/7a Butcher; 1960; N; England; marine;  
M12

CCAP 19/7b Butcher; 1959; LB; England; marine;  
M11

CCAP 19/7c Butcher; 1954; LB; England; marine;  
M11

*Dunaliella primolecta* Butcher

CCAP 11/34 George; 1950; N; England; marine;  
M12; T; from Gross's Plymouth  
*Chlamydomonas* 1

*Dunaliella quartiolecta* Butcher

CCAP 19/8 Butcher; 1953; N; England; marine;  
M12

*Dunaliella satina* (Dunal) Teodoresco

CCAP 19/3 Mainx; A; marine; medium on request

*Dunaliella tertiolecta* Butcher

CCAP 19/6a Butcher; N; England; marine; M12; T

CCAP 19/6b Foyn; 1928; A; Norway; marine; M14;  
T; treated with antibiotics

*Dunaliella* spp. indet.

CCAP 19/12 Ginzberg; 1976; LB; Israel; M11

CCAP 19/13 Ginzberg; 1976; N; Israel; M12

CCAP 19/14 Ginzberg; 1976; A; Israel; M14

CCAP 19/15 Ginzberg; 1976; N; Israel; M12

CCAP 19/16 Provasoli; A; Provasoli 'gold';  
marine; M14

*DYSMORPHOCOCCUS* Takeda*Dysmorphococcus globosus* Bold & Starr

CCAP 20/1 Bold; 1951; LB; USA; freshwater;  
M3; T

*ECHINAMOEBA* Page*Echinamoeba exundans* (Page)

CCAP 1534/4 Page; 1965; (46); AB; USA;  
freshwater; M20 +b; T

*Echinamoeba silvestris* Page

CCAP 1519/1 Page; 1973; AB; England; soil;  
M20 +b; T

*ECHINOSPHAERIUM* Hovasse; see *Actinosphaerium**ECTOCARPUS* Lyngbye*Ectocarpus variabilis* Vickers?

CCAP 1310/1 Lewin; LB; USA; marine; M11

*ELAKATOTHRIX* Wille*Elakatothrix viridis* (Snow) Printz

CCAP 227/1 Bourrelly; AB; freshwater; M3

*ELLIPSOIDION* Pascher*Ellipsoidion acuminatum* Pascher; see  
*Pseudocharaciopsis ovalis*

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P? = possibly pathogenic to man but not proven; T = descent from type material;  
X = organisms other than bacteria present.

**EMILIANIA** Hay & Mohler*Emiliana huxleyi* (Lohm.) Hay & Mohler

- CCAP 920/1a Parke: 1950; LB; England; marine;  
M11
- CCAP 920/1c Parkins: 1971; LB; England; marine;  
M11

**ENDOTRYPANUM** Mesnil & Brimont*Endotrypanum schaudinni* Mesnil & Brimont

- CCAP 1931/1 Herrer: 1965; N; Panama; *Bradypus*  
*infuscatus*; M22 or M23

**ENTAMOEBA** Leidy*Entamoeba invadens* Rodhain

- CCAP 1523/1 Barker: 1963; (TR 1); LB;  
Madagascar; *Testudo radiata*;  
medium on request
- CCAP 1523/2 Barker: 1963; (ZM); LB; Madagascar;  
*Charamodon madagascariensis*;  
medium on request

**ENTOPHYSALIS** Kuetz.*Entophysalis rivularis* (Kuetz.) Drouet

- CCAP 1422/1 Norby: AB; freshwater; M17

**ENTOSIPHON** Stein*Entosiphon sulcatum* (Duj.) Stein

- CCAP 1220/1a George: 1965; LBX; England;  
freshwater; M3v +diatoms
- CCAP 1220/1b George: 1966; LBX; England;  
freshwater; M3v +diatoms

**EREMOSPHAERA** De Bary*Eremosphaera gigas* (Archer) Fott & Kalina

- CCAP 257/4 Staff: 1952; LB; USA; freshwater;  
M3

*Eremosphaera viridis* De Bary

- CCAP 228/1b Whybrow: 1959; LB; England;  
freshwater; M3

**EUASTRUM** Ralfs*Euastrum verrucosum* (Ehr.) Ralfs

- CCAP 624/1 Ott: 1961; LB; USA; freshwater; M3

**EUDORINA** Ehr.*Eudorina charkowiensis* (Korsh.) Pascher; see  
*Pleodorina charkowiensis* Korsh.*Eudorina elegans* Ehr.

- CCAP 24/1a Mainx: A; Czechoslovakia;  
freshwater; M1
- CCAP 24/1b Rodhe: A; Sweden; freshwater; M1

*Eudorina illinoisensis* (Kofoid) Pascher; see  
*Pleodorina illinoisensis* Kofoid*Eudorina unicocca* Smith

- CCAP 24/1c Starr: AB; +strain; USA;  
freshwater; M2
- CCAP 24/1d Starr: AB; -strain; USA;  
freshwater; M2

**EUGLENA** Ehr.*Euglena acus* Ehr. var. *gracilis* Pringsheim

- CCAP 1224/1d Pringsheim: 1943; LB; England;  
freshwater; M3; T

*Euglena acus* Ehr. var. *major* Pringsheim

- CCAP 1224/1b Pringsheim: 1940; LB; England;  
freshwater; M3; T

*Euglena anabaena* Mainx

- CCAP 1224/15b Pringsheim: 1940; A; England;  
freshwater; M6
- CCAP 1224/15c Pringsheim: 1941; A; England;  
freshwater; M6

*Euglena anabaena* var. *minor* Mainx

- CCAP 1224/2 Mainx: 1924; A; Czechoslovakia;  
freshwater; M6; T
- CCAP 1224/15d Pringsheim: 1943; LB; England;  
freshwater; M3

*Euglena cantabrica* Pringsheim

- CCAP 1224/33 Pringsheim: 1943; LB; England;  
freshwater; M3; T



*Euglena caudata* Hubner

CCAP 1224/24b Pringsheim; LB; England;  
freshwater; M3

*Euglena clara* Skuja

CCAP 1224/27 Pringsheim; 1949; LB; England;  
freshwater; M3

*Euglena communis* Gojdics

CCAP 1224/35 Leedale; 1957; LB; Scotland;  
freshwater; M3

*Euglena cuneata* Pringsheim

CCAP 1224/32a Pringsheim; 1944; LB; England;  
freshwater; M3; T

CCAP 1224/32b Pringsheim; 1945; LB; England;  
freshwater; M3; T

*Euglena deses* Ehr.

CCAP 1224/3 Pringsheim; 1941; LB; England;  
freshwater; M3

CCAP 1224/19a Pringsheim; 1940; LB; England;  
freshwater; M3

CCAP 1224/19b Pringsheim; 1943; LB; England;  
freshwater; M3

CCAP 1224/19c Pringsheim; 1943; LB; England;  
freshwater; M3

CCAP 1224/19d Pringsheim; LB; freshwater; M3; as  
"var. *intermedia*?"

CCAP 1224/20 Dusi; LB; freshwater; M3; type  
material of *Euglena mesnili* Defl.

*Euglena ehrenbergii* Klebs

CCAP 1224/36 Pringsheim; LB; Germany;  
freshwater; M3

*Euglena geniculata* Duj.

CCAP 1224/4e Pringsheim; 1942; LB; England;  
freshwater; M3

CCAP 1224/4f Pringsheim; 1951; LB; Austria;  
freshwater; M3

*Euglena geniculata* var. *terricola* Dang.

CCAP 1224/4b Mainx; 1923; A; Czechoslovakia;  
freshwater; M6

CCAP 1224/4c Vischer; A; Switzerland;  
freshwater; M6

CCAP 1224/4d Pringsheim; 1943; LB; England;  
freshwater; M3

CCAP 1224/40a Pringsheim; LB; freshwater; M3;  
doubtful identity

CCAP 1224/40b Pringsheim; LB; freshwater; M3;  
doubtful identity

*Euglena gracilis* Klebs

CCAP 1224/5a Mainx; 1927; N; Czechoslovakia;  
freshwater; M6

CCAP 1224/5b Elmore-Sauer; 1935; N; freshwater;  
M6

CCAP 1224/5c Vischer; 1936; N; freshwater; M6

CCAP 1224/5d Pringsheim; 1950; N; freshwater; M6

CCAP 1224/5e Pringsheim; 1940; N; England;  
freshwater; M6

CCAP 1224/5g Pringsheim; 1939; N; freshwater;  
M6; gave rise to 1204/17d

CCAP 1224/5i Bourrelly/Pringsheim; 1948; N;  
freshwater; M6

CCAP 1224/5k Pringsheim; 1945; N; freshwater; M6

CCAP 1224/5l Pringsheim; 1945; N; freshwater; M6

CCAP 1224/5m Pringsheim; 1944; N; freshwater; M6

CCAP 1224/5n Pringsheim; 1948; N; England;  
freshwater; M6

CCAP 1224/5q Provasoli; 1948; N; freshwater; M6

CCAP 1224/5s Pringsheim; 1948; N; England;  
freshwater; M6

CCAP 1224/5u Hartshorne; 1950; N; England;  
freshwater; M6

CCAP 1224/5v Bourrelly/Pringsheim; 1948; N;  
freshwater; M6

CCAP 1224/5w Pringsheim; 1948; N; England; soil;  
M6

CCAP 1224/5x Pringsheim; 1949; N; France;  
freshwater; M6

CCAP 1224/5y Pringsheim; 1949; N; England;  
freshwater; M6

CCAP 1224/5z Pringsheim; 1950; A & N;  
freshwater; M6; 'z' strain, widely  
used for bioassay of vitamin B<sub>12</sub>

*Euglena gracilis* var. *saccharophila*

CCAP 1224/5h Lackey; N; freshwater; M6; gave  
rise to 1204/17e

CCAP 1224/5r Pringsheim; 1946; N; England;  
freshwater; M6

CCAP 1224/5t Pringsheim; 1945; N; England;  
freshwater; M6

Abbreviations: A = agar slope; +b = bacteria added to medium as a food organism; B = bacteria present;  
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M1, M2, M3, ... = media suitable for routine cultivation; N = cryopreserved; P = proven pathogen to man;  
P? = possibly pathogenic to man but not proven; T = descent from type material;  
X = organisms other than bacteria present.

- CCAP 1224/6 Provasoli; 1948; N; freshwater; M6;  
as var. *urophora*
- CCAP 1224/7a Cori; 1938; A & N; M6; as var.  
*bacillaris*
- CCAP 1224/7b Gross & Jahn; 1979; L; freshwater;  
M6; colourless mutant of 1224/7a,  
SM-L1

*Euglena granulata* (Klebs) Schmitz

- CCAP 1224/8b Provasoli; LB; freshwater; M3; from  
type material of *Euglena*  
*rostrifera* Johnson
- CCAP 1224/8c Pringsheim; LB; England;  
freshwater; M6

*Euglena laciniata* Pringsheim

- CCAP 1224/31 Pringsheim; 1952; LB; Austria;  
freshwater; M3; T

*Euglena limnophila* Lemmermann

- CCAP 1224/23 Pringsheim; LB; England;  
freshwater; M3

*Euglena magnifica* Pringsheim

- CCAP 1224/30 Pringsheim; 1945; LB; England;  
freshwater; M3; T

*Euglena mesnili* Deflandre & Dusi; see *Euglena*  
*deses* 1224/20*Euglena mutabilis* Schmitz

- CCAP 1224/9a Pringsheim; A; England; freshwater;  
M6
- CCAP 1224/9b Mainx; 1924; A; Czechoslovakia;  
freshwater; M6
- CCAP 1224/9c Lewin; A; Canada; freshwater; M6
- CCAP 1224/9d Pringsheim; 1943; LB; England;  
freshwater; M3

*Euglena myxocylindrica* Bold & MacEntee var.  
*terricola* Bold & MacEntee

- CCAP 1224/21 Lewin; 1950; N; USA; freshwater;  
M6; T

*Euglena pisciformis* Klebs

- CCAP 1224/18f Pringsheim; 1949; LB; England;  
freshwater; M3
- CCAP 1224/18g Pringsheim; 1948; LB; England;  
freshwater; M3
- CCAP 1224/18h Pringsheim; 1948; LB; England;  
freshwater; M3
- CCAP 1224/39 Pringsheim; 1947; LB; England;  
freshwater; M3; doubtful identity

*Euglena pisciformis* var. *fallax* Pringsheim

- CCAP 1224/18c Pringsheim; 1943; LB; England;  
freshwater; M3

*Euglena pisciformis* var. *lata* Pringsheim

- CCAP 1224/18d Pringsheim; 1943; LB; England;  
freshwater; M3

*Euglena pisciformis* var. *procera* Pringsheim

- CCAP 1224/18b Pringsheim; 1951; LB; France;  
freshwater; M3; T

*Euglena pisciformis* var. *striata* Pringsheim

- CCAP 1224/18e Pringsheim; 1945; LB; England;  
freshwater; M3

*Euglena polymorpha* Dang.

- CCAP 1224/26 Pringsheim; 1938; LB;  
Czechoslovakia; freshwater; M3

*Euglena proxima* Dang.

- CCAP 1224/11e A; freshwater; M6; doubtful  
identity

*Euglena sociabilis* Dang.

- CCAP 1224/12a Pringsheim; 1938; LB;  
Czechoslovakia; freshwater; M3
- CCAP 1224/12b Pringsheim; 1940; LB; England;  
freshwater; M3

*Euglena spirogyra* Ehr.

- CCAP 1224/13a Pringsheim; 1938; LB;  
Czechoslovakia; freshwater; M3
- CCAP 1224/13b Pringsheim; 1943; LB; England;  
freshwater; M3

*Euglena splendens* Dang.

- CCAP 1224/29a Pringsheim; 1944; LB; England;  
freshwater; M3

*Euglena stellata* Mainx

- CCAP 1224/14 Mainx; Pre 1926; A; Czechoslovakia;  
freshwater; M6; T

*Euglena tripteris* (Duj.) Klebs

- CCAP 1224/16a Pringsheim; 1936; LB; Austria;  
freshwater; M3
- CCAP 1224/16b Pringsheim; 1943; LB; England;  
freshwater; M3

*Euglena tristella* Chu

CCAP 1224/34 Pringsheim; LB; freshwater; M3

*Euglena velata* Klebs

CCAP 1224/25 Pringsheim; 1944; LB; England; freshwater; M3

*Euglena viridis* Ehr.

CCAP 1224/17a Pringsheim; 1940; LB; England; freshwater; M3

CCAP 1224/17b Pringsheim; LB; freshwater; M3

CCAP 1224/17f Pringsheim; 1940; LB; England; freshwater; M3

CCAP 1224/17g Pringsheim; 1941; LB; England; freshwater; M3

CCAP 1224/17h Pringsheim; 1943; LB; England; freshwater; M3

CCAP 1224/17k Pringsheim; 1944; LB; England; freshwater; M3

CCAP 1224/17l Pringsheim; 1949; LB; England; freshwater; M3

CCAP 1224/17m Pringsheim; 1949; LB; England; freshwater; M3

CCAP 1224/17n Pringsheim; 1949; LB; England; freshwater; M3

CCAP 1224/17p Pringsheim; 1950; LB; England; freshwater; M3

CCAP 1224/17q Pringsheim; 1949; LB; England; freshwater; M3

*Euglena* sp. indet.

CCAP 1224/38 Leedale; LB; freshwater; M3

**EUGLYPHA** Duj.*Euglypha acanthophora* (Ehr.)

CCAP 1520/3 Hedley; 1972; ALB; England; freshwater; medium on request

*Euglypha rotunda* WailesCCAP 1520/1 Hedley & Battershall; 1968; ALB; England; *Sphagnum*; medium on request*Euglypha strigosa* (Ehr.)CCAP 1520/2 Hedley; 1970; ALB; England; *Sphagnum*; medium on request**EUPLOTES** Ehr.*Euplotes charon* (Mueller) Ehr.

CCAP 1624/5 Curds; 1974; (QVANNQ/3); LB; Denmark; marine; M11 +rice

*Euplotes muscicola* Kahl

CCAP 1624/6 Gates; 1974; (Channing/2); LB; USA; freshwater; medium on request

CCAP 1624/7 Gates; 1973; (FWS/3); LB; Canada; freshwater; medium on request

*Euplotes parkei* Curds

CCAP 1624/3 Parke; 1972; LB; Austria; marine; M11 +rice; T

*Euplotes patella* (Mueller) Ehr.CCAP 1624/8 Curds; 1977; (116FE); LB; USA; freshwater; M2liquid +*Chilomonas* +rice*Euplotes rariseta* Curds et al.

CCAP 1624/2a Andrews; 1971; LB; Wales; marine; M11 +rice

*Euplotes vannus* (Mueller) Minkjewicz

CCAP 1624/9 Gates; 1977; (C66/3); LB; Wales; marine; M11 +rice

CCAP 1624/10 Gates; 1977; (C68/3); LB; Wales; marine; M11 +rice

CCAP 1624/11 Curds; 1976; LB; England; marine; M11 +rice

CCAP 1624/12 Gates; 1977; (Kuwait/4); LB; Kuwait; marine; M11 +rice

CCAP 1624/13 Lovegrove; 1976; LB; England; marine; M11 +rice

CCAP 1624/14 Hering; 1976; LB; South Africa; marine; M11 +rice

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*EUSTIGMATOS* Hibberd*Eustigmatos magnus* (J. B. Petersen) Hibberd

CCAP 860/4 Flint; N; New Zealand; freshwater;  
M1

*Eustigmatos polyphem* (Pitschmann) Hibberd

CCAP 860/8 Pitschmann; 1969; AB; Kenya; soil;  
M2; T

*Eustigmatos vischeri* Hibberd

CCAP 860/1a Vischer; 1940; N; freshwater; M1; T  
CCAP 860/1b Flint; N; New Zealand; freshwater;  
M1  
CCAP 860/5 Adamson; pre-1977; AB; USA;  
freshwater; M2  
CCAP 860/6 Adamson; pre-1977; AB; USA;  
freshwater; M2  
CCAP 860/7 Trenkwalder; 1975; AB; Austria;  
soil; M2

*EUTREPTIA* Perty*Eutreptia lanowii* Steuer

CCAP 1228/2 Pringsheim; 1951; LB; England;  
brackish; medium on request

*Eutreptia pertyi* Pringsheim

CCAP 1228/3 Pringsheim; LB; England; brackish;  
medium on request; T

*Eutreptia viridis* Perty

CCAP 1228/1a Pringsheim; LB; England; brackish;  
medium on request  
CCAP 1228/1b Pringsheim; LB; England; brackish;  
medium on request  
CCAP 1228/1c Pringsheim; pre-1951; LB; England;  
brackish; medium on request

*EUTREPTIELLA* Da Cunha*Eutreptiella gymnastica* Thronsdén

CCAP 1227/4 Thronsdén; 1964; LB; Norway;  
marine; M11; T

*Eutreptiella* sp. indet.

CCAP 1227/2 Jowett; 1965; LB; England; marine;  
M11  
CCAP 1227/3 Jowett; 1965; LB; England; marine;  
M11

*FILAMOEBIA* Page*Filamoeba nolandi* Page

CCAP 1526/1 Page; 1964; (22); AB; USA;  
freshwater; M20 +b; T

*FISCHERELLA* Gomont*Fischerella muscicola* (Thuret) Gomont

CCAP 1427/1 Mitra; LB; freshwater; M3

*Fischerella* sp. indet.

CCAP 1427/2 Komarek; 1964; AB; Cuba; plant  
material; M2

*FLABELLULA* Schaeffer*Flabellula calkinsi* (Hogue)

CCAP 1529/1 Page; 1969; (80); AB; USA; marine;  
M19 +b

*Flabellula citata* Schaeffer

CCAP 1529/2 Page; 1969; (90); AB; USA; marine;  
M19 +b

*Flabellula demetica* Page

CCAP 1529/3 Page; 1978; AB; Wales; marine;  
M19 +b; T

CCAP 1529/4 Page; 1972; AB; England; marine;  
M19 +b; T

*FOTTEA* Hindak*Fottea pyrenoidosa* Broady

CCAP 326/1 Broady; 1973; AB; Antarctica; soil;  
M2; T

*FRANCEIA* Lemmermann*Franceia amphitricha* (Lagerh.) Hegewald

CCAP 226/1 Hegewald; 1973; AB; Peru;  
freshwater; M2

## FREMYELLA J. de Toni

*Fremyella diplosiphon* (Born. & Flah.) Drouet

CCAP 1429/1 Strout; 1952; AB; freshwater; M2

## FRITSCHIELLA Iyengar

*Fritschiella tuberosa* Iyengar

CCAP 428/2 McBride; 1971; LB; India; soil; M3

## FUSOLA Snow

*Fusola viridis* Snow; see *Elakotothrix viridis*

## GEMINELLA Turpin

*Geminella* sp. indet.

CCAP 333/1 Lund; 1958; LB; England; freshwater; M3

## GLAESERIA Volkonsky

*Glaeseria mira* (Glaeser)

CCAP 1531/1 Page; 1972; AB; England; freshwater; M20 +b

## GLAUCOCYSTIS Itzigsohn

*Glaucocystis nostochinearum* Itzigsohn

CCAP 229/1 George; AB; England; freshwater; M2

## GLAUCOSPHAERA Korsh.

*Glaucosphaera vacuolata* Korsh.

CCAP 130/1 Starr; LB; freshwater; M3

GLENODINIUM; see *Peridinium*

## GLOEOCAPSA Kuetz.

*Gloeocapsa alpicola* (Lyngbye) Born.; see *Anacystis montana**Gloeocapsa* spp. indet.

CCAP 1430/2 Allen; 1965; LB; USA; freshwater; M3

CCAP 1430/3 Markle; AB; freshwater; M17

## GLOEOCOCCUS A. Br.

*Gloeococcus maximus* (Mainx) Fott & Novakova

CCAP 31/1 Mainx; 1925; A; Czechoslovakia; freshwater; M1; T

## GLOEOCYSTIS Naeg.

*Gloeocystis vesiculosa* Naeg.

CCAP 31/3 Lewin; 1950; A; USA; freshwater; M1

## GLOEODINIUM Klebs

*Gloeodinium montanum* Klebs

CCAP 1120/1 von Stosch; AB; Germany; plant material; M2

## GLOEOMONAS Klebs

*Gloeomonas kupfferi* (Skuja) Gerloff

CCAP 33/1 Bourelly; LB; freshwater; M3

## GLOEOTRICHIA Ag.

*Gloeotrichia echinulata* (Smith) Richter

CCAP 1432/1 George; 1950; LB; Sweden; freshwater; M3

## GOLENKINIOPSIS Korsh.

*Golenkiniopsis parvula* (Woronich) Korsh.; see *Micractinium pusillum*

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*COMONTIA* Born. & Flah.*Comontia* ? sp. indet.

CCAP 432/1 Lewin; LB; Canada; marine; M11

*COMPHONEMA* Ag.*Comphonema parvulum* Kuetz.

CCAP 1032/1 Lewin; 1949; AB; USA; freshwater; M2

*CONGROSIRA* Kuetz.*Congrosira terricola* Bristol

CCAP 434/1 Flint/King; AB; New Zealand; soil; M2

*CONIUM* Mueller*Conium pectorale* Mueller

CCAP 32/1a Pringsheim; 1940; A; England; freshwater; M1

CCAP 32/1b Droop; 1951; A; Finland; freshwater; M1

CCAP 32/1c Hibberd; 1972; LB; England; freshwater; M3

*Conium sociale* (Duj.) Warming

CCAP 32/2a Pringsheim; 1941; A; England; freshwater; M1

CCAP 32/2b Starr; 1951; A; England; freshwater; M1

CCAP 32/3 Meyer; AB; Germany; freshwater; M2

*CYROPAIGNE* Skuja*Cyropaigne lefevrei* Bourelly & Georges

CCAP 1233/1 Christen; pre-1965; LB; freshwater; M3vi

*CYROSICMA* Hassall emend. Cleve*Cyrosigma spenceri* (Wm. Smith) Griff. & Henfr.

CCAP 1034/1 Provasoli(?); LB; marine; M11

*HAEMATOCOCCUS* Flotow*Haematococcus capensis* Pocock

CCAP 34/4b George; LB; South Africa; freshwater; M3

*Haematococcus droebakensis* Wollenweber

CCAP 34/2g George; 1950; A; England; freshwater; M1

*Haematococcus droebakensis* var. *fastigata* Wollenweber

CCAP 34/3 Droop; 1951; LB; Finland; freshwater; M3

*Haematococcus lacustris* (Girod-Chantrans) Rostafinski

CCAP 34/1a Pringsheim; A; freshwater; M1

CCAP 34/1b Pringsheim; A; Czechoslovakia; freshwater; M1

CCAP 34/1c Mainx; A; Czechoslovakia; freshwater; M1

CCAP 34/1d Vischer; 1923; A; Switzerland; freshwater; M1

CCAP 34/1e George; 1950; AB; England; freshwater; M2

CCAP 34/1f Pringsheim; 1951; A; Spitsbergen; rock; M1

CCAP 34/1h Droop; 1951; A; Finland; freshwater; M1

CCAP 34/1j Lewin; 1951; AB; England; freshwater; M2

*Haematococcus zimbabwiensis* Pocock

CCAP 34/5 George; 1964; LB; Zimbabwe; freshwater; M3; material from Pocock

*HALOCHLORELLA* Dang.*Halochlorella rubescens* Dang. = *Chlorella emersonii* var. *rubescens* Fott et al.*HALOCHLOROCOCCUM* Dang.*Halochlorococcum marinum* Dang.

CCAP 233/1 Izard; 1965; AB; France; marine; M2 half strength; T

**HALOSPHERA** Schmitz*Halosphaera russellii* Parke

CCAP 135/1 Adams; 1961; LB; England; marine;  
M11; T

**HARTMANNELLA** Alexeieff*Hartmannella abertawensis* Page

CCAP 1534/9 Page; 1975; AB; Wales; marine;  
M19 +b; T

*Hartmannella cantabrigiensis* Page

CCAP 1534/8 Page; 1972; AB; England;  
freshwater; M20 +b; T

CCAP 1534/11 Page; 1972; AB; England;  
freshwater; M20 +b

*Hartmannella hibernica* Page

CCAP 1534/10 Page; 1978; AB; Ireland; marine;  
M19 +b; T

*Hartmannella vermiformis* Page

CCAP 1534/7a Page; 1964; (25); AB; USA;  
freshwater; M20 +b; T

CCAP 1534/7b Page; 1974; AB; England; soil;  
M20 +b

CCAP 1534/12 Page; 1964; (32); AB; USA;  
freshwater; M20 +b

**HEMISELMIS** Parke*Hemiselmis brunnescens* Butcher

CCAP 984/2 Parke; 1949; LB; marine; M11; T  
CCAP 984/6 Butcher?; LB; marine; M11

*Hemiselmis virescens* Droop

CCAP 984/5 Adams; 1956; LB; marine; M11

**HETERAMOEBIA** Droop*Heteramoeba clara* Droop

CCAP 1536/1 Droop; 1960; AB; Scotland; marine;  
M19 +b; T

**HETEROCOCCUS** Chodat*Heterococcus brevicellularis* Vischer

CCAP 835/1 Vischer; 1943; N; Switzerland;  
freshwater; M1; T

*Heterococcus caespitosus* Vischer

CCAP 835/2a Vischer; 1934; A; Germany;  
freshwater; M1; T

CCAP 835/2b Vischer; 1934; N; Switzerland;  
freshwater; M1

*Heterococcus chodatii* Vischer

CCAP 835/3 Chodat; A; freshwater; M1; T

*Heterococcus crassulus* Vischer

CCAP 835/4 Vischer; 1943; AB; Switzerland;  
freshwater; M2; T

*Heterococcus fuornensis* Vischer

CCAP 835/5 Vischer; 1945; N; Switzerland;  
freshwater; M1; T

*Heterococcus mainzii* Vischer

CCAP 835/6 Mainx; 1926; AB; Czechoslovakia;  
freshwater; M2; T

*Heterococcus marietanii* Vischer

CCAP 835/7 Vischer; 1936; A; Switzerland;  
freshwater; M1; T

*Heterococcus protonematoides* Vischer

CCAP 835/9 Vischer; 1945; A; Switzerland;  
freshwater; M1; T

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**X** = organisms other than bacteria present.

**HETEROGONIUM** Dang.*Heterogonium salinum* Dang.

CCAP 234/1 Lepaileur; A; France; marine; M15

**HETEROMASTIX** Korsh. = *Nephroselmis* Stein; see also *Bipedinomonas***HETEROMITA** Duj.*Heteromita globosa* Stein

CCAP 1961/1 Darbyshire; 1971; LB; Scotland; soil; M18 +grain

**HETEROTETRACYSTIS** Cox & Deason*Heterotetracystis macrogranulosa* Cox & Deason

CCAP 136/1 Cox; 1964; A; USA; freshwater; M1

**HETEROTHRIX** Pascher; see also *XANTHONEMA* Silva*Heterothrix antarctica* Broady

CCAP 836/6 Broady; 1973; AB; Antarctic; plant material; M2; T

**HILDENBRANDTIA** Nardo*Hildenbrandtia rivularis* (Lieben) J. Agardh

CCAP 1368/1 Ott; 1965; (O 341); LB; freshwater; M3

**HORMIDIELLA** Iyengar & Kanthamma*Hormidiella* ? sp. indet.

CCAP 334/1 Desikachary; pre-1977; AB; freshwater; M2

**HORMIDIUM** Klebs; see also *Klebsormidium**Hormidium crenulatum* Kuetz.; see *Ulothrix crenulata* (Kuetz.) Kuetz.**HYALOPHACUS** Pringsheim*Hyalophacus ocellatus* PringsheimCCAP 1237/1a Pringsheim; 1947; (ON 319); LB; England; freshwater; M3vi  
CCAP 1237/1b Christen; (Clone 2-1); LB; Switzerland; freshwater; M3vi**HYALORAPHIDIUM** Pascher & Korsh.*Hyaloraphidium curvatum* Korsh.

CCAP 235/1 Lewin; 1949; (ON 639); L; USA; freshwater; M6

**HYALOTHECA** Ehr.*Hyalotheca dissiliens* (Smith) Breb.

CCAP 637/1 Pringsheim; 1947; LB; England; freshwater; M3

**HYDRODICTYON** Roth*Hydrodictyon africanum* Yamanouchi

CCAP 236/2 George; 1948; LB; South Africa; freshwater; M3

*Hydrodictyon patenaeforme* Pocock

CCAP 236/3 Ott; 1968; LB; freshwater; M3

*Hydrodictyon reticulatum* (L.) Lagerh.CCAP 236/1a George; 1947; LB; England; freshwater; M3  
CCAP 236/1b Pirson; LB; Germany; freshwater; M3  
CCAP 236/1c Marchant; 1969; LB; Australia; freshwater; M3**HYMENOMONAS** Stein*Hymenomonas carterae* (Braarud & Fagerland) Braarud -*Cricosphaera carterae* (Braarud & Fagerland) Braarud

CCAP 961/1 Parke; 1949; LB; England; marine; M11



- Hymenomonas pringsheimii* Parke & Green  
 CCAP 944/1 Pringsheim; 1951; AB; England; brackish; M2; type of *Pleurochrysis scherffeltii* Pringsheim
- Hymenomonas roseola* Stein  
 CCAP 925/1 Pringsheim; LB; England; freshwater; M3
- IMANTONIA* Reynolds  
*Imantonia rotunda* Reynolds  
 CCAP 926/1 Reynolds; 1974; LB; England; marine; M11; T
- INTERFILUM* Chodat  
*Interfilum paradoxum* Chodat  
 CCAP 338/1 Pringsheim; N; England; soil; M1
- ISOCHRYSIS* Parke  
*Isochrysis galbana* Parke  
 CCAP 927/1 Parke; 1938; LB; Isle of Man; marine; M11; T
- Isochrysis* ? spp. indet.  
 CCAP 927/2 Butcher; LB; England; marine; M11  
 CCAP 927/3 Butcher; LB; England; marine; M11  
 CCAP 927/4 Butcher; LB; England; marine; M11  
 CCAP 927/5 Butcher; 1960; LB; England; marine; M11  
 CCAP 927/6 Butcher; 1959; LB; England; marine; M11  
 CCAP 927/7 Butcher; 1956; LB; England; marine; M11  
 CCAP 927/8 Butcher; 1960; LB; England; marine; M11  
 CCAP 927/9 Butcher; 1959; LB; Wales; marine; M11  
 CCAP 927/10 Butcher; 1960; LB; England; marine; M11  
 CCAP 927/11 Butcher; LB; England; marine; M11  
 CCAP 927/12 Butcher; LB; England; brackish; M11
- KENTROSPHAERA* Borzi  
*Kentrosphaera* sp. indet.  
 CCAP 241/1 Starr; 1951; LB; Scotland; plant material; M3
- KERONOPSIS* Penard  
*Keronopsis rubra* (Ehr.) Penard  
 CCAP 1643/1 George; 1972; LB; USA; marine; M11 +rice
- KIRCHNERIELLA* Schmidle  
*Kirchneriella contorta* (Schmidle) Bohlin  
 CCAP 243/3 Wurtz; 1948; N; France; freshwater; M1
- Kirchneriella lunaris* (Kirchner) Moebius  
 CCAP 243/1 Pringsheim; 1939; N; England; freshwater; M1
- Kirchneriella lunaris* var. *dianae* Bohlin  
 CCAP 243/4 Wurtz; A; France; freshwater; M1
- Kirchneriella subsolitaria* G. S. West; see *Nephrochlamys subsolitaria* (West) Korsh.
- KLEBSORMIDIUM* Silva et al. - *Hormidium* Klebs; see also *Ulothrix* Kuetz.  
*Klebsormidium flaccidum* (Kuetz.) Silva et al.  
 CCAP 335/1a Pringsheim; N; USA; freshwater; M1  
 CCAP 335/1b Pringsheim; A; USA; freshwater; M1  
 CCAP 335/2a Pringsheim; N; USA; freshwater; M1  
 CCAP 335/2b Pringsheim; N; USA; freshwater; M1  
 CCAP 335/4 Pringsheim; N; freshwater; M1
- Klebsormidium subtilissimum* (Rabenh.) Silva et al.  
 CCAP 384/1 Lewin; 1952; N; Alaska; snow; M1
- Klebsormidium* ? spp. indet.  
 CCAP 335/3 Pringsheim; A; freshwater; M1

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- CCAP 335/5 Strout; 1951; N; USA; freshwater; M1  
 CCAP 335/7 Algeus; A; Sweden; freshwater; M1  
 CCAP 335/8 Czurda; A; freshwater; M1  
 CCAP 335/9 Lewin; 1952; A; Canada; freshwater; M1

**LAGERHEIMIA** Chodat*Lagerheimia genevensis* Chodat

- CCAP 246/1 Belcher & Swale; 1975; LB; England; freshwater; M3

**LAUTERBORNIA** Pringsheim; see under *Synechococcus leopoliensis***LEISHMANIA** Ross*Leishmania hertigi* Herrer

- CCAP 1962/1 Herrer; 1971; N; Panama; *Coendou rothschildi*; M22 or M23

**LEPTOMYXA** Goodey*Leptomyxa flabellata* Goodey

- CCAP 1546/2 Page; 1974; AB; England; soil; M18 +b

*Leptomyxa reticulata* Goodey

- CCAP 1546/1 Page; 1971; ABX; England; freshwater; M18agar +b  
 CCAP 1546/3 Page; 1971; ABX; England; freshwater; M18agar +b

**LEPTOSIRA** Borzi*Leptosira obovata* Vischer

- CCAP 445/1 Vischer; 1928; A; Switzerland; freshwater; M1; T

**LOBOMONAS** Dang.*Lobomonas piriformis* Dang.

- CCAP 45/1 Pringsheim; 1930; A; Czechoslovakia; freshwater; M1; T

**LYNGBYA** Ag. ex Gomont*Lyngbya majuscula* Harvey

- CCAP 1446/4 George; 1953; LB; England; brackish; medium on request

*Lyngbya* spp. indet.

- CCAP 1446/5 Butcher; LB; marine; medium on request  
 CCAP 1459/2 Manten; AB; Holland; freshwater; M17

**MALLOMONAS** Perty*Mallomonas cratis* Harris & Bradley

- CCAP 929/1 Belcher; 1962; LB; England; freshwater; M3

*Mallomonas papillosa* Harris & Bradley

- CCAP 929/2 Belcher; 1965; LB; England; freshwater; M3

**MANTONIELLA** Desikachary*Mantoniella squamata* (Manton & Parke) Desikachary

- CCAP 1965/1 George; 1951; LB; England; brackish; M11; T  
 CCAP 1965/5 Butcher; LB; as *Thalassomonas caeca*; marine; M11

**MASTIGOCLADUS** Kirchner*Mastigocladus laminosus* Cohn

- CCAP 1447/1 Fogg; AB; New Zealand; freshwater; M2; thermophilic strain

**MAYORELLA** Schaeffer*Mayorella viridis* (Leidy)

- CCAP 1547/4 George; 1966; ALB; England; freshwater/medium on request

**MELOSIRA** Ag.*Melosira varians* Ag.

- CCAP 1048/4 Purdue; 1978; LB; England; freshwater; M3

*MENOIDIUM* Perty*Menoidium bibacillatum* Pringsheim

CCAP 1247/1 Pringsheim; 1940; (ON 381); LB;  
England; freshwater; M3vi; T

*Menoidium cultellus* Pringsheim

CCAP 1247/2 Pringsheim; (ON 382); LB;  
Czechoslovakia; freshwater; M3vi; T

*Menoidium intermedium* Pringsheim

CCAP 1247/3 Pringsheim; 1940; (ON 384); LB;  
England; freshwater; M3vi; T

*Menoidium obtusum* Pringsheim

CCAP 1247/4 Pringsheim; (ON 383); LB; Germany;  
freshwater; M3vi

*Menoidium* sp. indet.

CCAP 1247/6 Pringsheim; ("X"); LB; freshwater;  
M3vi

*MERISMOPEDIA* Meyen*Merismopedia convoluta* Breb.

CCAP 1448/3 Pringsheim; 1967; AB; Germany;  
freshwater; M2

*Merismopedia glauca* (Ehr.) Naeg. f. *insignis*  
(Schkorb.) Geitler

CCAP 1448/1 Pringsheim; 1947; LB; England;  
freshwater; M3

*Merismopedia punctata* Meyen

CCAP 1448/2 Komarek; 1964; AB; Cuba;  
freshwater; M2

*MESOSTIGMA* Lauterborn*Mesostigma viride* Lauterborn

CCAP 50/1 Pringsheim; 1943; LB; England;  
freshwater; M3

*MESOTAENIUM* Naeg.*Mesotaenium caldariorum* (Lagerh.) Hansgirg

CCAP 230/1 Van Overbeek; A; freshwater; M1  
CCAP 648/1 Czurda; 1924; A; Czechoslovakia;  
freshwater; M1

*MICRACTINIUM* Fres.*Micractinium pusillum* Fres.

CCAP 248/1 George; 1954; N; England;  
freshwater; M1  
CCAP 231/1 George; 1949; N; England;  
freshwater; M1; as *Colekiniopsis*  
*parvula*

*MICRASTERIAS* Ag.*Micrasterias papillifera* Breb.

CCAP 649/7 Lefevre; 1936; LB; France;  
freshwater; M3

*Micrasterias rotata* (Greville) Ralfs

CCAP 649/4b Kallio; LB; freshwater; M3

*Micrasterias thomasiana* var. *notata* Gronblat

CCAP 649/5 Kallio; LB; freshwater; M3

*Micrasterias truncata* (Corda) Breb.

CCAP 649/6 King; 1952; LB; England;  
freshwater; M3

*MICROCHAETE* Born. & Flah.*Microchaete grisea* Thuret ex Born. & Flah.

CCAP 1445/1 Butcher; LB; England; marine;  
medium on request

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**M1, M2, M3, ...** = media suitable for routine cultivation; **N** = cryopreserved; **P** = proven pathogen to man;  
**P?** = possibly pathogenic to man but not proven; **T** = descent from type material;  
**X** = organisms other than bacteria present.

**MICROCOLEUS** Gomont*Microcoleus paludosus* (Kuetz.) Gomont

CCAP 1449/1 George: 1950; AB; England;  
freshwater; M17

**MICROCYSTIS** Lemmermann*Microcystis aeruginosa* Kuetz.

CCAP 1450/1 Gerloff: 1948; LB; freshwater; M3;  
syn. *Anacystis cyanea* (Kuetz.)  
Drouet & Daily

CCAP 1450/3 Jaworski: 1968; LB; England;  
freshwater; M3

CCAP 1450/4 LB; freshwater; M3

**MICROGLOMUS** Olive & Stoianovitch*Microglomus parillus* Olive & Stoianovitch

CCAP 1548/1 Stoianovitch: 1976; (H76-35); AB;  
Hawaii; plant material; M18agar +b;  
T

**MICROMONAS** Manton & Parke*Micromonas pusilla* (Butcher) Manton & Parke

CCAP 1965/4 Parke: 1950; LB; marine; M11

*Micromonas squamata* ?auct. : see *Mantoniella***MICROSPORA** Thuret*Microspora amoena* (Kuetz.) Rabenh.

CCAP 348/1 George: 1948; LB; England;  
freshwater; M3

**MICROTHAMNION** Naeg.*Microthamnion kuetzingianum* Naeg.

CCAP 450/1a Christensen: 1949; N; England;  
freshwater; M1

CCAP 450/1b Pringsheim: 1948; N; England;  
freshwater; M1

**MISCHOCOCCUS** Naeg.*Mischococcus sphaerocephalus* Vischer

CCAP 847/1 Vischer: 1929; A; Switzerland;  
freshwater; M1; T

**MONAS** OFM*Monas pudica* Pringsheim

CCAP 930/1 Pringsheim: 1944; LB; England;  
freshwater; M3vi

**MONOCHRYISIS** Skuja*Monochrysis lutheri* Droop = *Pavlova lutheri***MONODOPSIS** Hibberd*Monodopsis subterranea* (Petersen) Hibberd

CCAP 848/1 Lewin: 1949; N; USA; freshwater; M1

**MOUGEOTIA** Ag.*Mougeotia* sp. indet.

CCAP 650/1 George: 1949; LB; England;  
freshwater; M3

**MURIELLA** Petersen*Muriella aurantiaca* Vischer

CCAP 249/1 Vischer: 1933; N; Switzerland;  
soil; M1; T

*Muriella decolor* Vischer

CCAP 249/2 Vischer: 1926; N; Switzerland;  
freshwater; M1; T

*Muriella magna* Fritsch & John = *Dictyochloris fragrans***MYRMECIA** Printz*Myrmezia pyriformis* Tschermak-Woess & Plessl

CCAP 250/1 Tschermak-Woess; LB; Austria; plant  
material; M3; T

- Myrmecia reticulata* Tschermak-Woess  
 CCAP 250/3 Tschermak-Woess; N; plant material; M1
- MYXOSARCINA* Printz
- Myzosarcina chroococcoides* Geitler  
 CCAP 1451/1 AB; East Germany; freshwater; M17
- NAEGLERIA* Alexeieff
- Naegleria fowleri* Carter  
 CCAP 1518/3 Jamieson; 1972; (Morgan); P; AB; Australia; human patient; M20 +b  
 CCAP 1518/4 Jamieson; 1972; (PA-90); P; AB; Australia; freshwater; M20 +b  
 CCAP 1518/5 Butt; c. 1967; (HB-1); P; AB; USA; human patient; M20 +b
- Naegleria gruberi* (Schardinger) Alexeieff  
 CCAP 1518/1a Pringsheim; pre-1950; AB; M20 +b  
 CCAP 1518/1b Pringsheim; pre-1950; AB; M20 +b  
 CCAP 1518/1c Pringsheim; pre-1950; AB; M20 +b  
 CCAP 1518/1d Pringsheim/Fulton; AB; M20 +b  
 CCAP 1518/1e Page; 1964; (24); AB; USA; freshwater; M20 +b  
 CCAP 1518/1f Page; 1964; (30); AB; USA; freshwater; M20 +b  
 CCAP 1518/1g Page; 1965; (48); AB; USA; freshwater; M20 +b  
 CCAP 1518/1s Pringsheim?/Singh; AB; M20 +b  
 CCAP 1518/6 Page; 1964; (15); AB; USA; freshwater; M20 +b  
 CCAP 1518/7 Page; 1965; (49); AB; USA; freshwater; M20 +b
- Naegleria jadini* Willaert & Le Ray  
 CCAP 1518/2 Jadin; 1971; (0-400); AB; Belgium; freshwater; M20 +b; T
- NANNOCHLORIS* Naumann
- Nannochloris atomus* Butcher  
 CCAP 251/4a Knight-Jones; 1948; A; England; marine; M14
- CCAP 251/4b Butcher; 1960; A; England; marine; M14
- Nannochloris coccoides* Naumann  
 CCAP 251/1a Lewin; A; USA; freshwater; M1  
 CCAP 251/1b George; 1951; N; England; freshwater; M1
- Nannochloris maculata* Butcher  
 CCAP 251/3 Butcher; A; Isle of Wight; marine; M14
- Nannochloris oculata* Droop  
 CCAP 251/6 Ott; A; USA; marine; M14
- Nannochloris* sp. indet.  
 CCAP 251/2 Butcher; A; as "sarniensis"; Guernsey; marine; M14  
 CCAP 251/5 Butcher; 1959; A; Wales; marine; M14
- NANNOCHLOROPSIS* Hibberd
- Nannochloropsis oculata* (Droop) Hibberd  
 CCAP 849/1 Droop; pre-1955; (Millport No. 66); AB; Scotland; brackish; medium on request; T
- NASSULA* Ehr.
- Nassula* sp. indet.  
 CCAP 1650/2 Cann; 1980; LBX; England; freshwater; M2
- NAUTOCOCCUS* Korsh.
- Nautococcus emersus* Geitler  
 CCAP 53/4 Bold; 1974; A; USA; freshwater; M1
- Nautococcus piriformis* Korsh.  
 CCAP 53/1 Starr; AB; USA; soil; M2

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- Nautococcus soluta* Archibald  
CCAP 53/2 Bold; A; USA; soil; M1; T
- Nautococcus terrestris* Archibald  
CCAP 53/3 Bold; A; USA; soil; M1; T
- NAVICULA** Bory
- Navicula complanatula* Hustedt  
CCAP 1050/5 Belcher; 1975; LB; England; marine; M11
- Navicula pelliculosa* Breb.  
CCAP 1050/3a Lewin; AB; freshwater; M2  
CCAP 1050/3c Lewin; AB; USA; soil; M2
- Navicula* sp. indet.  
CCAP 1050/1 George; 1948; AB; South Africa; soil; M2  
CCAP 1050/6 Belcher/Pennick; 1973; LB; England; marine; M11
- NEMATOSTELIUM** Olive & Stoianovitch
- Nematostelium ovatum* (Olive & Stoianovitch)  
CCAP 1550/1 Stoianovitch & Olive; (Fla-25); AB; USA; soil; medium on request; T
- NEOCHLORIS** Starr
- Neochloris alveolaris* Deason & Bold  
CCAP 254/4 A; from Archibald; freshwater; M1
- Neochloris aquatica* Starr  
CCAP 254/5 A; from Archibald; freshwater; M1
- Neochloris cohaerens* Groover & Bold  
CCAP 254/6 A; from Archibald; freshwater; M1
- Neochloris conjuncta* Archibald  
CCAP 254/1 Bold; 1968; A; USA; freshwater; M1; T
- Neochloris fusispora* Arce & Bold  
CCAP 254/7 A; from Archibald; freshwater; M1
- Neochloris gelatinosa* Herndon  
CCAP 254/8 AB; from Archibald; freshwater; M2
- Neochloris pseudostigmatica* Bischoff & Bold  
CCAP 254/11 A; from Archibald; freshwater; M1
- Neochloris pyrenoidosa* Arce & Bold  
CCAP 254/12 A; from Archibald; freshwater; M1
- Neochloris terrestris* Herndon  
CCAP 254/13 AB; from Archibald; freshwater; M2
- Neochloris texensis* Archibald  
CCAP 254/2 Bold; 1968; A; USA; soil; M1; T
- Neochloris vigenis* Archibald  
CCAP 254/3 Bold; 1968; A; USA; freshwater; M1; T
- Neochloris wimmeri* (Rabenh.) Archibald & Bold;  
syn. *Chlorococcum wimmeri* Rabenh.  
CCAP 213/4 Mainz; A; M1
- NEOSPONGIOCOCCUM** Deason
- Neosporangiococcum excentricum* (Deason & Bold) Deason  
CCAP 255/1 Kuehn; 1958; A; USA; freshwater; M1
- Neosporangiococcum granatum* (Starr) Deason  
CCAP 213/1a Pringsheim; pre-1939; A; soil; M1; T; also type of *Chlorococcum multinucleatum* Starr
- Neosporangiococcum ovatum* Deason  
CCAP 255/2 Hofstetter; 1964; AB; USA; soil; M2
- NEPHROCHLAMYS** Korsh.
- Nephrochlamys subsolitaria* (West) Korsh.  
CCAP 243/2a George; 1948; N; England; freshwater; M1; syn. *Kirchneriella subsolitaria* G.S.West  
CCAP 243/2b George; 1949; N; Switzerland; freshwater; M1; syn. *Kirchneriella subsolitaria* G.S.West

- CCAP 252/1 Belcher; 1961; N; England;  
freshwater; M1
- Nitzschia tryblionella* Hantz. var. *victoriae*  
Grun.
- CCAP 1052/9 Belcher; 1974; LB; England; marine;  
M11
- NEPHRODIELLA** Pascher
- Nephrodiella brevis* Vischer
- CCAP 850/1 Vischer; 1941; A; Switzerland;  
soil; M1; T
- NEPHROSELMIS** Stein
- Nephroselmis longifilis* (Butcher) Rayns; see  
*Pseudoscourfeldia longifilis* (Butcher) Norris
- Nephroselmis olivacea* Stein; formerly  
*Heteromastix angulata*
- CCAP 1960/4a Belcher & Swale; 1975; LB; England;  
freshwater; M2
- CCAP 1960/4b Belcher; 1977; LB; England;  
freshwater; M2
- Nephroselmis rotunda* (Carter) Manton;  
-*Bipedinomonas rotunda* ?auct.
- Nephroselmis* sp. indet.
- CCAP 1960/2 Pennick; 1975; LB; formerly  
*Heteromastix* sp. indet.;  
marine; M11
- NITZSCHIA** Hassall
- Nitzschia closterium* (Ehr.) Wm Smith
- CCAP 1052/8b Pennick; 1978; LB; England; marine;  
M11
- Nitzschia closterium* (Ehr.) Wm Smith f.  
*minutissima* Allen & Nelson; see *Phaeodactylum*  
*tricornutum*
- Nitzschia frustulum* Kuetz.
- CCAP 1052/2 Pringsheim; 1948; AB; freshwater;  
M2
- Nitzschia kuetzingianum* Hilse
- CCAP 1052/4 Lewin; AB; freshwater; M2
- Nodularia harveyana* Thuret
- CCAP 1452/1 Butcher; LB; marine; M11
- Nodularia spumigena* Born. & Flah.
- CCAP 1452/4 Nordin; c. 1972; AB; Canada; soil;  
M17
- Nodularia* spp. indet.
- CCAP 1452/2 Smith & Wilcox; 1972; AB; England;  
freshwater; M17
- CCAP 1452/3 Smith & Wilcox; 1972; AB; England;  
freshwater; M17
- NOSTOC** Vaucher ex Born. & Flah.
- Nostoc calcicola* Breb.
- CCAP 1453/1 Manten; A; Holland; soil; M17
- Nostoc commune* Vaucher
- CCAP 1453/24 Du Preez; 1971; AB; South Africa;  
plant material; M17; from  
*Encephalartos*
- CCAP 1453/29 Donaldson & Whitton; AB; Aldabra;  
soil; M17
- Nostoc ellipsosporum* (Desmaz.) Born. & Flah.
- CCAP 1453/2 Manten; A; Holland; soil; M17
- CCAP 1453/11 George; 1950; AB; Sweden;  
freshwater; M17
- CCAP 1453/15 Forest; AB; USA; freshwater; M17
- CCAP 1453/16 Forest; AB; freshwater; M17
- CCAP 1453/17 Fogg; AB; freshwater; M17
- CCAP 1453/18 Gerloff; AB; USA; freshwater; M17
- CCAP 1453/19 Lazaroff & Vishniac; AB;  
freshwater; M17

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**P?** = possibly pathogenic to man but not proven; **T** = descent from type material;  
**X** = organisms other than bacteria present.

*Nostoc endophytum* Born. & Flah.

CCAP 1453/14 Stewart; AB; Scotland; marine; M17

*Nostoc muscorum* Ag.

CCAP 1453/8 Gibson; AB; freshwater; M17  
 CCAP 1453/9 Gibson; AB; freshwater; M17  
 CCAP 1453/12 Allison; AB; freshwater; M17  
 CCAP 1453/20 Allen; AB; freshwater; M17  
 CCAP 1453/21 Forest; AB; freshwater; M17  
 CCAP 1453/22 Watanabe; 1951; AB; freshwater; M17  
 CCAP 1453/23 Du Preez; 1971; AB; South Africa;  
 plant material; M17; from  
*Encephalartos*

*Nostoc paludosum* Kuetz.

CCAP 1453/13 Mitra; LB; freshwater; M17

*Nostoc punctiforme* (Kuetz.) Hariot

CCAP 1453/3 Wassink; AB; Holland; soil; M17

*Nostoc* spp. indet.

CCAP 1453/4 Wassink; AB; Holland; soil; M17  
 CCAP 1403/4a Hecker; AB; freshwater; M17  
 CCAP 1403/5 Wassink; A; freshwater; M17  
 CCAP 1403/6 Wassink; A; Holland; soil; M17  
 CCAP 1453/25 Wilcox & Smith; 1971; AB; England;  
 freshwater; M17  
 CCAP 1453/26 Wilcox & Smith; 1971; AB; England;  
 freshwater; M17  
 CCAP 1453/27 AB; England; freshwater; M17  
 CCAP 1453/28 Rodgers; 1972; A; Scotland; plant  
 material; M17; from *Anthoceros*

*NUCLEOSPHAERIUM* Cann & Page*Nucleosphaerium tuckeri* Cann & PageCCAP 1551/1 Tucker; 1969; LBX; Scotland;  
freshwater; medium on request; T*OCHROMONAS* Wyssotzki; see also *Poterioochromonas**Ochromonas danica* PringsheimCCAP 933/2b Pringsheim; 1954; L; Denmark;  
freshwater; M7; T*Ochromonas globosa* Skuja

CCAP 933/14 Butcher; 1961; LB; England; marine;  
M11  
 CCAP 933/15 Butcher; LB; marine; M11

*Ochromonas minuta* (Pringsheim) nom. prov.CCAP 933/10 Pringsheim; 1951; L; Germany;  
freshwater; M7*Ochromonas tuberculata* HibberdCCAP 933/24 Hibberd; 1966; LB; England;  
freshwater; M5; T*Ochromonas villosa* Clarke & PennickCCAP 933/25 Butcher; 1959; LB; Isle of Wight;  
marine; M11; T*Ochromonas* spp. indet.

CCAP 933/4 Atkinson; 1965; L; Malaya;  
freshwater; M7  
 CCAP 933/5 Jowett; 1966; LB; Wales; marine;  
M11  
 CCAP 933/6 Jowett; 1963; LB; England; marine;  
M11  
 CCAP 933/8a Butcher; 1956; LB; England; marine;  
M11  
 CCAP 933/8c Butcher; 1954; LB; England; marine;  
M11  
 CCAP 933/8d Butcher; LB; Isle of Wight; marine;  
M11  
 CCAP 933/8e Butcher; LB; England; marine; M11  
 CCAP 933/8f Butcher; 1960; LB; Isle of Wight;  
brackish; M11  
 CCAP 933/8g Butcher; LB; England; marine; M11  
 CCAP 933/8h Butcher; LB; England; brackish; M11  
 CCAP 933/8j Butcher; LB; Wales; brackish; M11  
 CCAP 933/8k Butcher; 1961; LB; Wales; brackish;  
M11  
 CCAP 933/8m Butcher; LB; Isle of Wight; marine;  
M11  
 CCAP 933/9a Butcher; 1959; LB; England; marine;  
M11  
 CCAP 933/9b Butcher; 1960; LB; Isle of Wight;  
brackish; M11  
 CCAP 933/9c Butcher; LB; England; marine; M11  
 CCAP 933/9d Butcher; 1959; LB; England; marine;  
M11  
 CCAP 933/9e Butcher; 1957; LB; Wales; marine;  
M11  
 CCAP 933/9f Butcher; 1959; LB; England; marine;  
M11  
 CCAP 933/9g Butcher; 1959; LB; England; marine;  
M11  
 CCAP 933/9h Butcher; 1960; LB; Isle of Wight;  
marine; M11  
 CCAP 933/11 Butcher; LB; England; marine; M11  
 CCAP 933/12 Butcher; 1954; LB; Wales; marine;  
M11  
 CCAP 933/13b Butcher; LB; England; brackish; M11  
 CCAP 933/13c Butcher; 1960; LB; England;  
brackish; M11



CCAP 933/13d Butcher; LB; England; brackish; M11  
 CCAP 933/16 Butcher; LB; England; marine; M11  
 CCAP 933/17 Butcher; 1955; LB; England;  
 brackish; M11  
 CCAP 933/18 Butcher; LB; England; brackish; M11  
 CCAP 933/19a Butcher; 1960; LB; England;  
 brackish; M11  
 CCAP 933/20 Butcher; LB; England; brackish; M11  
 CCAP 933/21 Butcher; 1956; LB; England; marine;  
 M11  
 CCAP 933/22 Butcher; 1960; LB; Isle of Wight;  
 brackish; M11  
 CCAP 933/23 Butcher; LB; Isle of Wight;  
 brackish; M11

**OCHROSPHAERA** Schussnig*Ochrosphaera neapolitana* Schussnig

CCAP 932/1 Provasoli; LB; M11  
 CCAP 932/2 Provasoli?; LB; M11

**OEDOCLADIUM** Stahl*Oedocladium cirratum* Beaney & Hoffman

CCAP 574/1 Milliger; 1964; LB; USA;  
 freshwater; M3T

**OEDOCONIUM** Wittrock*Oedogonium cardiacum* Wittrock

CCAP 575/1a Christensen; 1949; LB; +strain;  
 England; freshwater; M3  
 CCAP 575/1b Christensen; 1949; LB; -strain;  
 England; freshwater; M3

*Oedogonium foveolatum* Wittrock

CCAP 575/2 Bold; 1958; LB; freshwater; M3;  
 homothallic

**OLISTHODISCUS** Carter*Olisthodiscus luteus* Carter

CCAP 934/1 Throndsen; 1964; LB; Norway;  
 marine; M11

CCAP 934/2 Adams; 1959; LB; England; marine;  
 M11

CCAP 934/3 Lackey; pre-1959; LB; USA; marine;  
 M11

**OOCYSTIS** Naeg.

*Oocystis apiculata* W. West = *Oocystis solitaria*  
 Wittcock f. *major* Wille

CCAP 257/3 Wurtz; N; freshwater; M1

*Oocystis eremosphaeria* Smith = *Eremosphaera*

*Oocystis ? marssonii* Lemmermann

CCAP 257/1 Beijerinck; N; freshwater; M1

*Oocystis* sp. indet.

CCAP 257/2 Vischer; N; freshwater; M1

**OPHIOCYTIUM** Naeg.*Ophiocytium majus* Naeg.

CCAP 855/1 Pringsheim; A; England; freshwater;  
 M1

**OPISTHONECTA** Faure-Fremiet*Opisthonecta* sp. indet.

CCAP 1655/1 Rodel; LB; England; freshwater;  
 medium on request

**OSCILLATORIA** Vaucher ex Gomont*Oscillatoria agardhii* Gomont

CCAP 1459/11a Jaworski; 1975; LB; England;  
 freshwater; M3

CCAP 1459/11b Fitzsimmons; 1971/75; LB; Ireland;  
 freshwater; M3

*Oscillatoria animalis* Ag.

CCAP 1459/6 AB; freshwater; M17

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**P?** = possibly pathogenic to man but not proven; **T** = descent from type material;  
**X** = organisms other than bacteria present.

*Oscillatoria bourrellyi* ?auct.

CCAP 1459/10 Jaworski; 1967; LB; England;  
freshwater; M3

*Oscillatoria lutea* Ag. var. *contorta* Baker &  
Bold

CCAP 1459/3 Pringsheim; 1941; AB; England;  
freshwater; M17

*Oscillatoria nigro-viridis* Butcher nom. prov.

CCAP 1459/9 Butcher; LB; England; marine;  
medium on request

*Oscillatoria redekei* Van Goor

CCAP 1459/12a Jaworski; 1968; LB; Scotland;  
freshwater; M3

CCAP 1459/12b Heaney; LB; Ireland; freshwater; M3

*Oscillatoria tenuis* Ag.

CCAP 1459/4 Manten; AB; Holland; soil; M17

*Oscillatoria* spp. indet.

CCAP 1459/8 Butcher; LB; England; marine;  
medium on request

CCAP 1459/13 Butcher; LB; England; marine;  
medium on request

## OXYRRHIS Duj.

*Oxyrrhis marina* Duj.

CCAP 1133/2 Pennick; 1972; LBX; England;  
marine; M11 +diatoms

CCAP 1133/3 Jowett; 1967; LBX; England; marine;  
M11 +diatoms

CCAP 1133/4 Pennick; 1974; LBX; Bahrain;  
marine; M11 +diatoms

## PALMODICTYON Kuetz.

*Palmodictyon varium* (Naeg.) Lemmermann

CCAP 59/1 George; 1949; LB; England;  
freshwater; M3

## PANDORINA Bory

*Pandorina charkowiensis* Korsh.

CCAP 24/2a Droop; 1951; A; Finland;  
freshwater; M1; syn. *Eudorina*  
*charkowiensis* (Korsh.) Pascher

CCAP 24/2b Peck; 1962; AB; USA; freshwater;  
M2; syn. *Eudorina charkowiensis*  
(Korsh.) Pascher

*Pandorina morum* Bory

CCAP 60/1a Czurda; A; Czechoslovakia;  
freshwater; M1

CCAP 60/1b Chu; A; freshwater; M1

CCAP 60/1c George; 1950; A; England;  
freshwater; M1

CCAP 60/1d Wilbois; A; USA; freshwater; M1

CCAP 60/1e Wilbois; A; USA; freshwater; M1

## PARAMECIUM Hill

*Paramecium aurelia* Ehr.

CCAP 1660/3a Jankowsky; 1959; (Strain J19); LB;  
USSR; freshwater; M3vi

CCAP 1660/3b Jankowsky; 1959; (Strain J20); LB;  
USSR; freshwater; M3vi

*Paramecium biaurelia* Sonneborn

CCAP 1660/3c (Strain GML); LB; freshwater; M3vi

CCAP 1660/3d (Strain 50); LB; freshwater; M3vi

*Paramecium bursaria* Focke

CCAP 1660/1a Pringsheim; LB; Czechoslovakia;  
freshwater; M2

CCAP 1660/1b George; 1949; LB; England;  
freshwater; M2

CCAP 1660/1c George; 1949; LB; England;  
freshwater; M2

CCAP 1660/1e Pringsheim; LB; England;  
freshwater; M2

CCAP 1660/1f Pringsheim; LB; freshwater; M2

CCAP 1660/1g George; 1950; LB; England;  
freshwater; M2

CCAP 1660/10 LB; freshwater; M2; mates with  
1660/11

CCAP 1660/11 Cann; 1981; LB; England;  
freshwater; M2mates with 1660/10

*Paramecium caudatum* Ehr.

CCAP 1660/2c George; 1954; LB; England;  
freshwater; M3vi

CCAP 1660/2f Page; 1973; LB; England;  
freshwater; M3vi

- Paramecium primaurelia* Sonneborn  
CCAP 1660/2a Pringsheim; LB; freshwater; M3vi
- Paramecium putrinum* Clap. & Lach.  
CCAP 1660/7 Patterson; 1975; LB; England; freshwater; medium on request
- Paramecium tetraurelia* Sonneborn  
CCAP 1660/3e (Strain 51 sensitive); LB; freshwater; M3vi  
CCAP 1660/3f (Strain 51 killer); LB; freshwater; M3vi
- PARAMOEBA** Schaudinn
- Paramoeba eithardi* Schaudinn  
CCAP 1560/2 Grell; 1960; LBX; France; marine; M11 + diatoms
- Paramoeba pemaquidensis* Page  
CCAP 1560/3 Page; 1969; (95); AB; USA; marine; M19; T
- PARAPHYSOMONAS** de Saedeleer
- Paraphysomonas butcheri* Pennick & Clarke  
CCAP 935/1 Butcher; 1956; LBX; England; brackish; M11; T
- Paraphysomonas vestita* (Stokes) de Saedeleer  
CCAP 935/3 Butcher; 1960; LBX; England; marine; M11
- Paraphysomonas corbidifera* Pennick & Clarke  
CCAP 935/2 Butcher; LBX; England; marine; M11; T
- PARATETRAMITUS** Darbyshire, Page & Goodfellow
- Paratetramitus jugosus* (Page)  
CCAP 1559/1 Darbyshire; 1974; (Auchnahannet 1); AB; Scotland; soil; M20 +b
- CCAP 1559/2 Overgaard-Nielsen; 1975; AB; Denmark; soil; M20 +b  
CCAP 1559/3 Page; 1972; AB; England; freshwater; M20 +b  
CCAP 1588/3a Page; 1964; (35); AB; USA; freshwater; M20 +b; T  
CCAP 1588/3b Darbyshire; 1974; (Lingo 1); AB; Orkneys; soil; M20 +b  
CCAP 1588/3c Darbyshire; 1974; (Torcastle); AB; Scotland; soil; M20 +b  
CCAP 1588/3d Darbyshire; 1974; (Rothiemoon 1); AB; Scotland; soil; M20 +b  
CCAP 1588/3f Darbyshire; 1974; (Crantit 3); AB; Orkneys; soil; M20 +b
- PARMIDIUM** Christen
- Parmidium scutulum* (Skuja) Christen  
CCAP 1258/1 Christen; LB; freshwater; M3vi; T
- PAULSCHULZIA** Skuja
- Paulschulzia pseudovolvox* (Schulz) Skuja  
CCAP 58/1 Droop; 1951; A; Finland; freshwater; M1
- Paulschulzia tenera* (Korsh.) Lund  
CCAP 58/2 Lund; LB; England; freshwater; M3; T
- PAVLOVA** Butcher
- Pavlova gyrans* Butcher  
CCAP 940/1a Butcher; 1947; LB; England; marine; M11; T  
CCAP 940/1b Knight-Jones; 1946; LB; England; marine; M11  
CCAP 940/1c Butcher; 1957; LB; Wales; marine; M11
- Pavlova lutheri* (Droop) Green  
CCAP 931/1 Droop; LB; Isle of Wight; marine; M11

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*Pavlova mesolychnon* Van der Veer

CCAP 940/3 Van der Veer; 1967; LB; England;  
marine; M11; T

*Pavlova pinguis* Green

CCAP 940/2 Green; 1970; LB; Madeira; marine;  
M11; T

*Pavlova* spp. indet.

CCAP 931/2 Butcher; LB; England; marine; M11  
CCAP 931/3 Butcher; LB; England; marine; M11  
CCAP 931/4 Butcher; 1960; LB; England; marine;  
M11

*PEDIASTRUM* Meyen*Pediastrum biradiatum* Meyen

CCAP 261/1 Rodhe; N; freshwater; M1

*Pediastrum boryanum* (Turp.) Meneghini var.  
*boryanum*

CCAP 261/2 Rodhe; LB; Sweden?; freshwater; M3

*Pediastrum boryanum* var. *cornutum* (Racib.) Salek

CCAP 261/3a Pringsheim; 1949; LB; England;  
freshwater; M3

*Pediastrum duplex* var. *reticulatum* Lagerh.

CCAP 261/7 Ott; LB; USA; freshwater; M3

*Pediastrum tetras* (Ehr.) Ralfs

CCAP 261/5 Czurda; N; Czechoslovakia;  
freshwater; M1

CCAP 261/6 Czurda; 1932; N; Austria;  
freshwater; M1

*PEDINELLA* Wyssotzki*Pedinella marina* ?auct.

CCAP 941/1a Butcher; LB; England; marine; M11  
CCAP 941/1b Butcher; LB; England; marine; M11

*Pedinella* spp. indet.

CCAP 941/2 Butcher; LB; England; marine; M11  
CCAP 941/3 Butcher; 1959; LB; England; marine;  
M11  
CCAP 941/4 Preisig; 1980; LB; England;  
freshwater; M2

*PEDINOMONAS* Korsh.*Pedinomonas minor* Korsh.

CCAP 1965/3b Hindak; 1959; AB; Czechoslovakia;  
freshwater; M2

*Pedinomonas tuberculata* Vischer

CCAP 1965/2 Vischer; LB; Switzerland;  
freshwater; M3

*PELOGLOEA* Lauterborn = *Coccochloris**PELOMYXA* Greeff = *Chaos**PERANEMA* Duj.*Peranema trichophorum* Stein

CCAP 1260/1b George; 1967/68; L; medium on  
request

*PERIDINIUM* Ehr. emend. Stein*Peridinium cinctum* (Mueller) Ehr.

CCAP 1134/3 Pringsheim; LB; freshwater; M3

*Peridinium foliaceum* (Stein) Biecheler

CCAP 1116/3 Ott; LB; USA; marine; M11

*Peridinium trochoideum* (Stein) Lemmermann; see  
*Scrippsiella trochoidea**PHACOTUS* Perty*Phacotus lenticularis* Ehr.

CCAP 61/1 Pringsheim; LB; freshwater; M3

*PHACUS* Duj.*Phacus acuminata* Klebs

CCAP 1261/1 Pringsheim; 1940; LB; England;  
soil; M3

*Phacus alata* Klebs

CCAP 1261/2b Pringsheim; 1940; LB; England;  
freshwater; M3

- CCAP 1261/2c Pringsheim; 1940; LB; England; freshwater; M3
- Phacus caudata* Hubner
- CCAP 1261/5 Pringsheim; 1943; LB; England; freshwater; M3
- Phacus megalopsis* Pochmann
- CCAP 1261/9 Droop; 1951; LB; England; soil; M3; identified by Pochmann
- Phacus oscillans* Klebs
- CCAP 1261/10 Pringsheim; LB; freshwater; M3
- Phacus pleuronectes* (OFM) Duj.
- CCAP 1261/3a Pringsheim; 1937; LB; Czechoslovakia; freshwater; M3
- CCAP 1261/3b Pringsheim; LB; England; freshwater; M3
- Phacus pusilla* Lemmermann
- CCAP 1261/6 Pringsheim; 1945; LB; England; freshwater; M3
- Phacus pyrum* (Ehr.) Stein
- CCAP 1261/4a Pringsheim; 1940; LB; England; freshwater; M3
- CCAP 1261/4b Pringsheim; LB; England; freshwater; M3
- Phacus triqueter* (Ehr.) Duj.
- CCAP 1261/8 De Bussy; 1948; LB; England; freshwater; M3
- PHAEOCYSTIS* Lagerh.
- Phaeocystis pouchettii* (Hariot) Lagerh.
- CCAP 943/1 Adams; 1955; LB; England; marine; M11
- CCAP 943/2 1952?; LB; England; marine; M11
- Phaeocystis* spp. indet.
- CCAP 943/3 Butcher; 1960; LB; England; marine; M11
- CCAP 943/4 Butcher; LB; Adriatic; marine; M11
- PHAEODACTYLUM* Bohlin
- Phaeodactylum tricornerutum* Bohlin
- CCAP 1052/1a Allen; 1910; LB & A; England; marine; M11
- CCAP 1052/1b Barker; A; England; marine; medium on request
- CCAP 1052/6 Droop; 1951; A; Finland; marine; medium on request
- PHILODINA* Ehr. ; (Rotifer)
- Philodina acuticornis* var. *odiosa* ?auct.
- CCAP 00/00 LB; strain R1 from Carolina Biol. Sup. Co. ; freshwater; medium on request; T
- PHORMIDIUM* Kuetz.
- Phormidium autumnale* (Ag.) Gomont
- CCAP 1462/6 Lefevre; 1930; LB; France; freshwater; M3
- Phormidium foveolarum* Gomont
- CCAP 1462/1 De; 1939; AB; freshwater; M17; syn. *Schizothrix calcicola* var. *glomerulata* Baker & Bold
- Phormidium inundatum* (Kuetz.) Gomont
- CCAP 1462/9 Lefevre; 1952; LB; france; freshwater; M3
- Phormidium luridum* var. *olivaceum* Boresch; see *Plectonema boryanum* Gomont
- Phormidium minnesotense* (Tilden) Drouet
- CCAP 1462/3 Myers; LB; freshwater; M3
- Phormidium persicinum* (Reinke) Gomont
- CCAP 1462/5 Provasoli; 1954; LB; marine; medium on request

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- Phormidium uncinatum* (Ag.) Gomont  
CCAP 1462/7 Lefevre; 1936; LB; France; freshwater; M3
- Phormidium* sp. indet.  
CCAP 1462/8 Lewin; 1965; LB; USA; marine; medium on request
- PILINIA** Kuetz.  
*Pilinia* ? sp. indet.  
CCAP 481/1 Lewin; 1965; LB; Canada; marine; M2
- PITHOPHORA** Wittrock  
*Pithophora oedogonia* (Mont.) Wittrock var. *polyspora* Rendle & West  
CCAP 530/1 George; 1954; LB; Hong Kong; freshwater; M3
- PLANKTOSPHAERIA** G. M. Smith  
*Planktosphaeria maxima* ?auct.  
CCAP 65/1 A; rec. from Archibald 1977; freshwater; M1
- PLANOPROTOSTELIUM** Olive & Stoianovitch  
*Planoprotostelium aurantium* Olive & Stoianovitch  
CCAP 1563/1 Olive; 1967; (Br 67-33); AX; Brazil; plant material; medium on request; T
- PLATYAMOEBA** Page  
*Platyamoeba bursella* Page  
CCAP 1565/5 Page; 1971; (106); AB; England; marine; M19 +b; T
- Platyamoeba calycinucleolus* Page  
CCAP 1565/6 Page; 1972; (140); AB; England; marine; M19 +b; T
- Platyamoeba flabellata* Page  
CCAP 1565/4 Page; 1972; (147); AB; England; marine; M19 +b; T
- Platyamoeba mainensis* Page  
CCAP 1565/1 Page; 1969; (79); AB; USA; marine; M19 +b; T
- Platyamoeba placida* Page  
CCAP 1565/2 Page; 1964; (41); AB; USA; freshwater; M20 +b; T
- Platyamoeba plurinucleolus* Page  
CCAP 1565/7 Page; 1972; (139); AB; England; marine; M19 +b; T
- Platyamoeba stenopodia* Page  
CCAP 1565/3 Page; 1967; (63); AB; USA; freshwater; M20 +b; T  
CCAP 1565/8 Page; 1967; (66); AB; USA; freshwater; M20 +b
- PLATYDORINA** Kofoid  
*Platydorina caudata* Kofoid  
CCAP 160/1e Harris; 1965; LB; USA; freshwater; M3  
CCAP 160/1f Harris; 1965; LB; USA; freshwater; M3
- PLATYMONAS** West; see *Tetraselmis*
- PLECTONEMA** Thuret ex Gomont  
*Plectonema batterii* Gomont  
CCAP 1463/3 Lewin; 1965; LB; USA; marine; M11
- Plectonema boryanum* Gomont  
CCAP 1446/2 Dyer; AB; freshwater; M17  
CCAP 1446/3 Dyer; AB; freshwater; M17  
CCAP 1462/2 Boresch; AB; freshwater; M17; type of *Phormidium luridum* var. *olivaceum* Boresch; syn. *Schizothrix calcicola* var. *glomerulata* Baker & Bold  
CCAP 1462/4 Allen; AB; freshwater; M17  
CCAP 1463/1 Dyer; AB; freshwater; M17  
CCAP 1463/2 Lewin; AB; Canada; soil; M17
- Plectonema terebrans* ?auct.  
CCAP 1463/4 Provasoli; LB; England; marine; M11

## PLEODORINA Shaw

*Pleodorina illinoisensis* Kofoid

- CCAP 162/2a Stein; 1956; LB; +strain; USA; freshwater; M3; syn. *Eudorina illinoisensis* (Kofoid) Pascher
- CCAP 162/2b Stein; 1956; LB; -strain; USA; freshwater; M3; syn. *Eudorina illinoisensis* (Kofoid) Pascher

## PLEURASTRUM Chodat

*Pleurastrum obovatum* (Vischer) Tupa = *Leptostira obovata**Pleurastrum paucicellulare* Vischer

- CCAP 463/1 Vischer; 1930; A; Switzerland; freshwater; M1

*Pleurastrum terrestre* Fritsch & John

- CCAP 463/2 Pringsheim; 1940; A; soil; M1; T

*Pleurastrum terrestre* var. *indica* Mitra

- CCAP 463/3 Pringsheim; A; freshwater; M1

## PLEUROCHLORIS Pascher

*Pleurochloris meiringensis* Vischer

- CCAP 860/3 Vischer; 1945; AB; Switzerland; soil; M2; T

## PLEUROCOCCUS Meneghini

*Pleurococcus* sp. indet.

- CCAP 464/1 Chodat; N; freshwater; M1

## PLEUROTAENIUM Naeg.

*Pleurotaenium minutum* (Ralfs) Delponte

- CCAP 664/1 George; 1949; LB; Ireland; freshwater; M3

PODOPHYRYA Ehr. = *Discophrya*

## POLYCHAOS Schaeffer

*Polychaos fasciculatum* (Penard)

- CCAP 1564/1 Baldock; 1978; LBX; England; freshwater; medium on request

## POLYEDRIELLA Pascher

*Polyedriella helvetica* Vischer & Pascher; = *Vischeria helvetica*

## POLYEDRIOPSIS Schmidle

*Polyedriopsis bitridens* (Beck-Mannagetta) Kovacic

- CCAP 282/1 Starr; N; USA; soil; M1

## POLYTOMA Ehr.

*Polytoma uvella* Ehr.

- CCAP 62/2a Pringsheim; (ON 2); L; M9
- CCAP 62/2b Pringsheim; L; M9
- CCAP 62/2c Pringsheim; 1941; L; M9
- CCAP 62/2d Pringsheim; LB; M3vi
- CCAP 62/2e Pringsheim; 1941; LB; England; freshwater; M3vi
- CCAP 62/2f Pringsheim; 1940; LB; England; M3vi
- CCAP 62/2h Pringsheim; LB; M3vi
- CCAP 62/2k Pringsheim; 1941; LB; animal material; M3vi
- CCAP 62/2m Pringsheim; L; Holland; M9

## POLYTOMELLA Aragao

*Polytomella caeca* Pringsheim

- CCAP 63/2a Pringsheim; pre1937; LB; Germany; M3vi

*Polytomella caeca* var. *minor* Pringsheim

- CCAP 63/2b Pringsheim; 1937; LB; Czechoslovakia; M3vi

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- Polytomella magna* Pringsheim  
 CCAP 63/3 Pringsheim; 1947; L; England; plant material; M3vi; T
- Polytomella papillata* Pringsheim  
 CCAP 63/2c Pringsheim; 1944; L; Scotland; M9; T
- Polytomella parva* Pringsheim  
 CCAP 63/1 Pringsheim; LB; England; soil; M3vi
- PORPHYRA** Ag.  
*Porphyra linearis* Greville  
 CCAP 1379/1 Chen; 1969; LB; Canada; marine; M11; *Conchocelis* stage
- Porphyra miniata* (Ag.) Ag.  
 CCAP 1379/2 Chen; 1968; LB; Canada; marine; M11; *Conchocelis* stage
- PORPHYRIDIUM** Naeg.  
*Porphyridium purpureum* (Bory) Drew & Ross  
 CCAP 1380/1a Vischer; 1947; A; Switzerland; brackish; M16
- POTERIOCHROMONAS** Scherffel  
*Poteroiochromonas malhamensis* (Pringsheim) Peterfi  
 CCAP 933/1a Chen; 1948; L; England; freshwater; M7; T  
 CCAP 933/1c Provasoli; LB; England; freshwater; M5
- Poteroiochromonas sociabilis* (Pringsheim) Peterfi  
 CCAP 933/3 Pringsheim; 1955; L; freshwater; M7; T
- PRASINOCALDUS** Kuckuck; see *Tetraselmis*
- PRASIOCOCCUS** Vischer  
*Prasiococcus calcarius* (J.B. Petersen) Vischer  
 CCAP 365/1 Vischer; 1950; AB; Germany; freshwater; M2
- PRASIOLOA** Ag.  
*Prasiola stipitata* Suhr  
 CCAP 468/2 Provasoli; pre-1977; A; M14
- PROROCENTRUM** Ehr.  
*Prorocentrum micans* Ehr.  
 CCAP 1136/1 Parke; 1956; LB; England; marine; M11  
 CCAP 1136/4 Adams; 1957; LB; England; marine; M11  
 CCAP 1136/6 Ott; LB; USA; marine; M11
- Prorocentrum minimum* (Pav.) J. Schiller  
 CCAP 1112/1 Parke; LB; type material of *Eruviaella mariae-lebouriae*; England; marine; M11; T  
 CCAP 1136/7 Ott; LB; USA; marine; M11
- PROTACANTHAMOEBA** Page  
*Protacanthamoeba caledonica* Page  
 CCAP 1567/1 Page; 1977; AB; Scotland; marine; M20 + b
- PROTOSIPHON** Klebs  
*Protosiphon botryoides* (Kuetz.) Klebs  
 CCAP 731/1a Pringsheim; A; soil; M1  
 CCAP 731/1b Cowan; 1951; A; freshwater; M1  
 CCAP 731/2 Pringsheim; A; freshwater; M1
- Protosiphon botryoides* f. *parieticola* Iyengar  
 CCAP 731/3 Mitra; A; freshwater; M1
- PROTOSTELIOPSIS** Olive & Stoianovitch  
*Protosteliopsis fimicola* Olive  
 CCAP 1569/1 Olive; 1976; (H 76-34); AB; Hawaii; *Leuchaena glauca* pods; M18agar + b



*PROTOSTELIUM* Olive & StoianovitchCCAP 946/3 Holdway; 1976; LB; England;  
brackish; M11*Protostelium mycophaga* Olive & StoianovitchCCAP 1562/1 Stoianovitch & Olive; 1959; AX;  
USA; plant material; medium on  
request; T*Prymnesium patellifera* Green, Hibberd & PienaarCCAP 946/4 Hibberd; 1976; LB; England;  
brackish; M11; T*PROTOTHECA* Krueger*Prototheca chlorelloides* Beij.

CCAP 263/1 Beijerinck?; pre-1922; P?; N; M6

*Prymnesium* ? sp. indet.CCAP 946/2 Butcher; 1958; LB; England; marine;  
M11*Prototheca kruegeri* (?auct.)CCAP 263/6 pre-1922; P?; N; from Delft; plant  
material; M6*PSEUDANABAENA* Lauterborn*Pseudanabaena brunea* (?auct.)CCAP 1464/2 Pringsheim; 1956; LB; freshwater;  
M3*Prototheca moriformis* KruegerCCAP 263/2 Krueger?; pre-1923; P?; N; plant  
material; M6*Pseudanabaena catenata* LauterbornCCAP 1464/1 Pringsheim; 1940; AB; England;  
freshwater; M17*Prototheca portoricensis* Cifferi et al.CCAP 263/3a Ashford; P; N; Puerto Rico; human  
patient; M6; T

CCAP 263/3b Parker; 1965; P?; N; Milk; M6

*Pseudanabaena* sp. indet.

CCAP 1464/3 Parke; LB; marine; M11

*Prototheca portoricensis* var. *trispurus* Cifferi  
et al.CCAP 263/4 Ashford; P?; N; medium on request;  
T*PSEUDENDOCLONIOPSIS* Vischer*Pseudendocloniopsis botryoides* VischerCCAP 465/1 Vischer; 1929; A; Switzerland;  
freshwater; M1; T*Prototheca zopfii* Krueger

CCAP 263/5 Pringsheim; P?; N; M6

*PSEUDENDOCLONIUM* Wille*Pseudendoclonium basiliense* Vischer*Prototheca* sp. indet.

CCAP 263/7 P; N; Hong Kong; human patient; M6

CCAP 466/1 Vischer; 1923; N; Switzerland;  
freshwater; M1; T*PRYMNESIUM* Conrad*Prymnesium parvum* CarterCCAP 946/1b Butcher; 1952; LB; England; marine;  
M11; toxic to fishCCAP 946/1d Reich; 1954; LB; Israel; marine;  
M11*Pseudendoclonium basiliense* var. *brandii* VischerCCAP 466/2 Vischer; 1933; N; Switzerland;  
freshwater; M1; T

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**P?** = possibly pathogenic to man but not proven; **T** = descent from type material;  
**X** = organisms other than bacteria present.

*PSEUDOCHARACIOPSIS* Lee & Bold*Pseudocharaciopsis minuta* (Braun) Hibberd;-*Pseudocharaciopsis texensis* Lee & BoldCCAP 864/1 Tupa; 1969; N; USA; freshwater; M1;  
T*Pseudocharaciopsis ovalis* (Chodat) HibberdCCAP 822/1 Westlake; 1955; AB; as *Ellipsoidion*  
*oocystoides*; England; freshwater;  
M2*PSEUDOCHLOROCOCCUM* Archibald*Pseudochlorococcum polymorphum* Archibald

CCAP 265/2 Archibald; N; USA; soil; M1; T

*Pseudochlorococcum typicum* Archibald

CCAP 265/1 Archibald; A; USA; soil; M1; T

*PSEUDOCOCCOMYXA* Korsh.*Pseudococcomyxa adhaerens* Korsh.CCAP 812/2a Simmonds; 1961; N; England; plant  
material; M1; TCCAP 812/2b Simmonds; 1964; N; England; plant  
material; M1*PSEUDOHOLOPEDIA* Elenkin*Pseudoholopedia convoluta* (Breb.) Elenkin

CCAP 1481/1 Pringsheim; LB; freshwater; M3

*PSEUDOISOCHRYSIS* Ott nom. prov.*Pseudoisochrysis paradoxa* Ott? nom. prov.

CCAP 949/1 Ott; LB; USA; marine; M11

*PSEUDOPARAMOEBA* Page*Pseudoparamoeba pagei* (Sawyer)CCAP 1566/1 Page; 1977; (238); AB; England;  
marine; M19 +bCCAP 1566/2 Page; 1969; (149); AB; USA; marine;  
M19 +b*PSEUDOPEDINELLA* N. Carter*Pseudopedinella* spp. indet.CCAP 947/1a Jowett; 1965; LB; England; marine;  
M11CCAP 947/1b Jowett; 1965; LB; England; marine;  
M11CCAP 947/2 Jowett; 1967; LB; England; marine;  
M11CCAP 947/3 Jowett; 1968; LB; England; marine;  
M11

CCAP 947/4a Butcher; LB; England; marine; M11

CCAP 947/4b Butcher; pre-1965; LB; marine; M11

CCAP 947/5 Jowett; 1967; LB; England; marine;  
M11CCAP 947/6 Jowett; 1967; LB; England; marine;  
M11CCAP 947/7 Jowett; 1967; LB; England; marine;  
M11CCAP 947/8 Jowett; 1965; LB; England; marine;  
M11CCAP 947/9 Jowett; 1966; LB; England; marine;  
M11CCAP 948/1 Parke; pre-1954; LB; England;  
marine; M11; identity doubtfulCCAP 948/2 Preisig; 1980; LB; England;  
freshwater; M2*PSEUDOPLEUROCOCCUS* Snow*Pseudopleurococcus printzii* Vischer; see  
*Dilabifilum printzii* (Vischer) Tschermak-Woess*PSEUDOSCOURFELDIA* Manton; originally under*Nephroselmis longifilis* (Butcher)*Pseudoscourfeldia longifilis* (Butcher) Norris; as  
*Heteromastix*CCAP 1960/3 Parke; 1950; LB; England; marine;  
M11; T*PSEUDOSTICHOCOCCUS* Moewus*Pseudostichococcus monallantoides* MoewusCCAP 364/1 Moewus; 1950; N; Holland; marine;  
M1; T*PSEUDOTREBOUXIA* Archibald*Pseudotrebouxia aggregata* Archibald

CCAP 219/1d Quispel; N; lichen; M1; T

- Pseudotrebouria decolorans* (Ahmadjian ined.)  
Archibald  
CCAP 219/4 Di Benedetto; N: Italy; lichen; M1;  
type of *Trebouria albulescens*  
CCAP 219/5a Ahmadjian; N: lichen; M1; type of  
*Trebouria decolorans*
- Pseudotrebouria incrustata* (Ahmadjian ined.)  
Archibald  
CCAP 219/6 Ahmadjian; N: lichen; M1; T
- Pseudotrebouria potteri* (Ahmadjian ined.)  
Archibald  
CCAP 219/7 Ahmadjian; N: M1; T
- PTEROMONAS** Seligo
- Pteromonas angulosa* Lemmermann  
CCAP 64/3 Pringsheim; 1948; LB; England;  
freshwater; M3
- Pteromonas angulosa* var. *takedana* (West) Pascher  
CCAP 64/2 Pringsheim; 1944; LB; England;  
freshwater; M3
- Pteromonas protracta* Lemmermann  
CCAP 64/1 Pringsheim; 1942; LB; England;  
freshwater; M3
- Pteromonas varians* Jane  
CCAP 64/4 Evans; 1961; LB; England;  
freshwater; M3
- PYRAMIMONAS** Schmarida
- Pyramimonas amyliifera* Conrad  
CCAP 67/3 Adams; 1961; LB; England; marine;  
M11
- Pyramimonas disomata* Butcher  
CCAP 67/24 Pennick; 1978; LB; England; marine;  
M11
- Pyramimonas grossii* Parke  
CCAP 67/10 Reynolds; 1970; LB; Scotland;  
marine; M11  
CCAP 67/11 Pennick; 1974; LB; England; marine;  
M11
- Pyramimonas obovata* Carter  
CCAP 67/6 Parke; 1962; LBX; England; marine;  
M11  
CCAP 67/22 Pennick; 1977; LBX; M11
- Pyramimonas orientalis* Butcher  
CCAP 4/1 Butcher; pre-1957; LBX; marine; M11  
CCAP 67/14 Van der Veer; 1967; LB; England;  
marine; M11
- Pyramimonas parkeae* Norris & Pearson  
CCAP 67/7 Parke; 1963; LB; USA; marine; M11  
CCAP 67/17 Pennick; 1974; LB; England; marine;  
M11  
CCAP 67/15 LB; Plymouth; marine; M11  
CCAP 67/21 Norris; 1966; LB; USA; marine; M11;  
T  
CCAP 67/23 Provasoli; LB; marine; M11  
CCAP 135/2 Adams; 1958; LB; England; marine;  
M11
- Pyramimonas spinifera* ?auct. nom. prov.  
CCAP 67/18 Butcher; LB; England; marine; M11  
CCAP 67/19 Butcher; LB; England; marine; M11
- Pyramimonas virginica* Pennick  
CCAP 67/16 Ott; LB; marine; M11; T
- Pyramimonas* sp. *indet.*  
CCAP 11/92 Butcher; 1959; LB; England; marine;  
M11
- PYROBOTRYS** Arnoldi
- Pyrobotrys stellata* Korsh.  
CCAP 10/1c Pringsheim; 1956; LB; USA;  
freshwater; M3

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M1, M2, M3, ... = media suitable for routine cultivation; N = cryopreserved; P = proven pathogen to man;  
P? = possibly pathogenic to man but not proven; T = descent from type material;  
X = organisms other than bacteria present.

## QUADRIGULA Printz

*Quadrigula closterioides* (Bohlin) PrintzCCAP 268/1 George; 1949; N; Ireland;  
freshwater; M1

## RADIOSPHAERA Snow

*Radiosphaera dissecta* (Korsh.) StarrCCAP 247/1 Starr; 1951; A; England; soil; M1;  
syn. *Actinochloris sphaerica*  
Korsh.

CCAP 3/2b Vischer; 1942; A; soil; M1

*Radiosphaera negevensis* Ocampo-Paus & Friedmann f.  
*negevensis* :

CCAP 247/2 Ocampo-Paus; A; Israel; desert; M1

*Radiosphaera negevensis* f. *minor* Ocampo-Paus &  
FriedmannCCAP 247/3 Ocampo-Paus; A; Israel; desert; M1;  
T*Radiosphaera sphaerica* (Korsh.) Fott;  
=*Radiosphaera dissecta* (Korsh.) Starr

## RAPHIDIOPHRYS Archer

*Raphidiophrys ambigua* PenardCCAP 1568/1 Page; 1974; LBX; England;  
freshwater; medium on request

## RAPHIDONEMA Lagerh.

*Raphidonema longiseta* VischerCCAP 470/1a Vischer; 1932; AB; Switzerland;  
freshwater; M2; T

CCAP 470/1b Pringsheim; N; freshwater; M1

*Raphidonema nivale* Lagerh.

CCAP 470/4 Hoham; 1968; AB; USA; snow; M2

*Raphidonema spiculiforme* VischerCCAP 470/2a Vischer; 1940; A; Switzerland;  
freshwater; M1; TCCAP 470/2b George; 1951; A; England;  
freshwater; M1CCAP 470/2c George; 1951; N; England;  
freshwater; M1*Raphidonema* sp. indet.CCAP 470/3 Belcher; 1961; A; England;  
freshwater; M1

## RHABDOMONAS Fresenius

*Rhabdomonas costata* (Korsh.) PringsheimCCAP 1271/1 Pringsheim; (ON 393); LB;  
Czechoslovakia; M3vi*Rhabdomonas gibba* (Skuja) PringsheimCCAP 1271/2 Pringsheim; 1940; (ON 391); LB;  
England; freshwater; M3vi*Rhabdomonas incurva* Fresenius var. *major*  
PringsheimCCAP 1271/4 Pringsheim; (ON 392B); LB;  
Czechoslovakia; M3vi*Rhabdomonas spiralis* Pringsheim = *Rhabdospira*  
*spiralis*

## RHABDOSPIRA Pringsheim

*Rhabdospira spiralis* (Pringsheim) PringsheimCCAP 1271/5 Pringsheim; 1936; (ON 395); LB;  
Austria; soil; M3vi; T

## RHIZAMOEBA Page

*Rhizamoeba saxonica* PageCCAP 1570/2 Page; 1973; AB; England; marine;  
M19 +b

## RHIZOCLONIUM Kuetz.

*Rhizoclonium hieroglyphicum* (Ag.) Kuetz.

CCAP 540/1 George; 1950; LB; England; soil; M3

## RHIZOCHROMULINA Hibberd &amp; Chretiennot-Dinet

*Rhizochromulina marina* Hibberd & Chretiennot-DinetCCAP 950/1 Chretiennot-Dinet; 1968; LB; France;  
marine; M11; T

*RHODELLA* Evans*Rhodella maculata* Evans

CCAP 1388/2 Droop; LB; marine; M1; T

*RHODOMONAS* Karsten*Rhodomonas* sp. indet.

CCAP 995/2 LB; marine; M11

*RHOPALOCYSTIS* Schussnig*Rhopalocystis* sp. indet.

CCAP 274/1 Flint1962; N; New Zealand; soil; M1

*ROSCULUS* Hawes*Rosculus ithacus* Hawes

CCAP 1571/1 Fennell; 1974; AB; USA; plant material; M20 +b

CCAP 1571/2 Visvesvara; 1980; AB; USA; human nasal swab; M20 +b

*SACCAMOEBA* Frenzel*Saccamoeba limax* (Duj.)

CCAP 1534/6 Page; 1967; AB; USA; freshwater; M20 +b

*Saccamoeba stagnicola* Page

CCAP 1572/1 Page; 1972; AB; England; freshwater; M20 +b; T

CCAP 1572/2 Page; 1972; AB; England; freshwater; M20 +b; T

*SCENEDESMUS* Meyen*Scenedesmus acuminatus* (Lagerh.) Chodat

CCAP 276/12 Algeus; 1942; N; Sweden; freshwater; M1

*Scenedesmus acutiformis* Schroeder

CCAP 276/11 Algeus; 1942; N; Sweden?; freshwater; M1

*Scenedesmus aldevei* Hegewald

CCAP 276/17 Hegewald; 1973; N; Peru; freshwater; M1; T

*Scenedesmus armatus* Chodat

CCAP 276/4c Rodhe; N; Sweden?; freshwater; M1

CCAP 276/4d Algeus; 1942; N; Sweden?; freshwater; M1

CCAP 276/4e Pirson; N; freshwater; M1

*Scenedesmus basiliensis* Chodat

CCAP 276/1a Chodat; N; freshwater; M1

CCAP 276/1b Chodat; N; freshwater; M1

*Scenedesmus bicellularis* Chodat

CCAP 276/14 Moewus; N; freshwater; M1

*Scenedesmus dimorphus* Kuetz.

CCAP 276/10 Algeus; 1942; N; Sweden; freshwater; M1

*Scenedesmus dispar* Breb.

CCAP 276/13 George; 1950; N; Sweden; freshwater; M1

*Scenedesmus fuscus* (Shihara & Krauss) Hegewald

CCAP 211/23 Lewin; N; freshwater; M1

*Scenedesmus naegelii* Chodat

CCAP 276/2 Rodhe; N; Sweden; freshwater; M1

*Scenedesmus obliquus* (Turp.) Krueger

CCAP 276/3a Pringsheim; A; freshwater; M1

CCAP 276/3b Algeus; 1939; N; Sweden; freshwater; M1

CCAP 276/3c Pirson; N; freshwater; M1

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*Scenedesmus opoliensis* Richter

CCAP 276/15 Atkinson; N; Malacca; freshwater;  
M1

*Scenedesmus pannonicus* Hortobagyi

CCAP 276/4a Pringsheim; N; Czechoslovakia;  
freshwater; M1

*Scenedesmus perforatus* Lemmermann

CCAP 276/18 Hegewald; 1975; N; India;  
freshwater; M1

*Scenedesmus pseudodenticulatus* Hegewald

CCAP 276/19 Hegewald; 1973; N; Peru;  
freshwater; M1; T

*Scenedesmus quadricauda* (Turp.) Breb.

CCAP 276/4b Pringsheim; 1940; A & N; England;  
freshwater; M1

CCAP 276/16 Blaauboer; 1974; N; Holland;  
freshwater; M1

*Scenedesmus subspicatus* Chodat

CCAP 276/20 A; from Lepailleur; freshwater; M1

*Scenedesmus* spp. indet.

CCAP 276/5 Pringsheim; N; freshwater; M1

CCAP 276/6a N; Gaffron Clone D3; freshwater; M1

CCAP 276/6b Brown; N; Gaffron Clone D3;  
freshwater; M1

CCAP 276/7 Pringsheim; 1940; N; England;  
freshwater; M1

CCAP 276/8 Lewin; 1950; N; USA; freshwater; M1

CCAP 276/9 Harder; N; Germany?; freshwater; M1

*SCHIZOMERIS* Kuetz.*Schizomeris leibleinii* Kuetz.?

CCAP 376/1 Christensen; A; USA; freshwater; M1

*SCHIZOPLASMODIUM* Olive & Stoianovitch*Schizoplasmodium cavostelioides* Olive & Stoianovitch

CCAP 1577/1 Stoianovitch; 1978; (SV 78-19); AX;  
St. Vincent Island; plant material;  
medium on request

*SCHIZOTHRIX* Kuetz. ex Gomont*Schizothrix calcicola* (Ag.) Gomont

CCAP 1470/1 Myers; AB; freshwater; M17

CCAP 1470/3 Pentecost; 1972; AB; England; soil;  
M17

*Schizothrix calcicola* var. *glomerulata* Baker &  
Bold; see *Phormidium foveolarum* Gomont; also  
*Plectonema boryanum* Gomont

*Schizothrix* sp. indet.

CCAP 1470/2 Ott; LB; freshwater; M3

*SCOTIELLA* Fritsch*Scotiella oocystiformis* Lund

CCAP 277/1 Lund; N; freshwater; M1

*SCRIPPSIELLA* ?auct.*Scrippsiella trochoidea* (Stein) Loeblich

CCAP 1134/1 Parke; 1949; LB; England; marine;  
M11

*SCYTONEMA* Ag. ex Born. & Flah.

*Scytonema hofmannii*? ?auct.; see *Tolypothrix*  
*distorta* var. *symplocoides* Hansgirg

*Scytonema javanicum* Born. in Born. & Thuret

CCAP 1473/1 George; 1964; AB; England; plant  
material; M17

*Scytonema ocellatum* Lyngbye

CCAP 1473/2 Ott; AB; Hawaii; soil; M17

*Scytonema stuposum* (Kuetz.) Born.

CCAP 1473/4 Jeeji-Bai; 1962; AB; India; soil;  
M17

*Scytonema* spp. indet.

CCAP 1410/4 Mitra; LB; freshwater; M3; type of  
*Calothrix anomala* Mitra nom. nud.

CCAP 1473/3 George; 1968; AB; Japan; plant  
material; M17

*SELENASTRUM* Reinsch*Selenastrum bibraianum* Reinsch

CCAP 278/1 Pringsheim; 1940; A; England;  
freshwater; M1

*Selenastrum capricornutum* Printz

CCAP 278/4 A & N; Norw. Inst. Water Res. 1959;  
Norway?; freshwater; M1

*Selenastrum gracile* Reinsch

CCAP 278/2a George; 1947; N; England;  
freshwater; M1  
CCAP 278/2b George; 1954; N; Nigeria;  
freshwater; M1  
CCAP 278/2c Starr; N; USA; freshwater; M1  
CCAP 278/2d Cowan; N; USA; freshwater; M1  
CCAP 278/2e Bourrelly; N; freshwater; M1  
CCAP 278/2f Wurtz; N; France; freshwater; M1  
CCAP 278/2g Lewin; N; USA; freshwater; M1  
CCAP 278/2h Starr; N; USA; freshwater; M1

*Selenastrum minutum* (Naeg.) Collins

CCAP 278/3 Myers; N; freshwater; M1

*SIGNIOSPHAERA* Broady*Signiosphaera multinucleatum* Broady

CCAP 177/1 Broady; 1973; N; Antarctic; plant  
material; M1; T

*SKELETONEMA* Greville*Skeletonema costatum* (Grev.) Cleve

CCAP 1077/1a Droop; LB; marine; M11  
CCAP 1077/1b Robinson; 1950; LB; England;  
marine; M11  
CCAP 1077/1c Reynolds; LB; North Sea; marine;  
M11

*SPHAEROCYSTIS* Chodat*Sphaerocystis bilobata* Broady

CCAP 176/1 Broady; 1973; N; Antarctic; plant  
material; M1; T

*Sphaerocystis oleifera* Broady

CCAP 176/2 Broady; 1973; N; Antarctic; plant  
material; M1; T

*Sphaerocystis signiensis* Broady

CCAP 176/3 Broady; 1973; N; Antarctic; plant  
material; M1; T

*SPHAEROPLEA* Ag.*Sphaeroplea soleirolii* (Duby) Mont.?

CCAP 377/1a Starr; 1951; LB; England;  
freshwater; M3

*Sphaeroplea wilmanae* Fritsch & Rich

CCAP 377/1b George; 1951; LB; South Africa;  
freshwater; M3  
CCAP 377/1c George; 1951; LB; South Africa;  
freshwater; M3  
CCAP 377/1d George; 1951; LB; South Africa;  
freshwater; M3  
CCAP 377/1e George; 1951; LB; South Africa;  
freshwater; M3

*SPHAEROSORUS* Pascher*Sphaerosorus composita* Moewus

CCAP 876/1 Moewus; pre-1951; N; M1; T

*SPIROGYRA* Link*Spirogyra grevilleana* (Hassall) Kuetz.

CCAP 678/1 George; 1947; LB; England;  
freshwater; M3

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**P?** = possibly pathogenic to man but not proven; **T** = descent from type material;  
**X** = organisms other than bacteria present.

- Spirogyra majuscula* (Hassall) Kuetz.  
 CCAP 678/2 George; 1947; LB; England; freshwater; M3
- Spirogyra mirabilis* (Hassall) Kuetz.  
 CCAP 678/9 Rieth; 1969; LB; Germany; freshwater; M3
- Spirogyra pratensis* Transeau  
 CCAP 678/7a Allen; 1952; LB; USA; freshwater; M3  
 CCAP 678/7b Allen; 1952; LB; USA; freshwater; M3  
 CCAP 678/7c Allen; 1952; LB; USA; freshwater; M3
- Spirogyra varians* (Hassall) Kuetz.  
 CCAP 678/3 George; 1947; LB; England; freshwater; M3
- Spirogyra* spp. indet.  
 CCAP 678/4 Pringsheim; pre-1939; LB; Czechoslovakia; freshwater; M3  
 CCAP 678/6 George; 1956; LB; Ireland; freshwater; M3  
 CCAP 678/8 Peck; 1967; LB; England; freshwater; M3
- SPIROSTOMUM** Ehr.  
*Spirostomum ambiguum* Ehr.  
 CCAP 1677/2b George; 1955; LBX; England; freshwater; M3vi
- Spirostomum intermedium* Kahl  
 CCAP 1677/3 George; 1951; LBX; England; freshwater; M3vi
- Spirostomum teres* Clap.? & Lach.?  
 CCAP 1677/1 Chen; 1949; LBX; England; freshwater; M3vi
- SPIRULINA** Gomont  
*Spirulina geitleri* De Toni  
 CCAP 1475/4b Wood; LB; Ethiopia; alkali lake; medium on request  
 CCAP 1475/4c Clement; LB; Lake Chad; brackish; medium on request
- CCAP 1475/6 Blakey; 1974; LB; Kenya; brackish; medium on request
- Spirulina major* Kuetz.  
 CCAP 1475/3 George; 1953; LB; England; brackish; medium on request
- Spirulina platensis* (Nordst.?) Geitler  
 CCAP 1475/4a George; 1955; LB; Mexico; alkali lake; medium on request
- Spirulina subsalsa* Oerst.? ex Gomont f. *versicolor*  
 CCAP 1475/2 Pringsheim; 1949; LB; England; marine; medium on request
- Spirulina* sp. indet.  
 CCAP 1475/1 Pringsheim; 1951; LB; England; marine; medium on request
- SPONDYLIOSIUM** Breb.  
*Spondyliosium pulchellum* Archer  
 CCAP 680/1 George; 1952; LB; Ireland; freshwater; M3
- SPONGIOCHLORIS** Starr  
*Spongiochloris excentrica* Starr  
 CCAP 280/1 Bold; N; USA; soil; M1; T
- Spongiochloris spongiosa* (Vischer) Starr  
 CCAP 3/1 Vischer; 1942; A; Switzerland; soil; M1; T  
 CCAP 3/2a Pringsheim; A; England; soil; M1
- SPUMELLA** Cienkowski  
*Spumella elongata* (Stokes) Belcher & Swale  
 CCAP 955/1 Belcher & Swale; 1974; LB; England; soil; M18 +grain
- STACHYAMOEBA** Page  
*Stachyamoeba lipophora* Page  
 CCAP 1579/1 Darbyshire; 1973; AB; Scotland; soil; M20 +b; T



<i>STAUSTRUM</i> Ralfs		CCAP 78/1c	Pringsheim; 1950; LB; Sweden; freshwater; M3
<i>Staurastrum chaetoceros</i> (Schroeder) G. M. Smith		CCAP 78/1d	Pringsheim; 1950; LB; Sweden; freshwater; M3
CCAP 679/7	Jaworski; 1972; LB; England; freshwater; M3		
<i>Staurastrum gracile</i> Ralfs			
CCAP 679/3	Rodhe; LB; Sweden; freshwater; M3		
<i>Staurastrum lunatum</i> Ralfs			
CCAP 679/6	Lund; 1959; LB; England; freshwater; M3	CCAP 379/1a	Vischer; A & N; freshwater; M1
<i>Staurastrum muricatum</i> Breb.?		CCAP 379/1b	Vischer; 1923; N; Switzerland; freshwater; M1
CCAP 679/5	George; 1956; LB; Ireland; freshwater; M3	CCAP 379/1c	Algeus; N; Sweden; freshwater; M1
<i>Staurastrum orbiculare</i> Ralfs? var. <i>ralfsii</i> W. & G.S. West		CCAP 379/1d	Lewin; 1952; N; Alaska; freshwater; M1
CCAP 679/2	Ondracek; A; freshwater; M1	CCAP 379/1e	Gray; 1956; N; England; cow's stomach; M1
<i>Staurastrum</i> sp. indet. aff. <i>S. teliferum</i>		CCAP 379/5	Parke; 1949; N; England; marine; M11
CCAP 679/4	King; 1953; LB; Wales; freshwater; M3	CCAP 379/6	Hoham; 1968; AB; USA; snow; M2; type of <i>Stichococcus cylindricus</i> Butcher
<i>STENTOR</i> Oken		CCAP 379/7	Taddei; 1976; N; Italy; acid water/sulphur springs; M1
<i>Stentor coeruleus</i> Ehr.		CCAP 379/8	Taddei; 1976; N; Italy; acid water/sulphur springs; M1
CCAP 1682/1	George; 1963; LBX; England; freshwater; M3vi	CCAP 379/9	Taddei; 1976; N; Italy; acid water/sulphur springs; M1
<i>Stentor polymorphus</i> (Mueller)		CCAP 379/10	Taddei; 1976; N; Italy; acid water/sulphur springs; M1
CCAP 1682/2	Goodfellow; 1975; LBX; England; freshwater; M21 +grain	CCAP 379/11	Taddei; 1976; N; Italy; acid water/sulphur springs; M1
<i>STEPHANOSPHERA</i> Cohn		CCAP 379/12	Taddei; 1976; N; Italy; acid water/sulphur springs; M1
<i>Stephanosphaera pluvialis</i> Cohn		CCAP 379/13	Taddei; 1976; N; Italy; acid water/sulphur springs; M1
CCAP 78/1a	Pringsheim; 1950; LB; Sweden; freshwater; M3	CCAP 379/14	Taddei; 1976; N; Italy; acid water/sulphur springs; M1
CCAP 78/1b	Pringsheim; 1950; LB; Sweden; freshwater; M3	CCAP 379/15	Taddei; 1976; N; Italy; acid water/sulphur springs; M1
		CCAP 379/16	Taddei; 1976; N; Italy; acid water/sulphur springs; M1
		CCAP 379/17	Taddei; 1976; N; Italy; acid water/sulphur springs; M1
		CCAP 379/18	Taddei; 1976; N; Italy; acid water/sulphur springs; M1
		CCAP 379/19	Taddei; 1976; N; Italy; acid water/sulphur springs; M1
		CCAP 379/20	Taddei; 1976; N; Italy; acid water/sulphur springs; M1
		CCAP 379/21	Taddei; 1976; N; Italy; acid water/sulphur springs; M1

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- CCAP 379/22 Taddei; 1976; N; Italy; acid water/sulphur springs; M1  
 CCAP 379/23 Taddei; 1976; N; Italy; acid water/sulphur springs; M1  
 CCAP 379/24 Taddei; 1976; N; Italy; acid water/sulphur springs; M1  
 CCAP 379/25 Taddei; 1976; N; Italy; acid water/sulphur springs; M1

*Stichococcus chloranthus* Krueger

- CCAP 379/2 Krueger; N; East Germany; freshwater; M1; T

*Stichococcus fragilis* Gray?

- CCAP 379/4 Lewin; N; USA; freshwater; M1

*Stichococcus mirabilis* Lagerh.

- CCAP 379/3 Pringsheim; N; freshwater; M1

*STICEOCLONIUM* Kuetz.*Stigeoclonium amoenum* Kuetz.?

- CCAP 477/8 Reynolds; A; freshwater; M1

*Stigeoclonium farctum* Berthold

- CCAP 477/10a Reynolds; LB; Wales; freshwater; M3  
 CCAP 477/10b Butcher; LB; freshwater; M3

*Stigeoclonium helveticum* Vischer var. *minus* Vischer

- CCAP 477/1 Vischer; 1925; A; Switzerland; freshwater; M1; T

*Stigeoclonium huberi* Heering?

- CCAP 477/7 Reynolds; AB; freshwater; M2

*Stigeoclonium nanum* Kuetz.

- CCAP 477/18 Butcher; LB; England; freshwater; M3

*Stigeoclonium pascheri* (Vischer) Cox & Bold; see *Caespitella pascheri* Vischer*Stigeoclonium tenue* Kuetz.

- CCAP 477/11a Reynolds; LB; Wales; freshwater; M3  
 CCAP 477/11b Butcher; LB; England; freshwater; M3

*Stigeoclonium variabile* Naeg.?

- CCAP 477/13 Butcher; LB; England; freshwater; M3

*Stigeoclonium* spp. indet.

- CCAP 477/3 Lewin; AB; USA; freshwater; M2  
 CCAP 477/4 Lewin; A; USA; freshwater; M1  
 CCAP 477/6 Lewin; A; USA; freshwater; M1  
 CCAP 477/9 Reynolds; AB; freshwater; M2  
 CCAP 477/12 Reynolds; LB; Wales; freshwater; M3  
 CCAP 477/14 Reynolds; 1950; LB; England; freshwater; M3  
 CCAP 477/15 Reynolds; LB; Wales; freshwater; M3  
 CCAP 477/16 Reynolds; LB; Wales; freshwater; M3  
 CCAP 477/17 Reynolds; LB; Wales; freshwater; M3  
 CCAP 477/19a Lewin; A; USA; freshwater; M1  
 CCAP 477/19b Lewin; A; USA; freshwater; M1  
 CCAP 477/19c Lewin; A; USA; freshwater; M1  
 CCAP 477/19d Lewin; A; USA; freshwater; M1  
 CCAP 477/19e Lewin; A; USA; freshwater; M1  
 CCAP 477/20 Vischer; AB; Switzerland?; freshwater; M2  
 CCAP 477/21 Vischer; AB; Switzerland?; freshwater; M2  
 CCAP 477/22 Vischer; A; Switzerland; plant material; M1  
 CCAP 477/23 Vischer; A; Switzerland?; freshwater; M1

*STREBLONEMA* Derbes & Solier*Streblonema* sp. indet.

- CCAP 1337/1 Lewin; AB; USA; marine; M14; grows poorly

*STROMBOMONAS* Deflandre*Strombomonas conspersa* (Pascher) Deflandre

- CCAP 1280/1 Pringsheim; 1943; LB; England; M3

*SYMPLOCA* Kuetz.*Symploca muscorum* (Ag.) Gom.

- CCAP 1478/1 George; 1955; AB; Canada; freshwater; M17

## SYNCRYPSTA Ehr.

*Syncrypta glomerifera* Clarke & Pennick

CCAP 958/1 Butcher; LB; England; estuarine;  
M1; T

## SYNECHOCOCCUS Naeg.

*Synechococcus elongatus* Naeg. : see *Anacystis marina* (Hansging) Drouet & Daily

CCAP 1479/1b Laporte; 1964; AB; France;  
freshwater; M2

*Synechococcus leopoliensis* (Racib.) Komarek

CCAP 1405/1 Kratz; A; USA; freshwater; M17;  
see Komarek 1970 for account of  
generic identity of this strain,  
which has been much used under the  
name *Anacystis nidulans*

*Synechococcus* sp. indet.

CCAP 1479/5 LB; USSR?; freshwater; M3

## SYNECHOCYSTIS Sauvageau

*Synechocystis minima* Bourrelly

CCAP 1480/1 Pringsheim; 1948; AB; freshwater;  
M2

## SYNURA Ehr.

*Synura petersenii* Korsh.

CCAP 960/1a Pringsheim; LB; freshwater; M3  
CCAP 960/1b Pringsheim; LB; freshwater; M3  
CCAP 960/1c Pringsheim; LB; freshwater; M3  
CCAP 960/1d Cann; 1980; LB; England;  
freshwater; M3

*Synura uvella* Ehr.

CCAP 960/2 Pringsheim; LB; freshwater; M3

## TABELLARIA Ehr.

*Tabellaria flocculosa* (Roth.) Kuetz.

CCAP 1081/1 Jaworski; 1974; LB; England;  
freshwater; M3

## TETRACYSTIS Brown &amp; Bold

*Tetracystis aerea* Brown & Bold

CCAP 181/1a Brown; 1960; A; USA; air; M1; T  
CCAP 181/1b Brown; 1960; A; USA; air; M1

*Tetracystis aggregata* Brown & Bold

CCAP 181/2 Brown; 1960; A; USA; air; M1; T

*Tetracystis applanosporum* (Arce & Bold) Brown & Bold

CCAP 181/9 Arce; A; Cuba; soil; M1; T

*Tetracystis dissociata* Brown & Bold

CCAP 207/1b Vischer; A; freshwater; M1; T

*Tetracystis excentrica* Brown & Bold

CCAP 181/3 Brown; 1961; A; USA; soil; M1; T

*Tetracystis illinoisensis* Brown & Bold

CCAP 181/4 Walne & Cox; 1962; A; USA; air; M1;  
T

*Tetracystis intermedium* (Deason & Bold) Brown & Bold

CCAP 181/10 AB; freshwater; M2; T

*Tetracystis isobilateralis* Brown & Bold

CCAP 181/5 Johnston; 1960; A; USA; soil; M1; T

*Tetracystis pampae* Brown & Bold

CCAP 181/6 Brown; 1961; A; USA; soil; M1; T

*Tetracystis pulchra* Brown & Bold

CCAP 181/7 Sweet; 1962; A; USA; soil; M1; T

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BT = patent applied for under the conditions of the Budapest Treaty; L = liquid medium;  
M1, M2, M3, ... = media suitable for routine cultivation; N = cryopreserved; P = proven pathogen to man;  
P? = possibly pathogenic to man but not proven; T = descent from type material;  
X = organisms other than bacteria present.

- Tetracystis tetrasporum* (Arce & Bold) Brown & Bold  
 CCAP 181/11 Arce; A; Cuba; soil; M1; T
- Tetracystis texensis* Brown & Bold  
 CCAP 181/8 Mattox; A; USA; soil; M1; T
- TETRAEDRON** Kuetz.  
*Tetraedron bitridens* Beck Mannagetta  
 CCAP 282/1 Starr; 1952; N; USA; soil; M1
- TETRAHYMENA** Furgason  
*Tetrahymena americanis* Nanney & McCoy  
 CCAP 1630/7a L; Mating type 4; USA; freshwater; M8  
 CCAP 1630/7b L; Mating type 8; USA; freshwater; M8
- Tetrahymena australis* Nanney & McCoy  
 CCAP 1630/12a L; Mating type 2 (?); Australia; freshwater; M8  
 CCAP 1630/12b L; Mating type 3; Australia; freshwater; M8
- Tetrahymena borealis* Nanney & McCoy  
 CCAP 1630/5a L; Mating type 2; freshwater; M8  
 CCAP 1630/5b L; Mating type 6; freshwater; M8
- Tetrahymena canadensis* Nanney & McCoy  
 CCAP 1630/6a L; Mating type 1; N. America; freshwater; M8  
 CCAP 1630/6b L; Mating type 2 (?); N. America; freshwater; M8
- Tetrahymena capricornis* Nanney & McCoy  
 CCAP 1630/13a L; Mating type 1; Australia; freshwater; M8  
 CCAP 1630/13b L; Mating type 4; Australia; freshwater; M8
- Tetrahymena cosmopolitanis* ? Nanney & McCoy  
 CCAP 1630/10 L; Identification doubtful; freshwater; M8
- Tetrahymena elliotti* Nanney & McCoy  
 CCAP 1630/1c Lwoff; 1922?; L; France; M8; old CCAP GL strain
- CCAP 1630/1d pre-1973; L; M8; Eichel's GL strain  
 CCAP 1630/1e Elliott; 1932; L; USA; M8
- Tetrahymena furgasoni* Nanney & McCoy  
 CCAP 1630/1a Lwoff; L; M8; ATCC 30006 GL strain
- Tetrahymena hyperangularis* Nanney & McCoy  
 CCAP 1630/9a L; Mating type 1; M8  
 CCAP 1630/9b L; Mating type 3; M8
- Tetrahymena limacis* (Warren)  
 CCAP 1630/16 Kozloff; (MF1); L; M8
- Tetrahymena lwoffii* Nanney & McCoy  
 CCAP 1630/1g Chatton; 1925; (Ch-S); L; France; M8  
 CCAP 1630/1j Johnson; 1934; (Gf-J); L; USA; M8  
 CCAP 1630/1k Hetherington; 1934; (GP); L; USA; M8  
 CCAP 1630/3a Kidder; 1942; (PP); L; USA; M8
- Tetrahymena patula* (Mueller) Corliss  
 CCAP 1630/2 Faure-Fremiet/Lwoff; 1942; (L-FF); L; France; M8; T
- Tetrahymena pigmentosa* ? Nanney & McCoy  
 CCAP 1630/8a L; Identification questionable; M8  
 CCAP 1630/8b L; Identification questionable; M8
- Tetrahymena pyriformis* (Ehr.) sensu Nanney & McCoy  
 CCAP 1630/1f Lwoff; L; Frankel's GL; M8  
 CCAP 1630/1h Hetherington; 1931; (H); L; USA; M8  
 CCAP 1630/1s Seaman; 1946; (S); L; USA; M8  
 CCAP 1630/1t Thomas; 1931; (T); L; USA; M8  
 CCAP 1630/1w Claff; 1939; (W); L; USA; M8  
 CCAP 1630/1z Lwoff; L; Zeuthen's GL; USA; M8
- Tetrahymena pyriformis* (Ehr.) sensu lato; Identifications according to Nanney & McCoy system undetermined.  
 CCAP 1630/1b Phelps; 1949; (HS); L; USA; thermal waters; M8  
 CCAP 1630/1aa Robertson; 1935; (GL-R); L; England; M8  
 CCAP 1630/1bb Phelps; L; Eichel's HS; M8  
 CCAP 1630/1cc Cameron; (HSM); L; USA; thermal waters; M8  
 CCAP 1630/1x Loefer; 1948; (LI); L; USA; M8  
 CCAP 1630/1y Loefer; 1948; (LII); L; USA; M8  
 CCAP 1630/3b Lilly; 1940; (V<sub>1</sub>); L; USA; M8  
 CCAP 1630/14a L; Identification uncertain; M8  
 CCAP 1630/14b L; Identification uncertain; M8

*Tetrahymena rostrata* (Kahl)

CCAP 1630/17 L: from Clermont-Ferrand; M8

*Tetrahymena setifera* Holz & Corliss

CCAP 1630/18 Holz: pre-1956; (HZ1); L: USA; M8

*Tetrahymena thermophila* Nanney & McCoy

CCAP 1630/1m Phelps: 1948/9; (N); L: Mating type 1; USA; M8

CCAP 1630/1n Phelps: 1948/9; (N); L: Mating type 2; USA; M8

CCAP 1630/1p Phelps: 1948/9; (N); L: Mating type 3; USA; M8

CCAP 1630/1q Phelps: 1948/9; (N); L: Mating type 4; USA; M8

CCAP 1630/1r Elliott: (WH6); L: Mating type 1; USA; M8

CCAP 1630/1u Elliott: (WH14); L: Mating type 2; USA; M8

CCAP 1630/4a L: Mating type 2; M8

CCAP 1630/4b L: Mating type 7; M8

CCAP 1630/19 Orias &amp; Porlock: 1973; (NP1); L: Mating type 3; M8

*Tetrahymena tropicalis* Nanney & McCoy

CCAP 1630/11a L: Mating type 1; USA; M8

CCAP 1630/11b L: Mating type 3; USA; M8

*Tetrahymena vorax* (Kidder, Lilly & Claff) KidderCCAP 1630/3c Lilly: 1947; (V<sub>2</sub>); L: USA; freshwater; M8**TETRAMITUS** Perty*Tetramitus rostratus* Perty

CCAP 1581/1 AB: USA; human urine; M20 +b

**TETRASELMIS** Stein*Tetraselmis apiculata* (Butcher) Butcher

CCAP 66/15 Butcher: A; England; brackish; M14

CCAP 66/17 Butcher: A; marine; M14; T

CCAP 66/20 Butcher: A; England; marine; M14

*Tetraselmis carteriiformis* Butcher

CCAP 66/2 Droop: 1952; A; Scotland; marine; M14; T

*Tetraselmis chui* Butcher

CCAP 8/6 Chu: A; Scotland; marine; M14; T

CCAP 66/21a Butcher: 1958; A; England; marine; M14

CCAP 66/21b Butcher: 1960; A; England; marine; M14

CCAP 66/21c Butcher: A; England; marine; M14

*Tetraselmis convolutae* (Parke & Manton) Norris et al.

CCAP 66/9 Provasoli: 1958; A; marine; M14

CCAP 66/10 Jowett: A; France; marine; M14; T

*Tetraselmis gracilis* (Kylin) Butcher

CCAP 66/13 Butcher: 1959; A; England; marine; M14

CCAP 161/4 Littler: 1973; A; USA; marine; medium on request

*Tetraselmis hazeni* Butcher

CCAP 66/7 Butcher?: A; marine; M14

*Tetraselmis impellucida* (McLachlan & Parke) Norris et al.

CCAP 161/5 Pintner: A; Puerto Rico; marine; M14; T

*Tetraselmis inconspicua* Butcher

CCAP 66/19a Butcher: 1955; A; England; marine; M14

CCAP 66/19b Butcher: A; England; marine; M14

CCAP 66/19c Butcher: 1959; A; England; brackish; M14

CCAP 66/19d Butcher: A; England; marine; M14

*Tetraselmis levis* Butcher

CCAP 66/12 Butcher: 1956; A; England; marine; M14

*Tetraselmis marina* (Cienkowski) Norris et al.

CCAP 163/1a Parke: A; England; marine; M15

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- CCAP 163/1b Parke; A; England; marine; M15
- Tetraselmis rubens* Butcher
- CCAP 66/6 Butcher; A; England; brackish; M14;  
T
- CCAP 66/18a Butcher; A; England; marine; M14
- CCAP 66/18b Butcher; A; England; marine; M14
- Tetraselmis striata* Butcher
- CCAP 66/5 Knight-Jones; 1946; A; Wales;  
marine; M1; T
- CCAP 66/16 Butcher; A; Wales; marine; M14
- CCAP 66/30 Provasoli; A; marine; M14
- Tetraselmis subcordiformis* Wille
- CCAP 161/1a Lewin; 1952; A; USA; marine; M15
- CCAP 161/1b Strout; 1952; A; USA; marine; M15
- CCAP 161/3 A; Caltech *Platymonas* A; USA;  
marine; medium on request
- Tetraselmis suecica* (Kylin) Butcher
- CCAP 66/4 Bernhard; pre1962; A; Italy;  
marine; M15
- CCAP 66/22a Butcher; 1959; A; England; marine;  
M14
- CCAP 66/22b Butcher; 1960; A; Guernsey; marine;  
M14
- CCAP 66/22c Butcher; 1958; A; England; marine;  
M14
- CCAP 66/22d Butcher; 1959; A; England; marine;  
M14
- Tetraselmis tetrathele* (West) Butcher
- CCAP 66/1a George; 1950; A; England; brackish;  
M15
- CCAP 66/1b George; 1950; A; England; brackish;  
medium on request
- CCAP 66/1c Butcher; pre-1961; A; marine;  
medium on request
- CCAP 66/1d Butcher; 1956; A; England; marine;  
M14
- CCAP 66/14 Butcher; 1958; A; England; marine;  
M14
- CCAP 161/2 Droop; 1952; A; Wales; brackish;  
M14
- Tetraselmis verrucosa* Butcher
- CCAP 66/23 Butcher; A; Wales; marine; M14
- CCAP 163/3 Butcher; A; England; marine; M15; T
- CCAP 163/4 Butcher; A; marine; M15
- Tetraselmis* spp. indet.
- CCAP 66/3 Wood; A; Australia; marine; M15
- CCAP 66/8 Parke; 1965; A; England; marine;  
M14
- CCAP 66/11 Jowett; 1965; A; England; marine;  
M14
- CCAP 66/24 Butcher; A; Adriatic; marine; M14
- CCAP 66/25 Butcher; A; France; marine; M14
- CCAP 66/26 Butcher; A; France; marine; M14
- CCAP 66/27 Butcher; A; Malta; marine; M14
- CCAP 66/28 Butcher; A; Adriatic; marine; M14
- CCAP 66/29 Butcher; A; Monaco; marine; M14
- TETRASTRUM* Chodat
- Tetrastrum staurogeneiformis* (Schroeder)  
Lemmermann
- CCAP 284/1 Belcher & Swale; 1975; LB; England;  
freshwater; M3
- THALASSIOSIRA* Cleve
- Thalassiosira fluviatilis* ?auct.
- CCAP 1085/1 Belcher; 1975; LB; England; marine;  
M11
- THECAMOEBA* Fromentel
- Thecamoeba orbis* Schaeffer
- CCAP 1583/2 Page; 1969; (78); AB; USA; marine;  
M19
- Thecamoeba quadrilineata* (Carter)
- CCAP 1583/7 Page; 1971; ABX; England;  
freshwater; M18agar +b
- Thecamoeba similis* (Greeff)
- CCAP 1583/8 Page; 1974; (180); AB; England;  
soil; M18agar +b
- Thecamoeba sphaeronucleolus* (Greeff)
- CCAP 1583/3 Page; 1969; (74); ABX; USA;  
freshwater; M18agar +b
- Thecamoeba striata* (Penard)
- CCAP 1583/4 Page; 1969; (75); ABX; USA;  
freshwater; M18agar +b

- Thecamoeba terricola* (Greeff)  
 CCAP 1583/9 Page: 1974; ABX; England; soil; M18agar +b; accompanied by *Acanthamoeba*
- TOLYPOTHRIX** Kuetz. ex Born. & Flah.  
*Tolypothrix distorta* Kuetz.  
 CCAP 1482/5 George: 1962; AB; USA; soil; M2  
*Tolypothrix distorta* var. *symplocoides* Hansgirg  
 CCAP 1482/2 Manten: 1948; AB; Holland; soil; M17 = *Scytonema hofmanii*? ?auct.  
*Tolypothrix tenuis* Kuetz.  
 CCAP 1482/3a Watanabe: AB; Japan; freshwater; M17  
 CCAP 1482/3b Watanabe: AB; Borneo; freshwater; M17
- TRACHELOMONAS** Ehr.  
*Trachelomonas bulla* Stein  
 CCAP 1283/6 Pringsheim: 1951; LB; France; freshwater; M3  
*Trachelomonas deflandrii* Pringsheim  
 CCAP 1283/7a Pringsheim: LB; freshwater; M3; T  
*Trachelomonas grandis* Singh  
 CCAP 1283/20 Singh: LB; USA; freshwater; M3; T  
*Trachelomonas hispida* (Perty) Stein emend. Deflandre  
 CCAP 1283/8 Pringsheim: LB; freshwater; M3  
*Trachelomonas hispida* var. *acuminata* Deflandre  
 CCAP 1283/9 Pringsheim: 1940; LB; England; freshwater; M3
- Trachelomonas hispida* var. *coronata* Lemmermann  
 CCAP 1283/2 Pringsheim: 1940; LB; England; freshwater; M3  
*Trachelomonas lefevrei* Deflandre  
 CCAP 1283/10a Pringsheim: 1943; LB; England; freshwater; M3  
 CCAP 1283/10c Pringsheim: 1952; LB; England; freshwater; M3  
*Trachelomonas oblonga* var. *punctata* Pringsheim  
 CCAP 1283/12 Pringsheim: LB; freshwater; M3; T  
*Trachelomonas pertyi* Pringsheim  
 CCAP 1283/13 Pringsheim: 1945; LB; England; freshwater; M3; T  
*Trachelomonas volvocina* Ehr.  
 CCAP 1283/4b Pringsheim: 1945; LB; England; freshwater; M3  
*Trachelomonas volvocinopsis* var. *spiralis* Pringsheim  
 CCAP 1283/17 Pringsheim: 1943; LB; England; freshwater; M3; T  
*Trachelomonas zorensis* Deflandre  
 CCAP 1283/18 Pringsheim: 1940; LB; England; freshwater; M3
- TREBOUXIA** De Puymaly; see also *Pseudotrebourgia*  
*Trebourgia anticipata* (Ahmadjian Ined.) Archibald  
 CCAP 219/3 Ahmadjian: N; from *Paramecium indicta*; M1; T  
*Trebourgia arboricola* De Puymaly  
 CCAP 219/1a Kluyver: N; Holland; M1  
*Trebourgia crenulata* Archibald  
 CCAP 219/1b Quispel: 1952; N; Holland; from *Paramecium acetabulum*; M1

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- CCAP 219/2 Richardson; 1965; N; England; lichen; M1; T
- Trebouxia flava* Archibald
- CCAP 219/1c Quispel; N; Holland; *Physcia pulverulenta*; M1; T
- Trebouxia italiana* Archibald
- CCAP 219/5b Tomasalli; N; Italy; lichen; M1; T
- Trebouxia* spp. indet.
- CCAP 213/1b Beijerinck; N; Holland; M1
- CCAP 213/3 Beijerinck; A & N; Holland; lichen; M1
- TRENTEPOHLIA** Martius
- Trentepohlia aurea* Martius
- CCAP 483/1 George; 1949; AB; Wales; wall; M2
- Trentepohlia dialepta* (Nylander) Heriot?
- CCAP 483/2 George; 1962; AB; Uganda; aerial; M2
- Trentepohlia* sp. indet.
- CCAP 483/3 George; 1964; AB; Ireland; wall; M2
- TRIBONEMA** Derbes & Solier
- Tribonema aequale* Pascher
- CCAP 880/1 Pringsheim; A; Czechoslovakia; soil; M1
- Tribonema viride* Pascher
- CCAP 880/3 George; 1948; LB; England; freshwater; M3
- Tribonema* sp. indet.
- CCAP 880/2 Christensen; 1949; AB; England; freshwater; M2
- TRICHOSPHAERIUM** Schneider
- Trichosphaerium sieboldi* Schn.
- CCAP 1585/1 Page; 1975; LBX; England; marine; M12
- TRINEMA* Duj.
- Trinema lineare* Penard
- CCAP 1584/1 Hedley; 1970; LB; England; soil; M18 + b
- TRYPANOSOMA** Gruby
- Trypanosoma chattoni* Mathis & Leger
- CCAP 1981/7 Baker; 1973; (F12); N; Ethiopia; *Ptychadena mascareniensis*; M22 or M23; P I No. GAMBELA/73/BPUC/12
- Trypanosoma mega* Dutton & Todd
- CCAP 1981/2 Baker; 1973; (T 13); N; Ethiopia; *Bufo regularis*; M22 or M23; P I No. GAMBELA/73/BPUC/13
- TRYPANOSOMA** Gruby *MEGATRYPANUM* Hoare
- Trypanosoma megadermae* Wenyon
- CCAP 1981/6 Baker et al.; 1979; (AB 71); N; Egypt; *Rhinopoma hardwickei*; M22 or M23; P I No. ASSIUT/79/AUMP/71
- Trypanosoma theileri* Laveran
- CCAP 1981/8 Townsend & Selden; 1979; (Phlox); N; England; *Bos taurus*; M22 or M23
- TRYPANOSOMA** Gruby *SCHIZOTRYPANUM* Chagas
- Trypanosoma dionisii* Bettencourt & Franca
- CCAP 1981/1 Liston; 1976; (P3 clone 3); N; England; culture of 1981/9; M22 or M23; P I No. LONDON/71/BPUC/3
- CCAP 1981/9 Baker; 1971; (P3); N; England; *Pipistrellus pipistrellus*; M22 or M23; P I No. LONDON/71/BPUC/3
- CCAP 1981/13 Baker; 1971; (P2); N; England; *Pipistrellus pipistrellus*; M22 or M23; P I No. LONDON/71/BPUC/2
- Trypanosoma dionisii* Bettencourt & Franca *breve* Baker & Miles
- CCAP 1981/3 Landau & Killick-Kendrick; 1977; (C2); N; France; *Myotis blythii oxygnathus*; M22 or M23; T



- CCAP 1981/4 Landau & Killick-Kendrick; 1977; (C3); N; France; *Myotis blythii oxygnathus*; M22 or M23; T
- Trypanosoma hedricki* Bower & Woo
- CCAP 1981/11 Bower & Woo; 1977; (4F76 clone 1); N; Canada; *Eptesicus fuscus*; M22 or M23; P I No. ONTARIO/77/UGZ/1
- Trypanosoma myoti* Bower & Woo
- CCAP 1981/12 Bower & Woo; 1977; (65S77); N; Canada; *Myotis leucifugus*; M22 or M23; P I No. ONTARIO/77/UGZ/2
- Trypanosoma vespertilionis* Battaglia
- CCAP 1981/10 Baker; 1971; (N2); N; England; *Nyctalus noctula*; M22 or M23; P I No. WALDEN/71/BPUC/2
- TRYPANOSOMA Gruby TRYPANOMORPHA Woodcock
- Trypanosoma corvi* Stephens & Christophers
- CCAP 1981/5 Baker; 1970; (348); N; England; *Corvus frugilegus*; M22 or M23
- ULOTHRIX Kuetz.; see *Hormidium* and *Klebsormidium*
- Ulothrix crenulata* (Kuetz.) Kuetz.
- CCAP 335/6 Pringsheim; LB; England; soil; M3; syn. *Hormidium crenulatum* Kuetz.; also *Klebsormidium*? spp. indet.
- Ulothrix confervicola* (Lag.) Mattox & Bold
- CCAP 386/2 Pringsheim; A; USA; freshwater; M1
- Ulothrix fimbriata* Bold
- CCAP 384/2 Bold; 1955; A; USA; freshwater; M1; T
- Ulothrix gigas* (Vischer) Mattox & Bold
- CCAP 386/3 Vischer; 1930; AB; Switzerland; freshwater; M2; type of *Uronema gigas*
- Ulothrix minuta* Mattox & Bold
- CCAP 386/1 Pringsheim; A; USA; freshwater; M1; T
- Ulothrix trentonense* Lee
- CCAP 386/5 AB; freshwater; M2
- Ulothrix* sp. indet.
- CCAP 386/4 Pringsheim; 1949; A; freshwater; M1; type of *Uronema terrestre* Mitra
- UROCENTRUM Nitzsch
- Urocentrum turbo* (Mueller)
- CCAP 1685/1 Rodel; 1980; LBX; England; freshwater; medium on request
- URONEMA Duj.
- Uronema marinum*? ?auct.
- CCAP 1686/2 Burkhill; 1973; LB; England; marine; medium on request
- Uronema schewiakoffi* Buddenbrock
- CCAP 1686/1 Parke; LB; marine; medium on request
- VAHLKAMPFIA Chatton & Lalung-Bonnaire
- Vahlkampfia aberdonica* Page
- CCAP 1588/4 Darbyshire; 1972; AB; Scotland; soil; M20 +b; T
- Vahlkampfia avara* Page
- CCAP 1588/1a Page; 1964; (33); AB; USA; freshwater; M20 +b; T
- CCAP 1588/1b Page; 1964; (37); AB; USA; freshwater; M20 +b; T

Abbreviations: A = agar slope; +b = bacteria added to medium as a food organism; B = bacteria present; BT = patent applied for under the conditions of the Budapest Treaty; L = liquid medium; M1, M2, M3, ... = media suitable for routine cultivation; N = cryopreserved; P = proven pathogen to man; P? = possibly pathogenic to man but not proven; T = descent from type material; X = organisms other than bacteria present.

*Vahlkampfia damariscottae* Page

CCAP 1588/7 Page: 1969; (87); AB: USA; marine;  
M19 +b; T

*Vahlkampfia enterica* Page

CCAP 1588/5 Kadlec: 1972; AB: Czechoslovakia;  
from a turkey; M20 +b; T

*Vahlkampfia inornata* Page

CCAP 1588/2 Page: 1964; (18); AB: USA;  
freshwater; M20 +b; T

*Vahlkampfia ustiana* Page

CCAP 1588/6 Cerva: 1972; AB: Czechoslovakia;  
freshwater; M20 +b; T

## VANNELLA Bovee

*Vannella aberdonica* Page

CCAP 1589/9 Page: 1978; AB: Scotland; marine;  
M19 +b; T

*Vannella anglica* Page

CCAP 1589/8 Page: 1978; AB: England; marine;  
M19 +b; T

*Vannella arabica* Page

CCAP 1589/7 Page: 1977; AB: Kuwait; marine;  
M19 +b; T

*Vannella caledonica* Page

CCAP 1589/6 Page: 1977; AB: Scotland; marine;  
M19 +b; T

*Vannella devonica* Page

CCAP 1589/5 Page: 1977; AB: England; marine;  
M19 +b; T

*Vannella platypodia* (Glaeser)

CCAP 1589/2 Page: 1964; (29); AB: USA;  
freshwater; M18agar +b

*Vannella septentrionalis* Page

CCAP 1589/10 Page: 1979; AB: Scotland; marine;  
M19 +b

*Vannella simplex* (Wohlfarth-Bottermann)

CCAP 1589/3 Huelsmann: AB: Germany; freshwater;  
M18agar +b

## VAUCHERIA DC.

*Vaucheria bursata* (OFM) Ag.

CCAP 745/7 Christensen: 1971; LB: Germany;  
freshwater; M3; T

*Vaucheria debaryana* Woronin

CCAP 745/5 Christensen: 1949; LB: England;  
freshwater; M3

*Vaucheria geminata* DC.

CCAP 745/4 Christensen: LB: freshwater; M3

*Vaucheria sessilis* (Vaucher) DC.

CCAP 745/1b Christensen: LB: freshwater; M3

CCAP 745/1c Pringsheim: LB: freshwater; M3

*Vaucheria terrestris* (Vaucher) DC.

CCAP 745/6 Christensen: 1963; LB: France;  
freshwater; M3

*Vaucheria woroniniana* Heering

CCAP 745/3 Christensen: 1949; LB: freshwater;  
M3

## VEXILLIFERA Schaeffer

*Vexillifera armata* Page

CCAP 1590/2 Page: 1977; AB: England; marine;  
M19 +b; T

*Vexillifera bacillipedes* Page

CCAP 1590/1 Page: 1968; (67); AB: USA;  
freshwater; M20 +b; T

## VISCHERIA Pascher

*Vischeria helvetica* (Vischer & Pascher) Hibberd

CCAP 861/1 Chodat; N; freshwater; M1

<i>Vischeria punctata</i> Vischer		<i>Vorticella microstoma</i> Ehr.	
CCAP 887/1	Vischer; 1941; N; Switzerland; soil; M1; T	CCAP 1690/3	George; 1975; LB; England; freshwater; M18
CCAP 887/3	Trenkwalder; 1975; A; Austria; soil; M1		
<i>Vischeria stellata</i> (Poulton) Pascher		<i>WOLOSZYNSKIA</i> Thompson	
CCAP 887/2b	Chodat; pre-1925; N; Switzerland; freshwater; M1	<i>Woloszynskia coronata</i> (Woloszynska) Thompson	
CCAP 887/4	Schwarz; 1975; AB; Jugoslavia; soil; M2	CCAP 1117/2	Pringsheim; LB; freshwater; M3
<i>VITREOCHLAMYS</i> Batko		<i>XANTHONEMA</i> Silva; see also <i>HETEROTHRIX</i> Pascher	
<i>Vitreochlamys incisa</i> (Pringsheim) Batko		<i>Xanthonema debile</i> (Vischer) Silva	
CCAP 11/10	Pringsheim; 1939; A; Czechoslovakia; freshwater; M1; type of <i>Chlamydomonas incisa</i> Pringsheim	CCAP 836/1	Vischer; 1929; (50); A; Switzerland; freshwater; M1; T
		<i>Xanthonema hormidioides</i> (Vischer) Silva	
		CCAP 836/2	Vischer; 1943; (358); A; Switzerland; soil; M1; T
<i>VOLVOX</i> L.		<i>Xanthonema montanum</i> (Vischer) Silva	
<i>Volvox aureus</i> Ehr.		CCAP 836/3	Vischer; 1945; (288); AB; Switzerland; soil; M2; T
CCAP 88/1c	Starr; (UTEX106); LB; freshwater; M3	<i>Xanthonema solidum</i> (Vischer) Silva	
<i>Volvox carterae</i> f. <i>nagarensis</i> Iyengar		CCAP 836/4	Vischer; 1940; (214); AB; Switzerland; freshwater; M2; T
CCAP 88/4	Starr; (UTEX 1885); LB; -strain; freshwater; M3	<i>Xanthonema</i> sp. indet.	
CCAP 88/5	Starr; (UTEX 1886); LB; +strain; freshwater; M3	CCAP 836/5	Vischer; (391); AB; freshwater; M2
<i>Volvox globator</i> (L.) Ehr.		<i>ZYGNEMA</i> Ag.	
CCAP 88/2	George; 1949; LB; England; freshwater; M3	<i>Zygnema circumcarinatum</i> Czurda	
<i>Volvox tertius</i> Meyer		CCAP 698/1a	Czurda; 1929; A; +strain; Czechoslovakia; freshwater; M1
CCAP 88/3b	George; 1947; LB; freshwater; M3	CCAP 698/1b	Czurda; 1929; AB; -strain; Czechoslovakia; freshwater; M2
<i>VORTICELLA</i> (L.) Ehr.		<i>Zygnema cylindricum</i> Transeau	
<i>Vorticella similis</i> Stokes		CCAP 698/2	Czurda; 1929; A; Czechoslovakia; freshwater; M1
CCAP 1690/2	George; 1967; LB; medium on request		

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**M1, M2, M3** ... = media suitable for routine cultivation; **N** = cryopreserved; **P** = proven pathogen to man;  
**P?** = possibly pathogenic to man but not proven; **T** = descent from type material;  
**X** = organisms other than bacteria present.

*Zygnema peliosporum* Wittrock

CCAP 698/3a Czurda: 1926; A; +strain;  
Czechoslovakia; freshwater; M1  
CCAP 698/3b Czurda: 1926; A; -strain;  
Czechoslovakia; freshwater; M1

*Zygnema* sp. indet.

CCAP 698/4 Pringsheim: 1948; A; England;  
freshwater; M1

*ZYGNEMOPSIS* Skuja emend. Transeau*Zygnemopsis* sp. indet.

CCAP 699/1 Ott: 1965; LB; USA; freshwater; M3

## Some abbreviations used in the text for authors names:-

Born.	Bornet
Breb.	Brebisson
DC.	de Candolle
Duj.	Dujardin
Ehr.	Ehrenberg
Korsh.	Korshikov
Kuetz.	Kuetzing
Lagerh.	Lagerheim
Mueller	Mueller (not O.F.Mueller)
Naeg.	Naegeli
OFM	O.F.Mueller
Rabenh.	Rabenhorst

## LIST OF BRYOPHYTES AND HIGHER PLANTS

## BRYOPHYTA

*AMBLYSTECIUM* B.S.G. see *Hypnum*

*APLODON* R. Brown

*Aplodon* sp. indet.

CCAP 1817/1 von Stosch; 1938; AX; Germany; M2

*AULACOMNIUM* Schwaeg

*Aulacomnium androgynum* (Hedw.) Schwaeg

CCAP 1802/1 Pringsheim; AX; Czechoslovakia; M2

*BRYUM* Hedw.

*Bryum* sp. indet.

CCAP 1804/1 George; 1955; AX; Hong Kong; M2

*BUXBAUMIA* Hedw.

*Buxbaumia aphylla* Hedw.

CCAP 1805/1 Keil; 1947; AX; Czechoslovakia; M2

*Buxbaumia indusiata* Brid.

CCAP 1805/2 Keil; 1948; AX; Czechoslovakia; M2

*CERATODON* Brid.

*Ceratodon purpureus* (Hedw.) Brid.

CCAP 1807/1 Pringsheim; AX; Czechoslovakia;  
pine wood; M2

*FOSSOMBRONIA* Raddi

*Fossombronia cristula* Austin

CCAP 1862/2 Morris; 1958; AX; USA; M2

*Fossombronia pusilla* (L.) Dum.

CCAP 1862/1 Pringsheim; 1939; AX; England; M2

*FUNARIA* Hedw.

*Funaria hygrometrica* Hedw.

CCAP 1813/1 Pringsheim; AX; Czechoslovakia; M2

*HAPLOMITRIUM* Nees

*Haplomitrium hookeri* (Sm.) Nees

CCAP 1868/1 Lorbeer; AX; female strain;  
Czechoslovakia; M2; grows well

*HYPNUM* Hedw.

*Hypnum riparium* Hedw.

=*Amblystegium riparium* (Hedw.) B.S.G.

CCAP 1820/1 Lewin; 1954; AX; Nova Scotia;  
pond; M2

*LEPTOBRYUM* (B.S.G.) Wils.

*Leptobryum pyriforme* (Hedw.) Wils.

CCAP 1822/1a Pringsheim; AX; Czechoslovakia; M2

CCAP 1822/1b Pringsheim; AX; Czechoslovakia; M2

CCAP 1822/2 Pringsheim; AX; bivalent strain  
from Wettstein; M2

CCAP 1822/3 Pringsheim; AX; univalent strain;  
M2

*LOPHOCOLEA* Dum.

*Lophocolea heterophylloides* Nees

=*Lophocolea simiteres* (Lehm.)

CCAP 1874/1 Berrie; AX; Australia; M2

*MONOSELENIUM* Griff.

*Monoselenium tenerum* Griff.

CCAP 1875/1 Lorbeer; AX; Czechoslovakia; M2

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**M1, M2, M3, ...** = media suitable for routine cultivation; **N** = cryopreserved; **P** = proven pathogen to man;  
**P?** = possibly pathogenic to man but not proven; **T** = descent from type material;  
**X** = organisms other than bacteria present.

*PHASCUM* Hedw.*Phascum cuspidatum* Hedw.

- CCAP 1831/1a Hughes; 1954; AX; M2  
 CCAP 1831/1b Whitehouse; 1961; AX; bivalent;  
 England; M2

*PHYSCOMITRELLA* B. & S.*Physcomitrella patens* (Hedw.) B. S. & G.

- CCAP 1833/1 Whitehouse; 1961; (PH1); AX; England;  
 woodland; M2

*RICCIA* L.*Riccia glauca* L.

- CCAP 1885/2 Whitehouse; 1958; AX; England;  
 with *Lythrum hyssopifolia* in  
 arable field; M2

*Riccia rhenana* Lorbeer ex K. Mueller

- CCAP 1885/1 George; 1959; AX; England;  
 brick pits; M2

*Riccia sorocarpa* Bisch.

- CCAP 1885/3 Whitehouse; 1960; AX; England;  
 stubble field; M2

*Riccia duplex* Lorbeer

- CCAP 1885/4 Berrie; AX; Australia; M2

*RIELLA* Mont.*Riella americana* Howe & Underwood

- CCAP 1887/1a Proctor; AX; male strain; USA; M2  
 CCAP 1887/1b Proctor; AX; female strain; USA;  
 M2

*SCHISTOSTEGA* Mohr.*Schistostega pennata* (Hedw.) Web. & Mohr

- CCAP 1837/1 Keil; AX; Czechoslovakia; M2;  
 grows slowly

*SPHAEROCARPOS* Boehmer*Sphaerocarpos tezanus* Aust.

- CCAP 1890/2 Lorbeer; AX; male strain; M2;  
 grows slowly

*SPHAGNUM* L.*Sphagnum squarrosum* Crome

- CCAP 1838/1 Keil; 1947; AX; Czechoslovakia; M2

*Sphagnum* sp. indet.

- CCAP 1838/2 Lhotsky; 1946; AX; Czechoslovakia;  
 M2

*SPLACHNUM* Hedw.*Splachnum ampullaceum* Hedw.

- CCAP 1839/1a Keil; 1946; AX; male strain;  
 Czechoslovakia; M2  
 CCAP 1839/1b Keil; 1946; AX; female strain;  
 Czechoslovakia; M2

*Splachnum sphaericum* Hedw.

- CCAP 1839/2a Keil; 1946; AX; male strain;  
 Czechoslovakia; M2  
 CCAP 1839/2b Keil; 1946; AX; female strain;  
 Czechoslovakia; M2

*TETRAPHIS* Hedw.*Tetraphis pellucida* Hedw.

- CCAP 1842/1 Lewin; 1954; AX; Nova Scotia;  
 woodland; M2

**ANGIOSPERMAE***WOLFFIA* Horkel ex Schleid.*Wolffia arrhiza* (L.) Wimm.

- CCAP P1 George; 1961; LBX; Germany;  
 freshwater; M2liquid

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