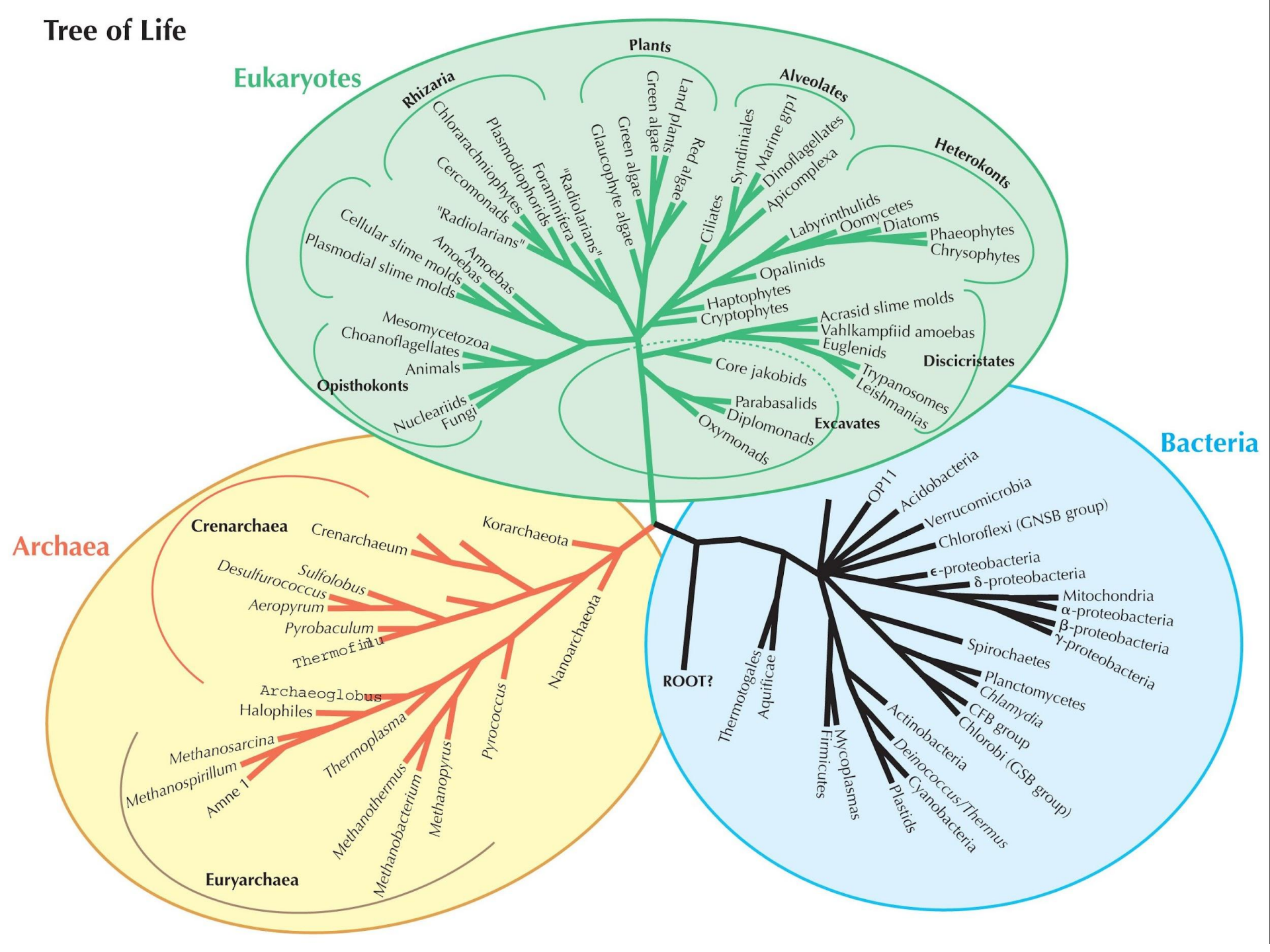
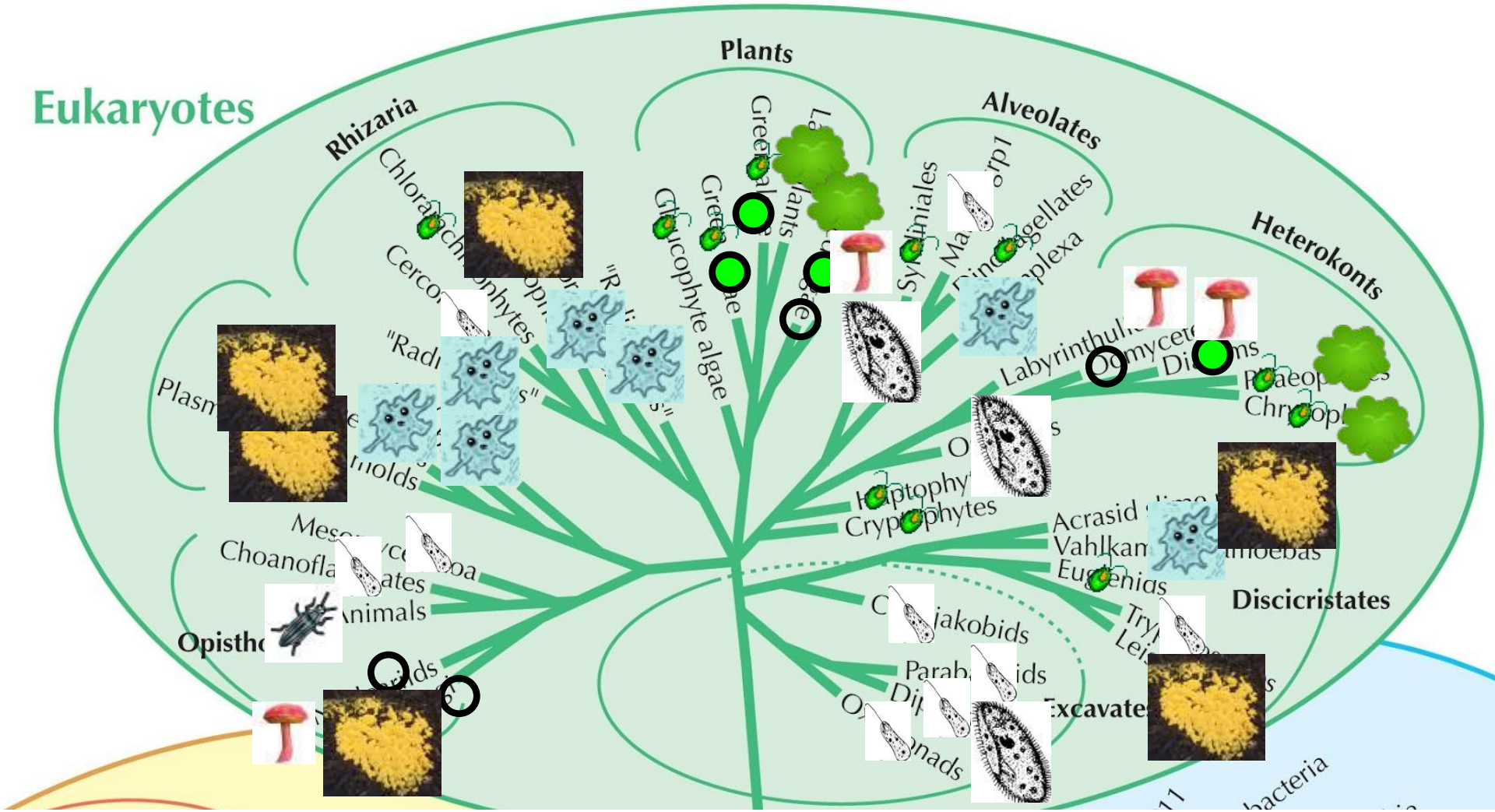

Tree of Life
Eukaryotes
Rhizaria
Chlorarachniophytes
Plasmodiophorids
Foraminifera
"Radiolarians"
Cercomonads
"Radiolarians"
Amoebas
Amoebas
Cellular slime molds
Plasmodial slime molds
Plants
Green algae
Land plants
Green algae
Red algae
Glaucophyte algae
Alveolates
Syndiniales
Marine grp1
Dinoflagellates
Apicomplexa
Ciliates
Heterokonts
Labyrinthulids
Oomycetes
Diatoms
Phaeophytes
Chrysophytes
Opalinids
Haptophytes
Cryptophytes
Acrasid slime molds
Vahlkampfiid amoebas
Euglenids
Discicristates
Trypanosomes
Leishmanias
Core jakobids
Parabasalids
Diplomonads
Oxymonads
Excavates
Mesomycetozoa
Choanoflagellates
Animals
Opisthokonts
Nucleariids
Fungi
Archaea
Crenarchaea
Crenarchaeum
Korarchaeota
Sulfolobus
Desulfurococcus
Aeropyrum
Pyrobaculum
Thermofilu
Archaeoglobus
Halophiles
Methanosarcina
Methanospirillum
Amne 1
Thermoplasma
Methanothermus
Methanobacterium
Methanopyrus
Pyrococcus
Nanoarchaeota
Euryarchaea
Bacteria
ROOT?
Thermotogales
Aquificae
OP11
Acidobacteria
Verrucomicrobia
Chloroflexi (GNSB group)
ϵ-proteobacteria
δ-proteobacteria
Mitochondria
α-proteobacteria
β-proteobacteria
γ-proteobacteria
Spirochaetes
Planctomycetes
Chlamydia
CFB group
Chlorobi (GSB group)
Actinobacteria
Deinococcus/Thermus
Cyanobacteria
Plastids
Mycoplasmas
Firmicutes



ОДНОКЛЕТОЧНЫЕ

монады

многожгутиковые и инфузории

амёбы

Плазмодии

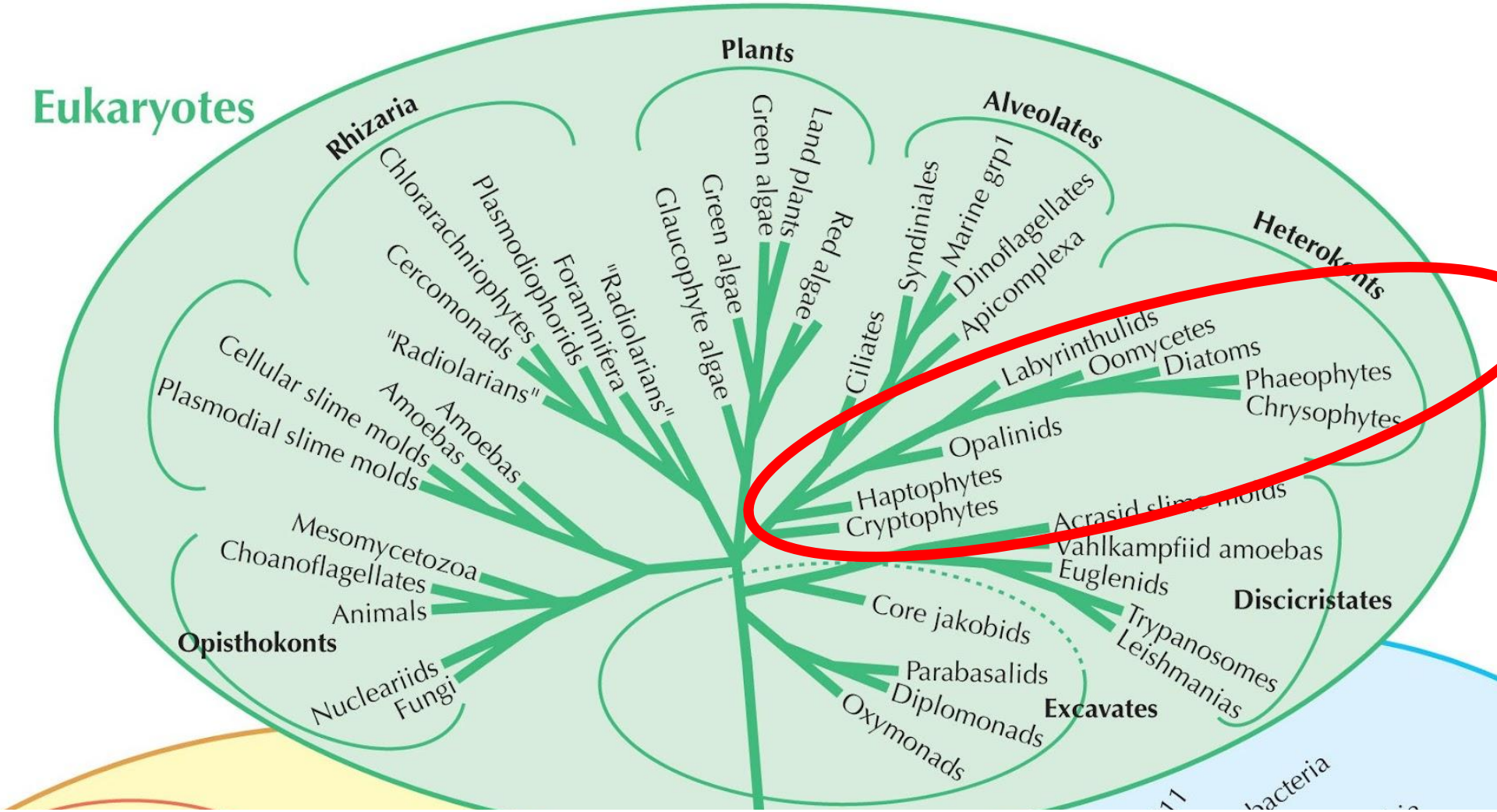
коккоидные

МНОГОКЛЕТОЧНЫЕ

без оболочки – животные

фотосинтетики – растения

Грибы гетеротрофы в оболочке


Eukaryotes
Plants
Green algae
Land plants
Red algae
Glaucophyte algae
Rhizaria
Chlorarachniophytes
Plasmodiophorids
Foraminifera
"Radiolarians"
Alveolates
Syndiniales
Marine grp1
Dinoflagellates
Apicomplexa
Ciliates
Heterokonts
Labyrinthulids
Oomycetes
Diatoms
Phaeophytes
Chrysophytes
Cercomonads
"Radiolarians"
Amoebas
Amoebas
Cellular slime molds
Plasmodial slime molds
Opalinids
Haptophytes
Cryptophytes
Acrasid slime molds
Vahlkampfiid amoebas
Euglenids
Discicristates
Trypanosomes
Leishmanias
Mesomycetozoa
Choanoflagellates
Animals
Opisthokonts
Nucleariids
Fungi
Core jakobids
Parabasalids
Diplomonads
Oxymonads
Excavates

Cryptophyta

Haptophyta

Opalinida

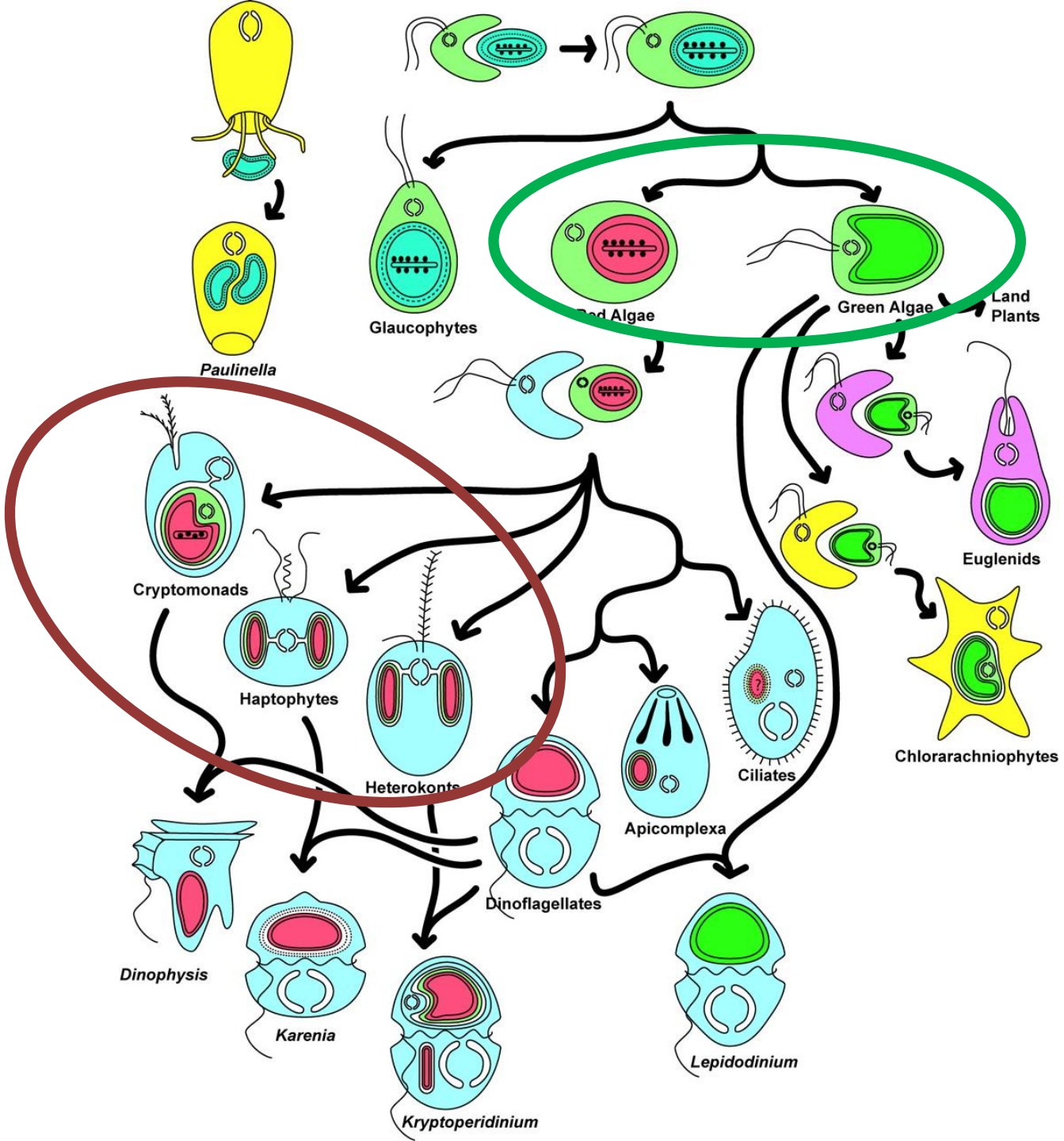
Labirynthulida

Oomycota

Diatomea

Phaeophyta

Chrysophyta


Paulinella
Glaucophytes
Red Algae
Green Algae
Land Plants
Cryptomonads
Haptophytes
Heterokonts
Euglenids
Chlorarachniophytes
Ciliates
Apicomplexa
Dinoflagellates
Dinophysis
Karenia
Kryptoperidinium
Lepidodinium

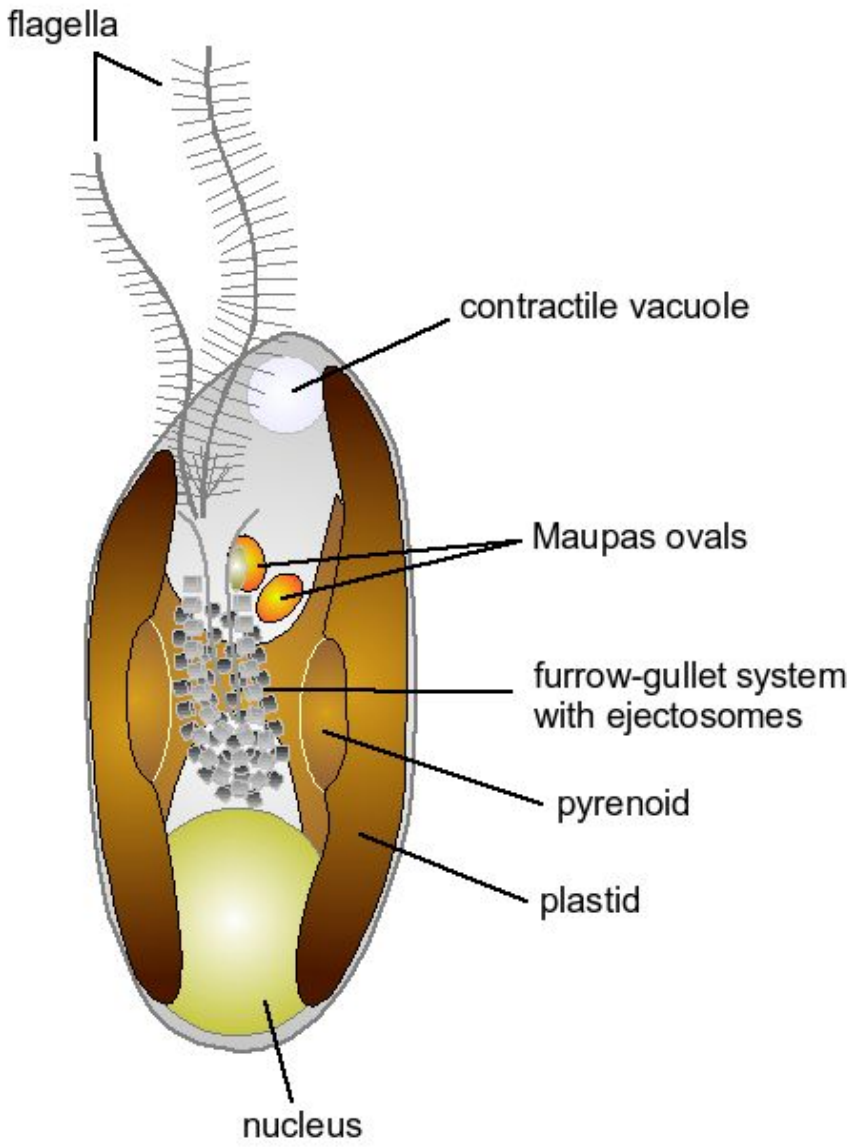
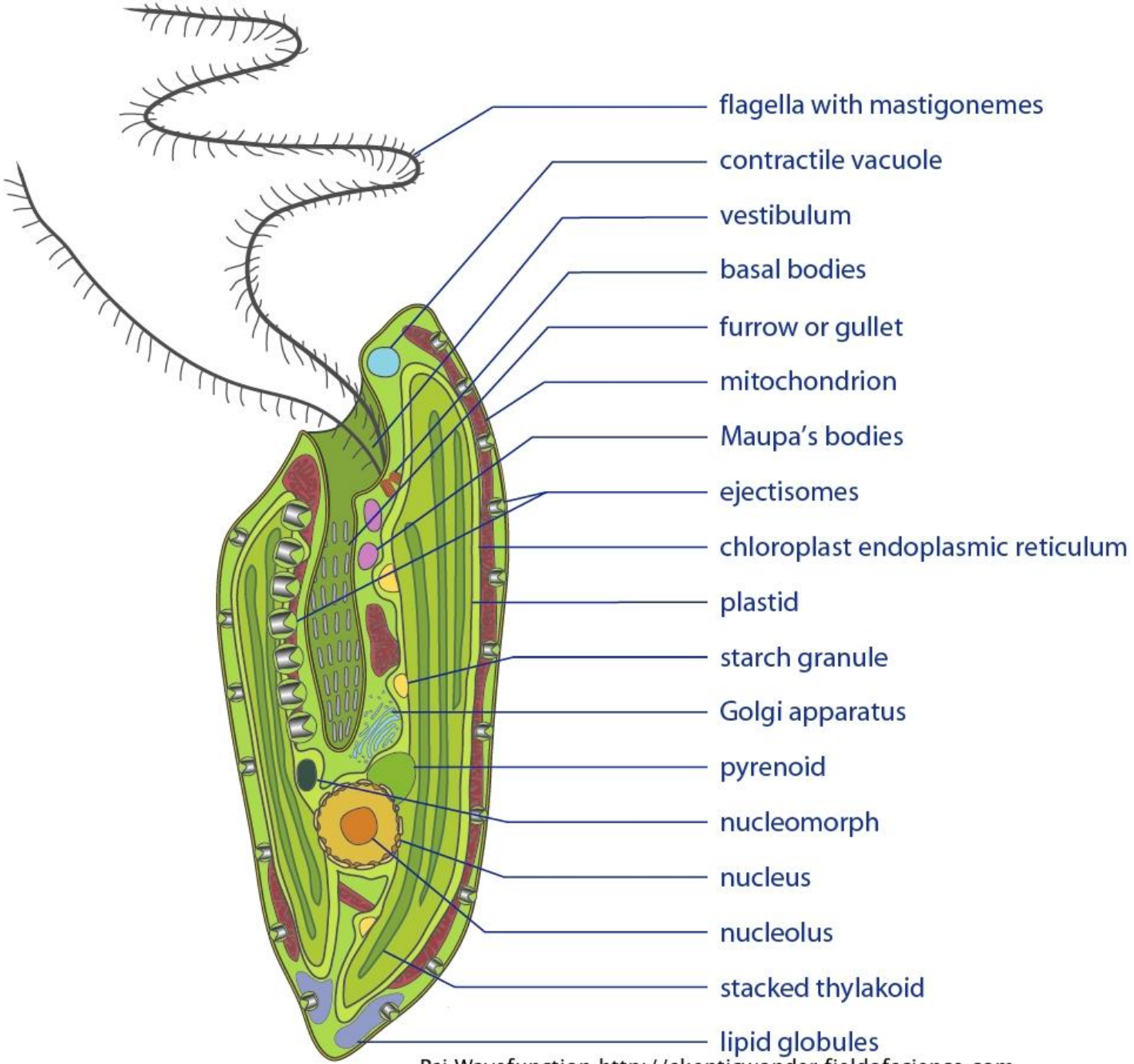
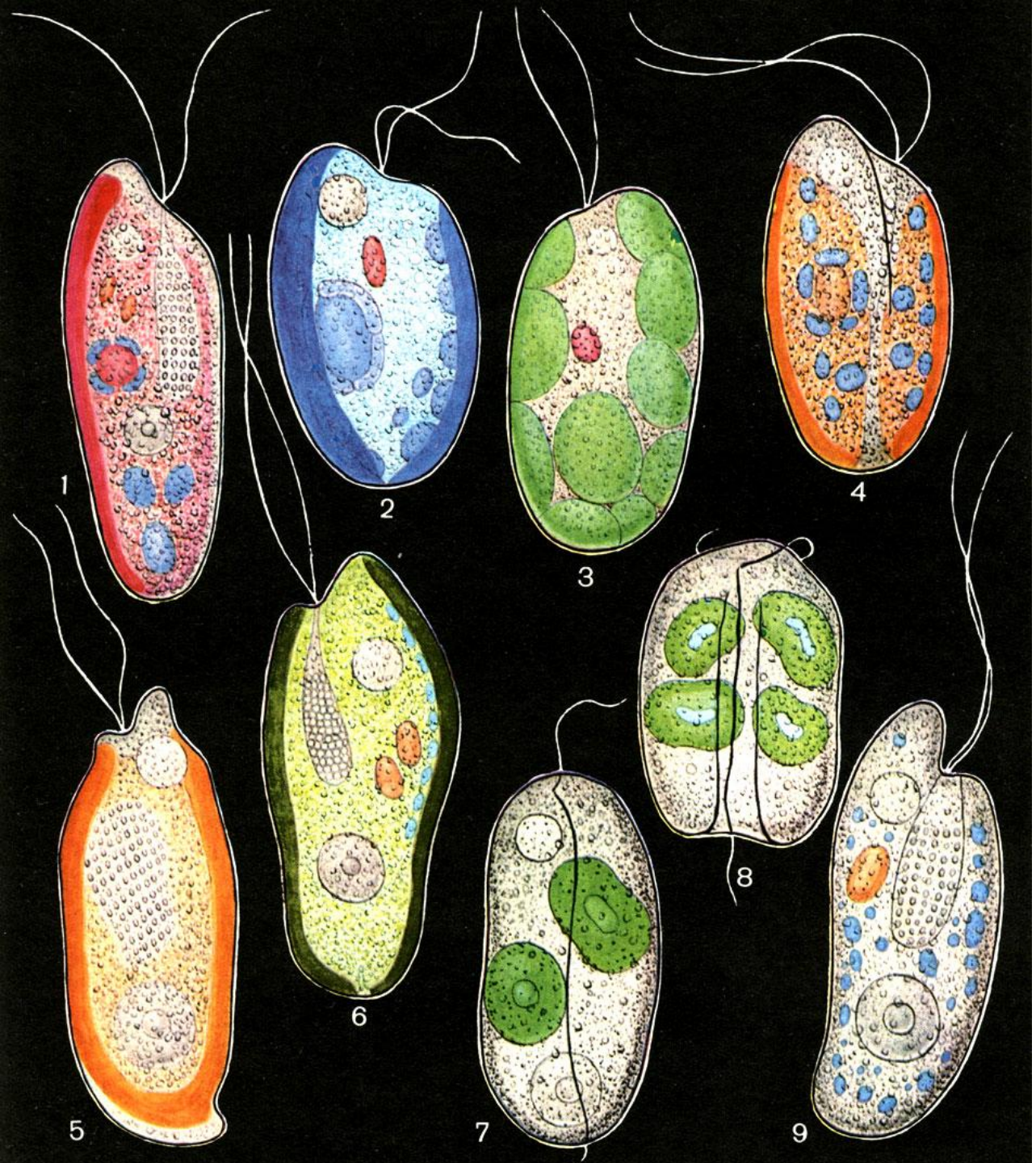


Fig. 1. Morphology of a *Cryptomonas* cell



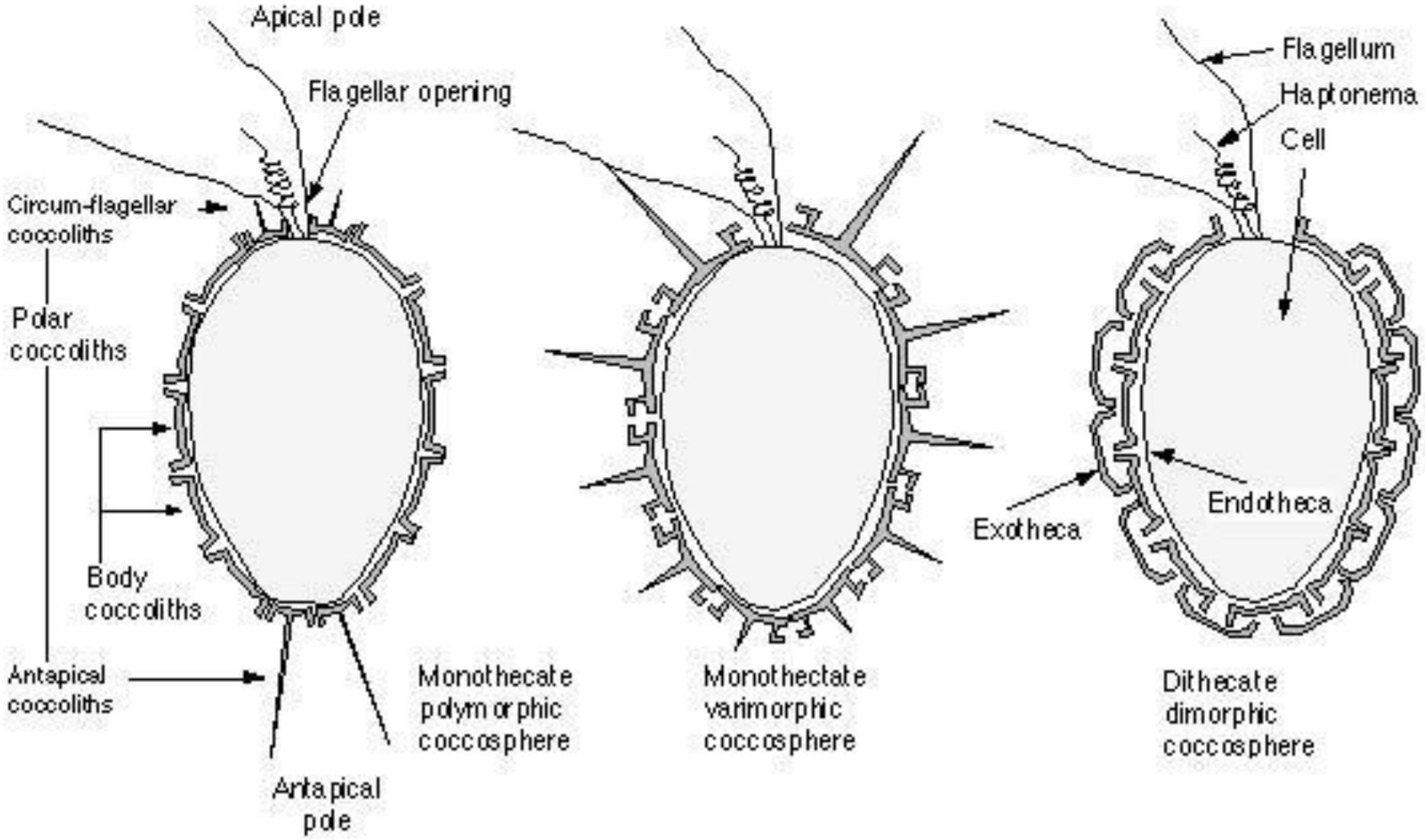
Psi Wavefunction http://skepticwonder.fieldofscience.com

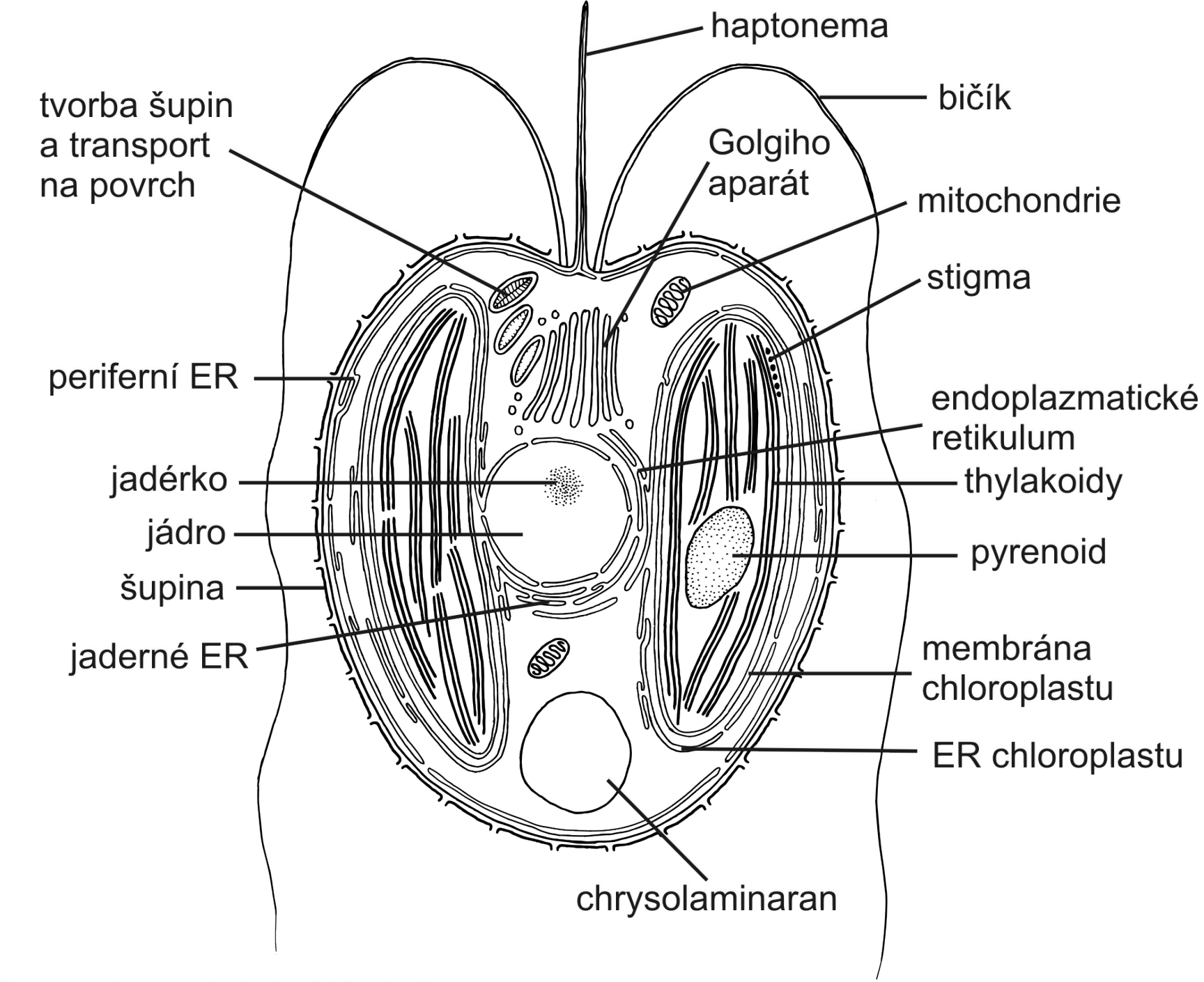
Криптофитовые водоросли:



1 - Rhodomonas tenuis;
2 - Chroomonas coerulea;
3 - Cyanomonas americana;
4 - Cryptochrysis commutata;
5 - Cryptomonas curvata;
6 - C. platyuris;
7 - Cyanophora paradoxa;
8 - C. tetracyana;
9 - Chilomonas paramaecium

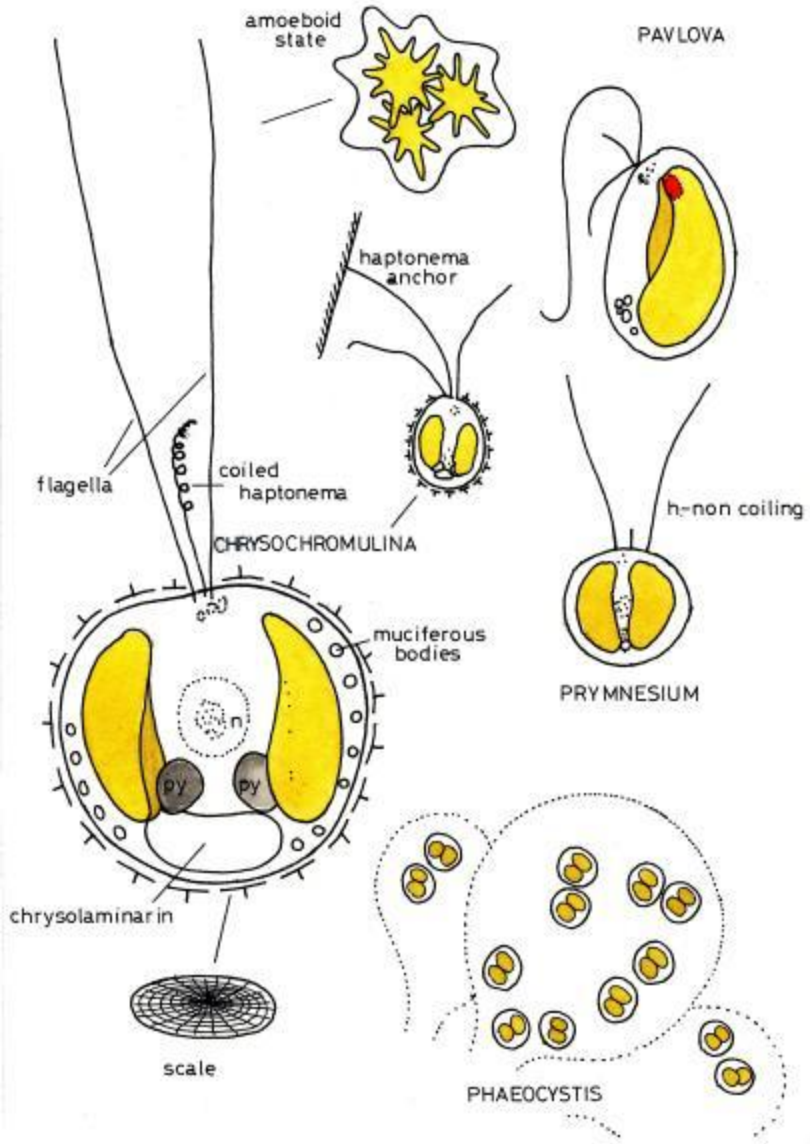
http://volimo.ru/books/item/f00/s00/z0000006/st017.shtml

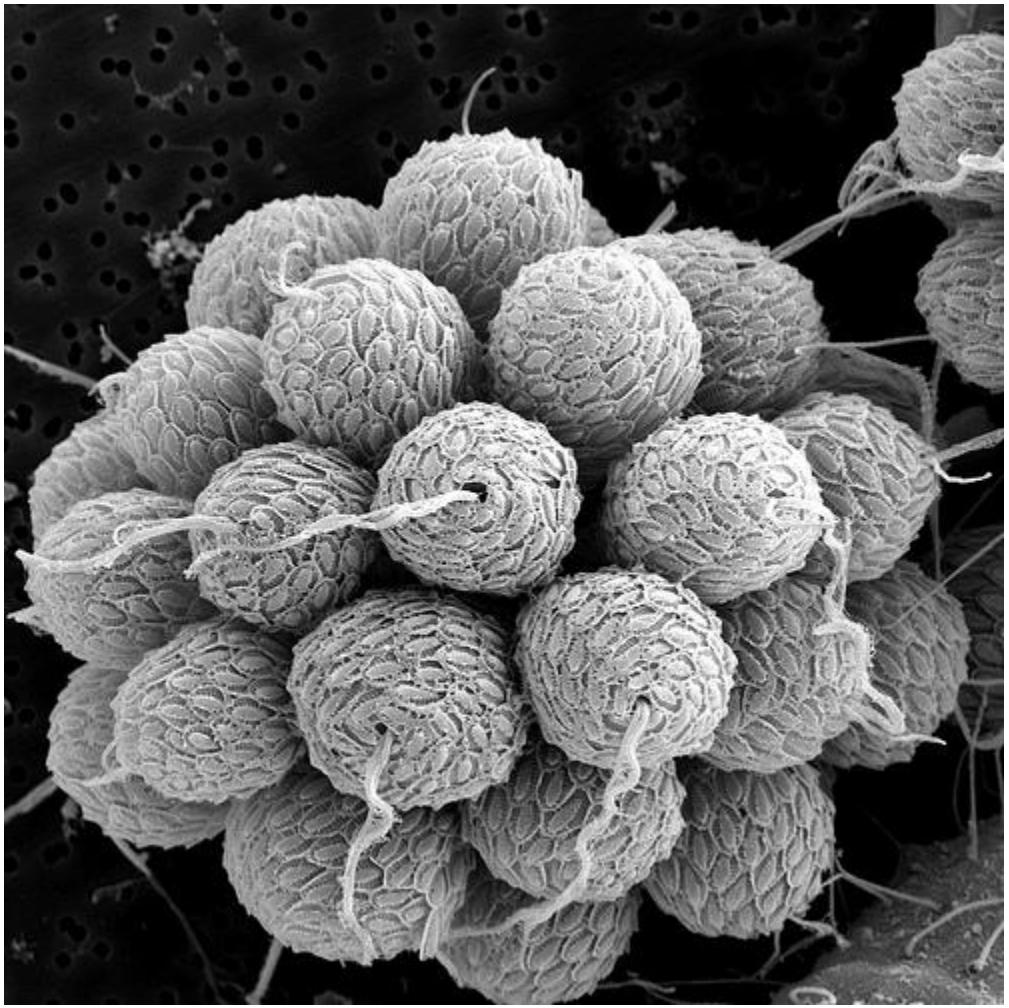

Apical pole
Flagellar opening
Circum-flagellar coccoliths
Polar coccoliths
Body coccoliths
Antapical coccoliths
Antapical pole
Monothecate polymorphic coccosphere
Monothectate varimorphic coccosphere
Flagellum
Haptonema
Cell
Endotheca
Exotheca
Dithecate dimorphic coccosphere

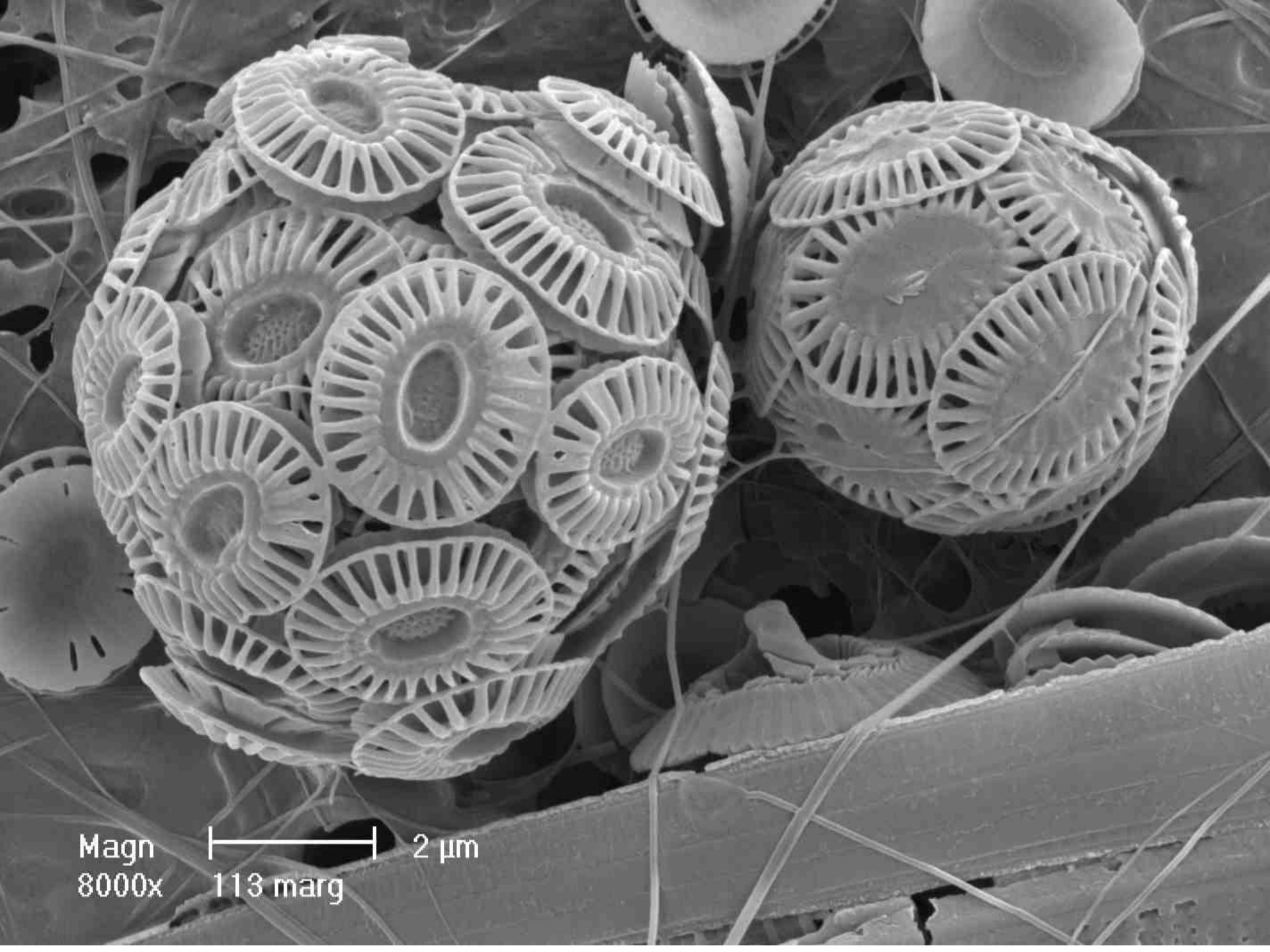


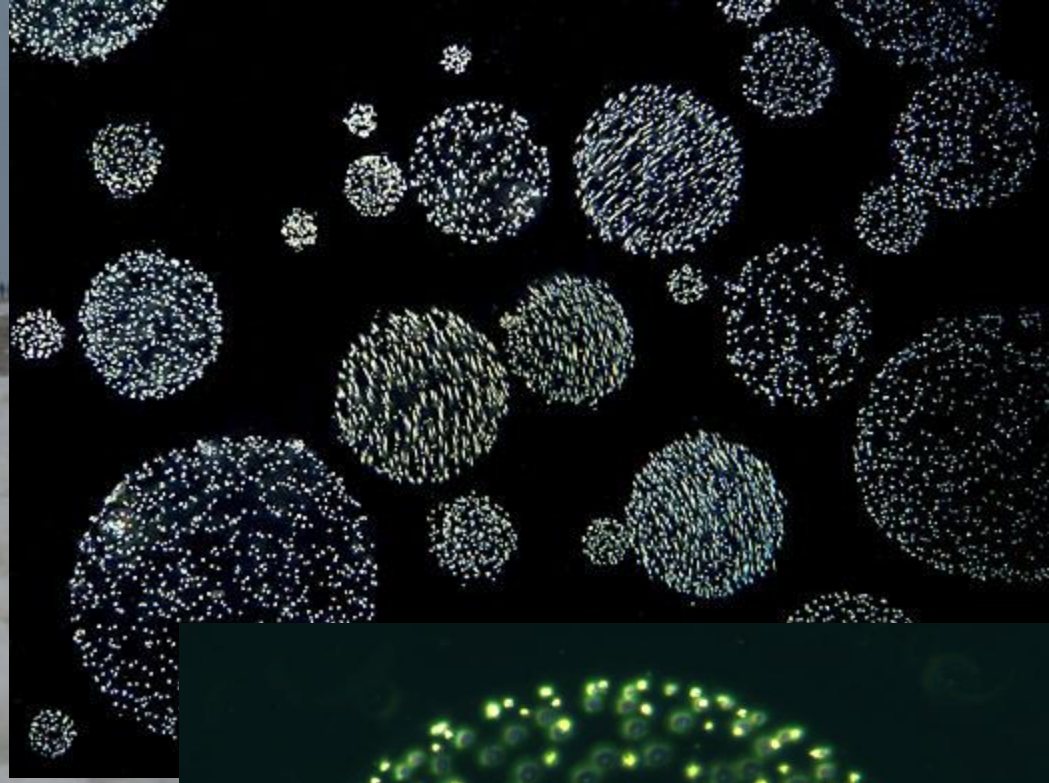
Prymnesiophyta - stavba buňky. © Markéta Krautová

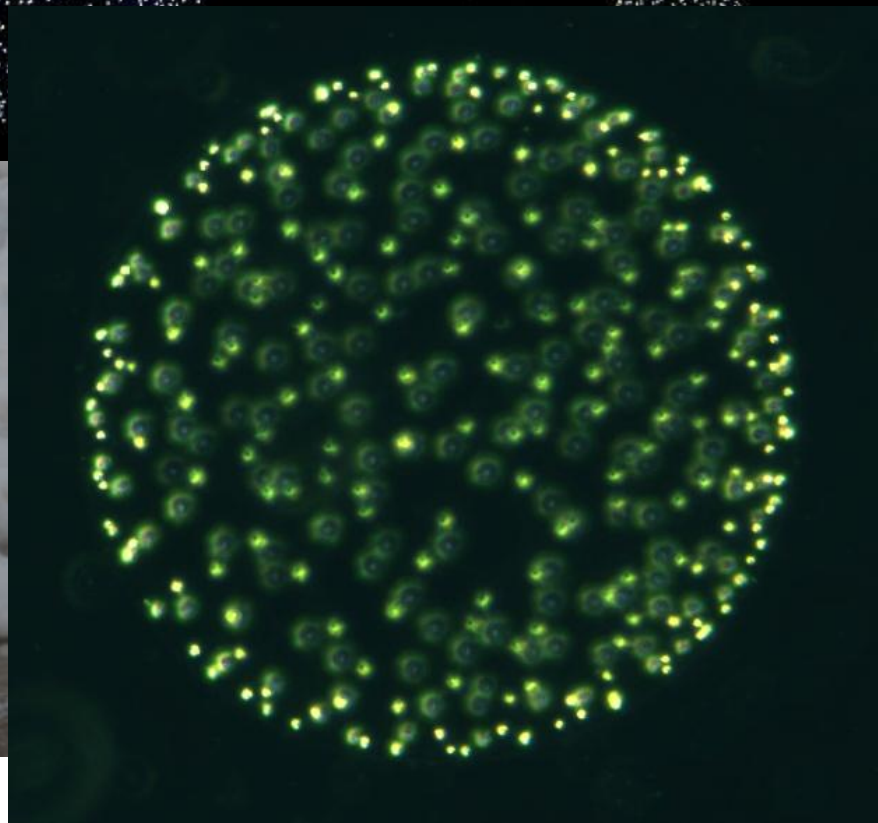
PRYMNESIOPHYCEAE non calcified

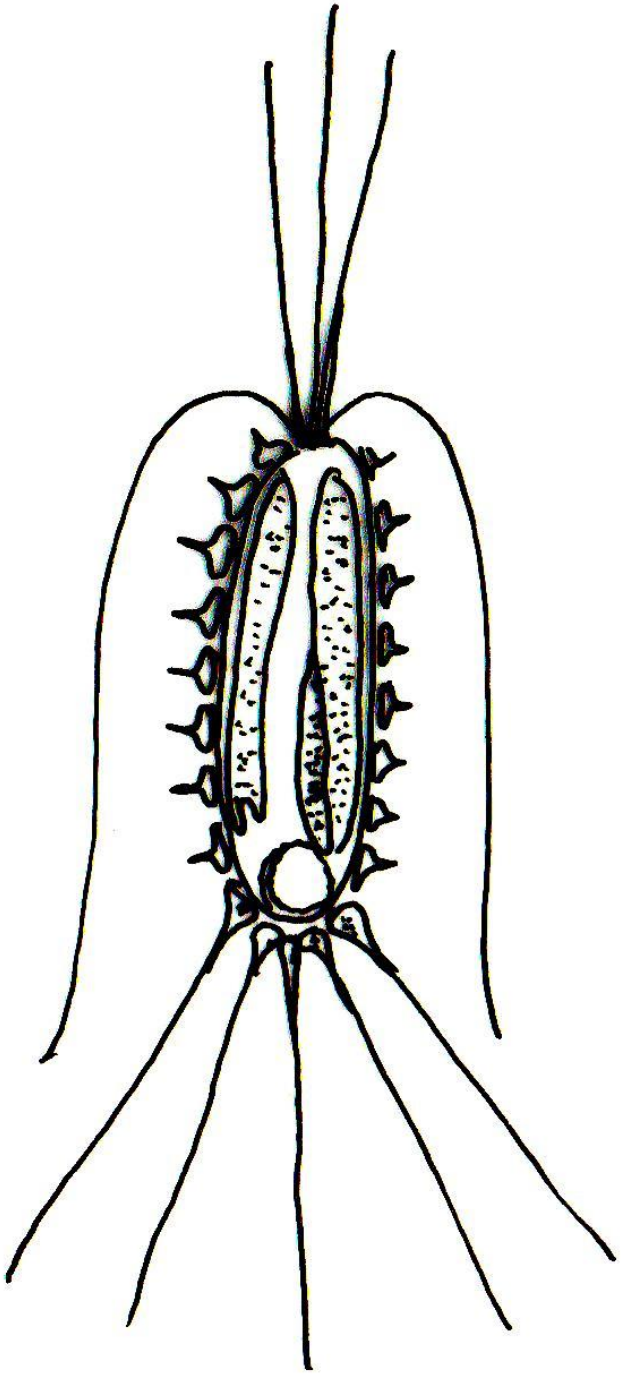


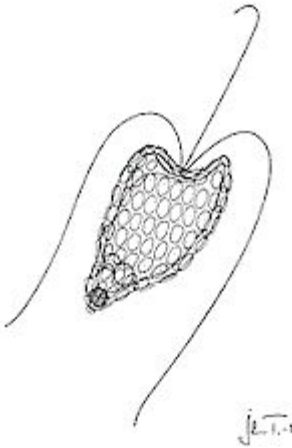


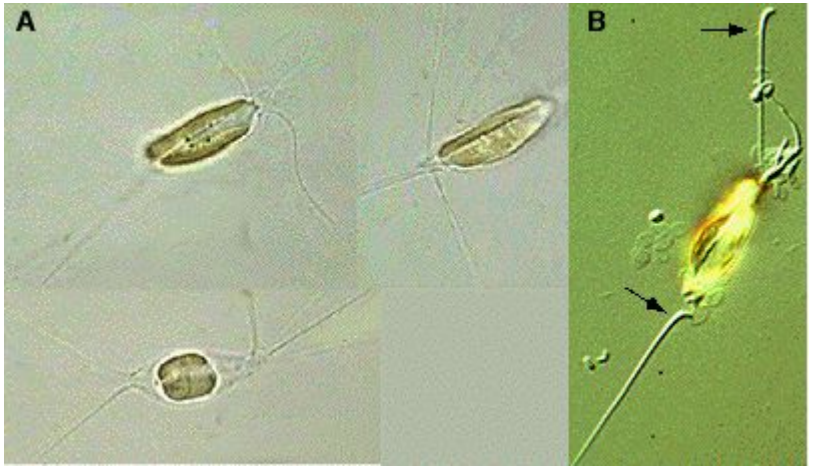

Magn
8000x
113 marg
2 µm



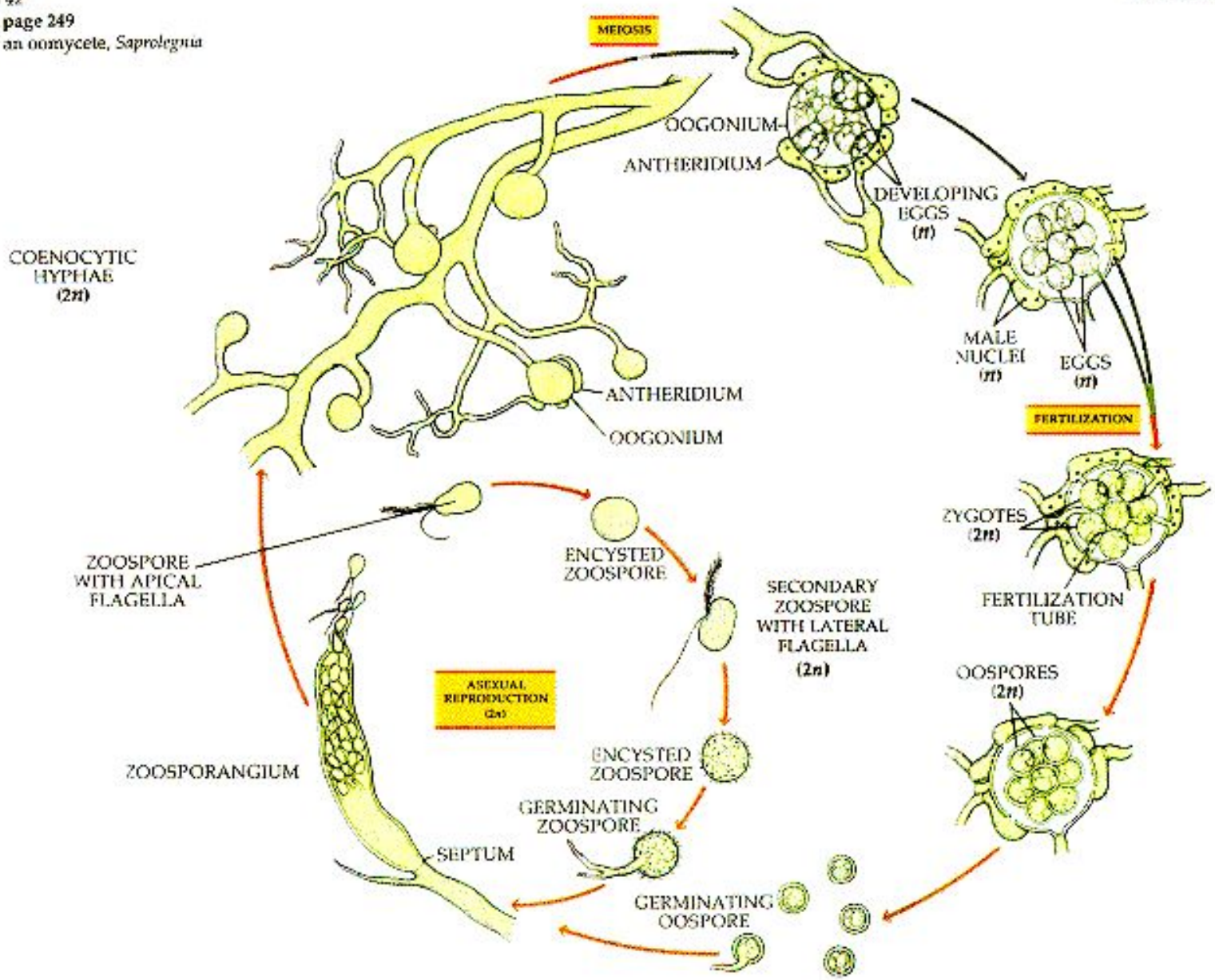


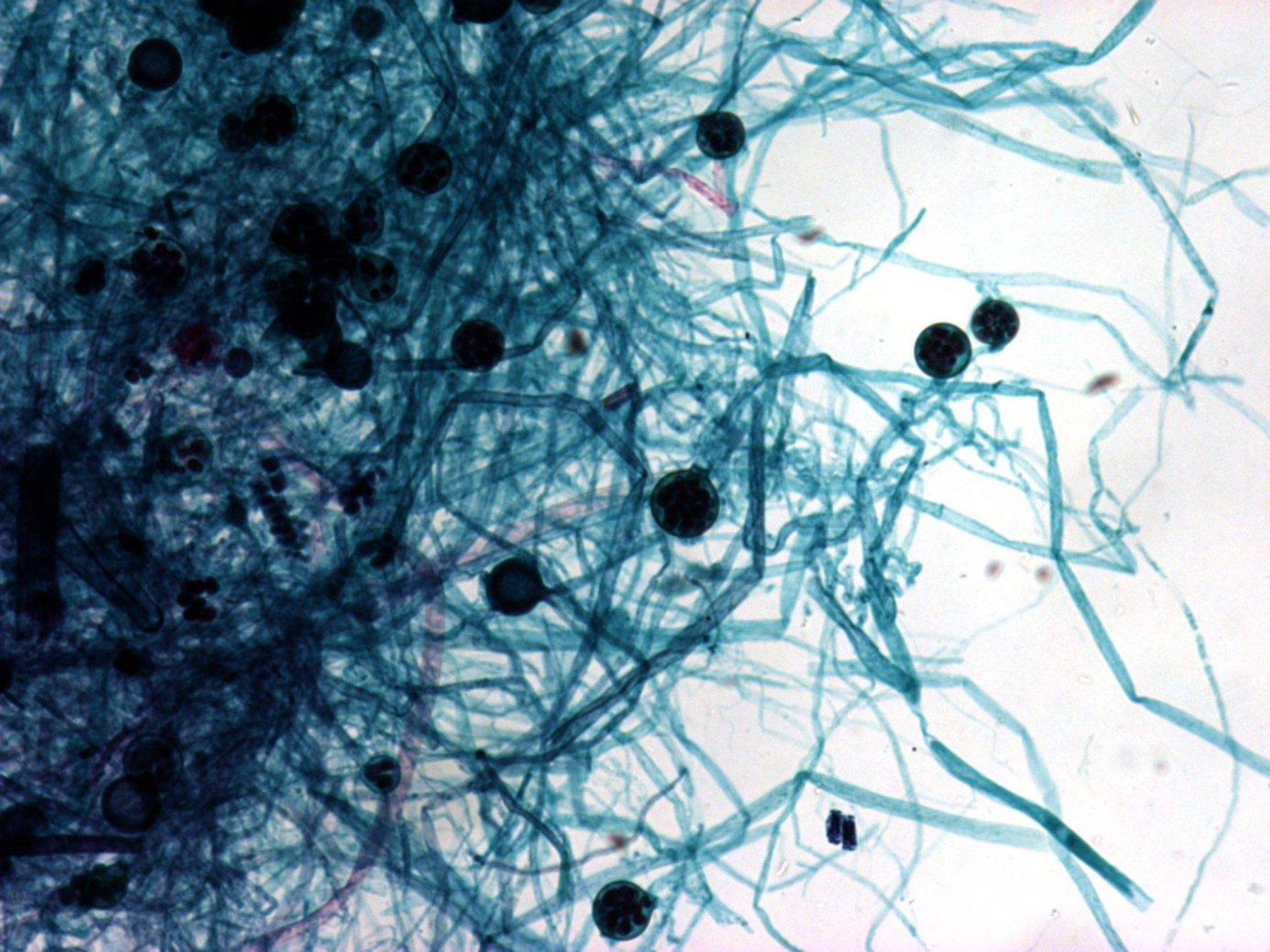


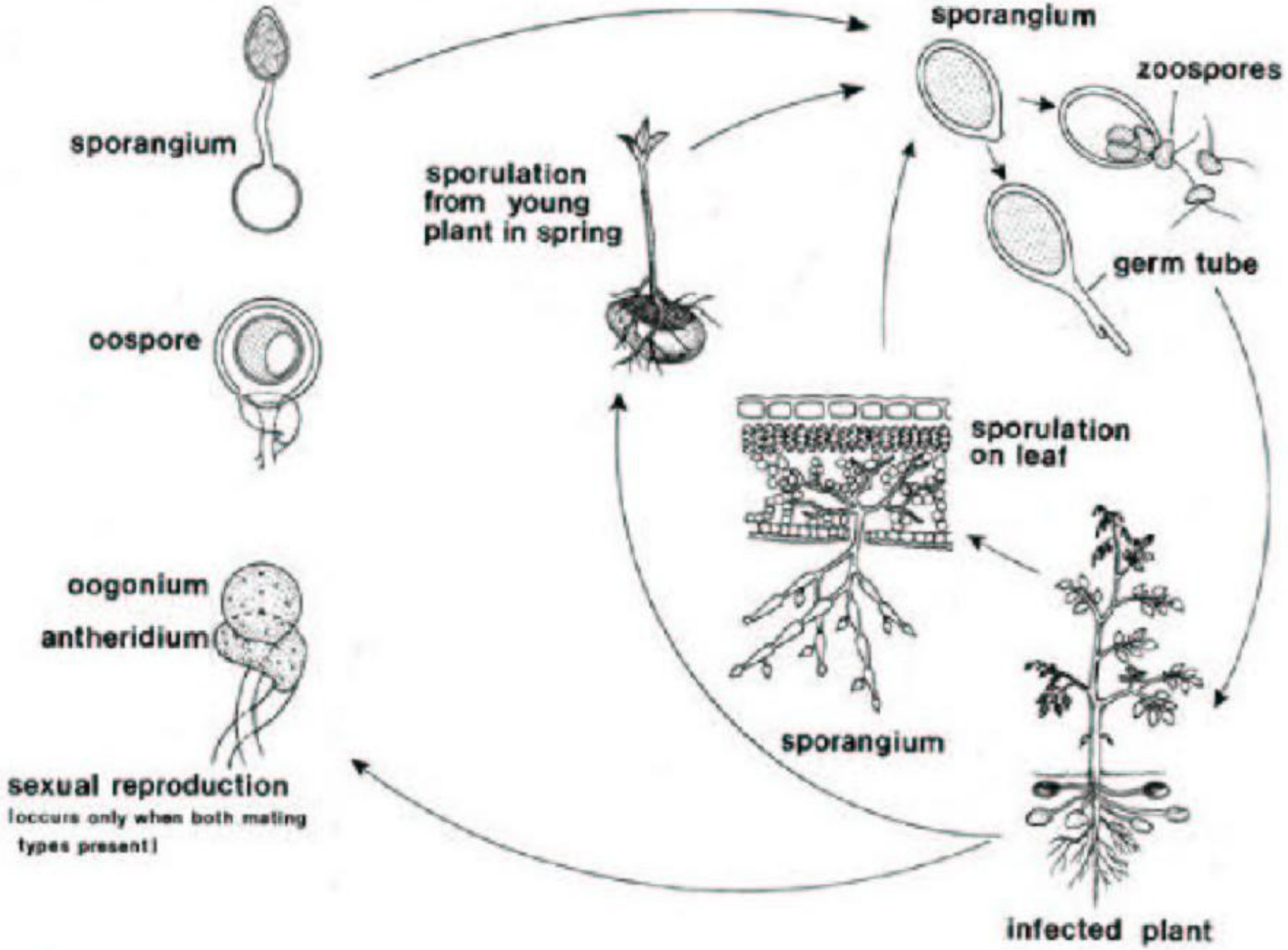


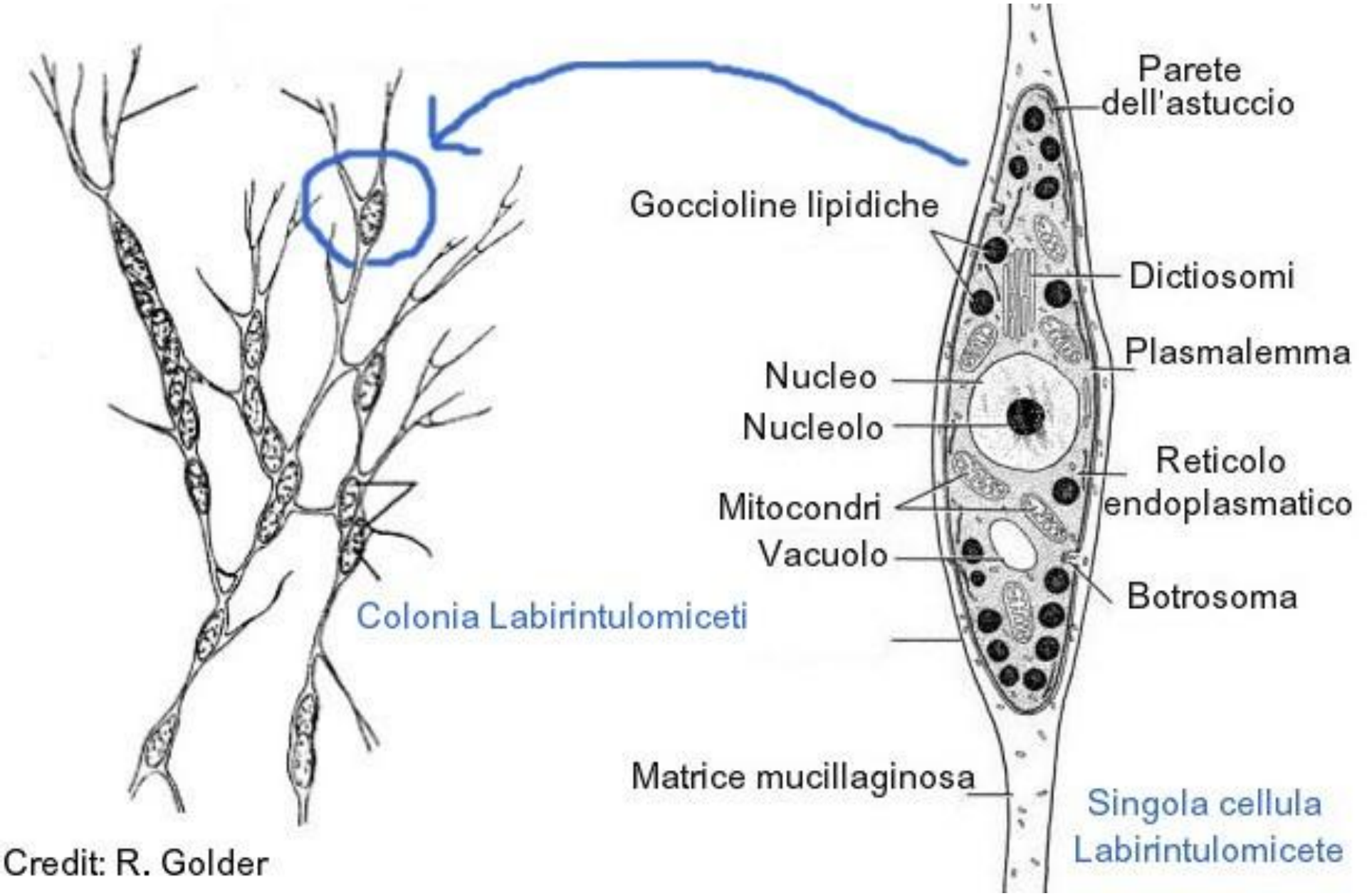

A
B

Transparency 42
Figure 13-5, page 249
Life cycle of an oomycete, *Saprolegnia*

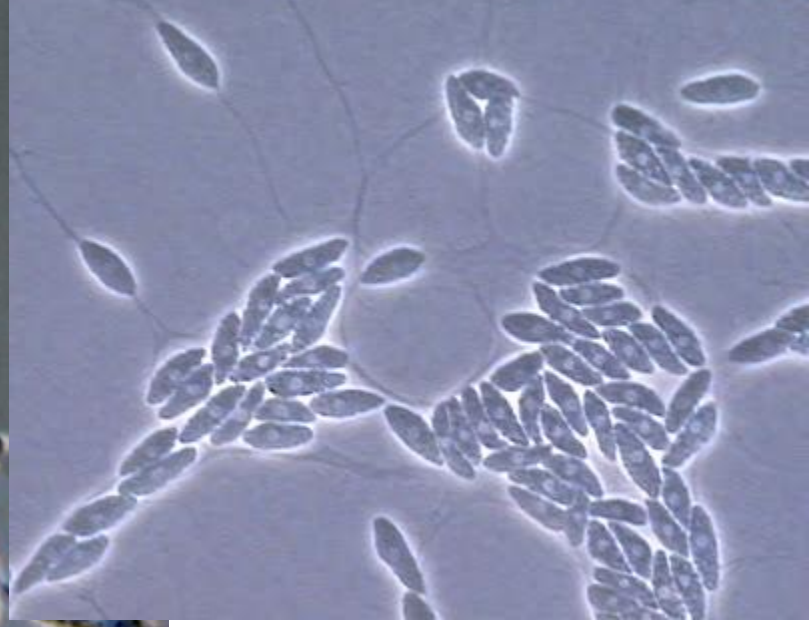


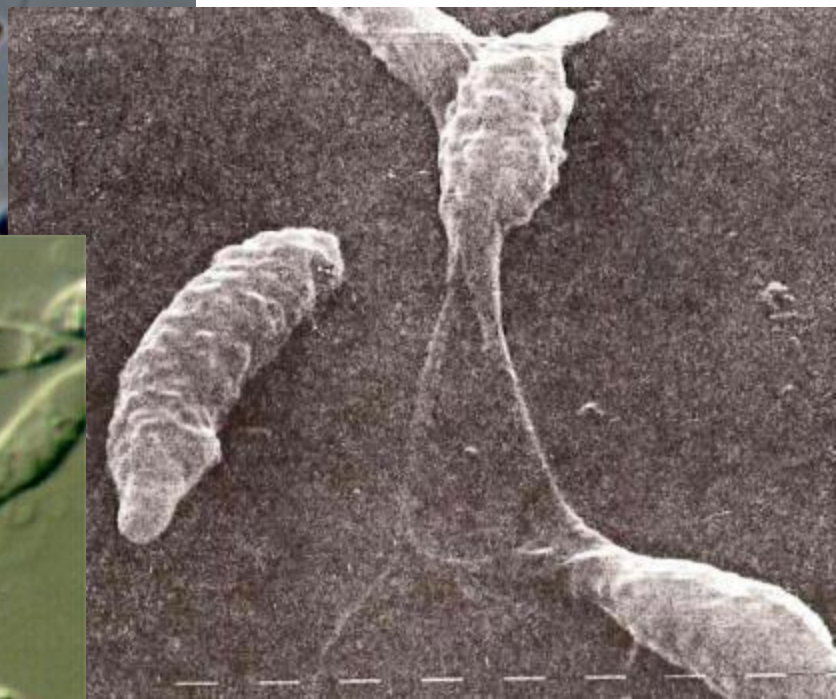


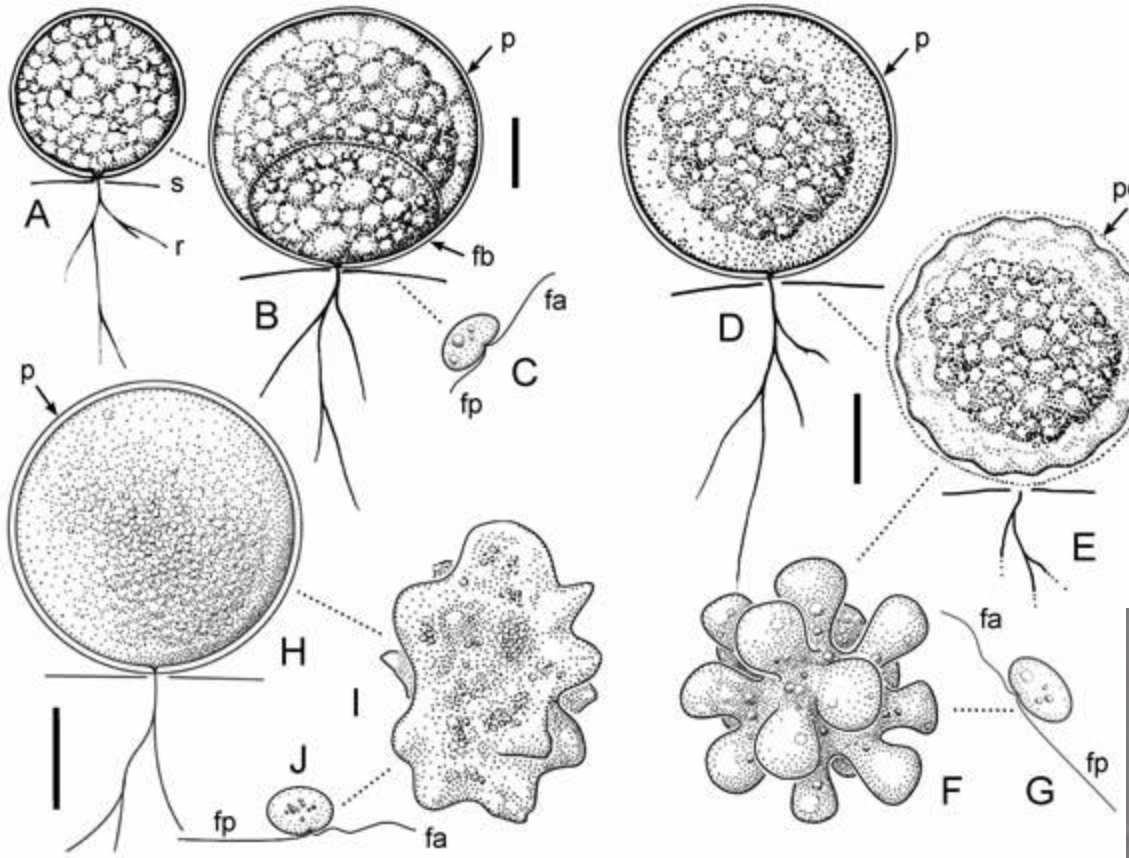

sporangium
oospore
oogonium
antheridium
sexual reproduction
(occurs only when both mating types present)
sporulation from young plant in spring
sporangium
zoospores
germ tube
sporulation on leaf
sporangium
infected plant

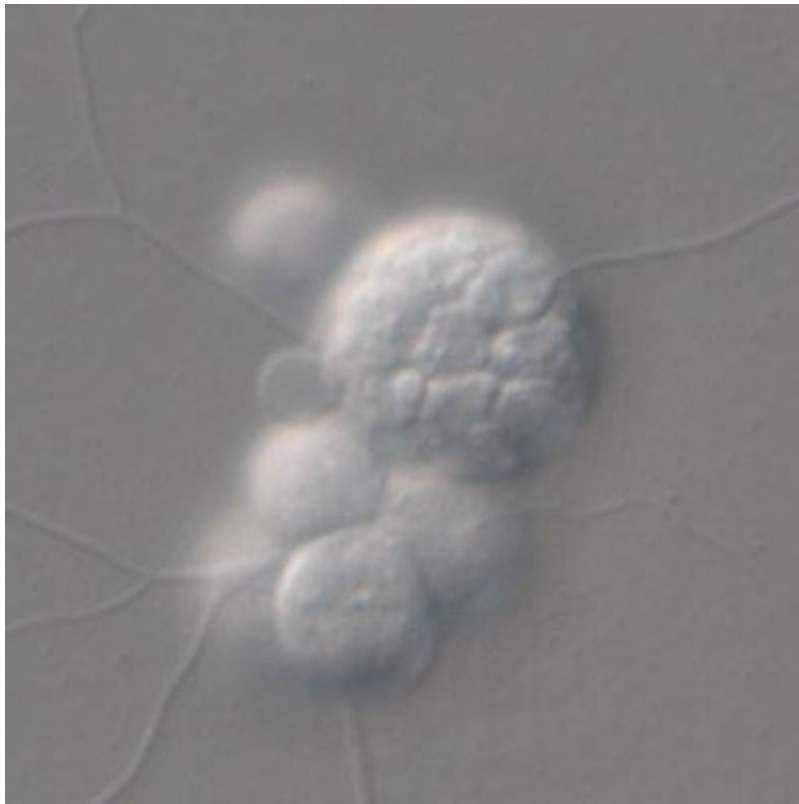


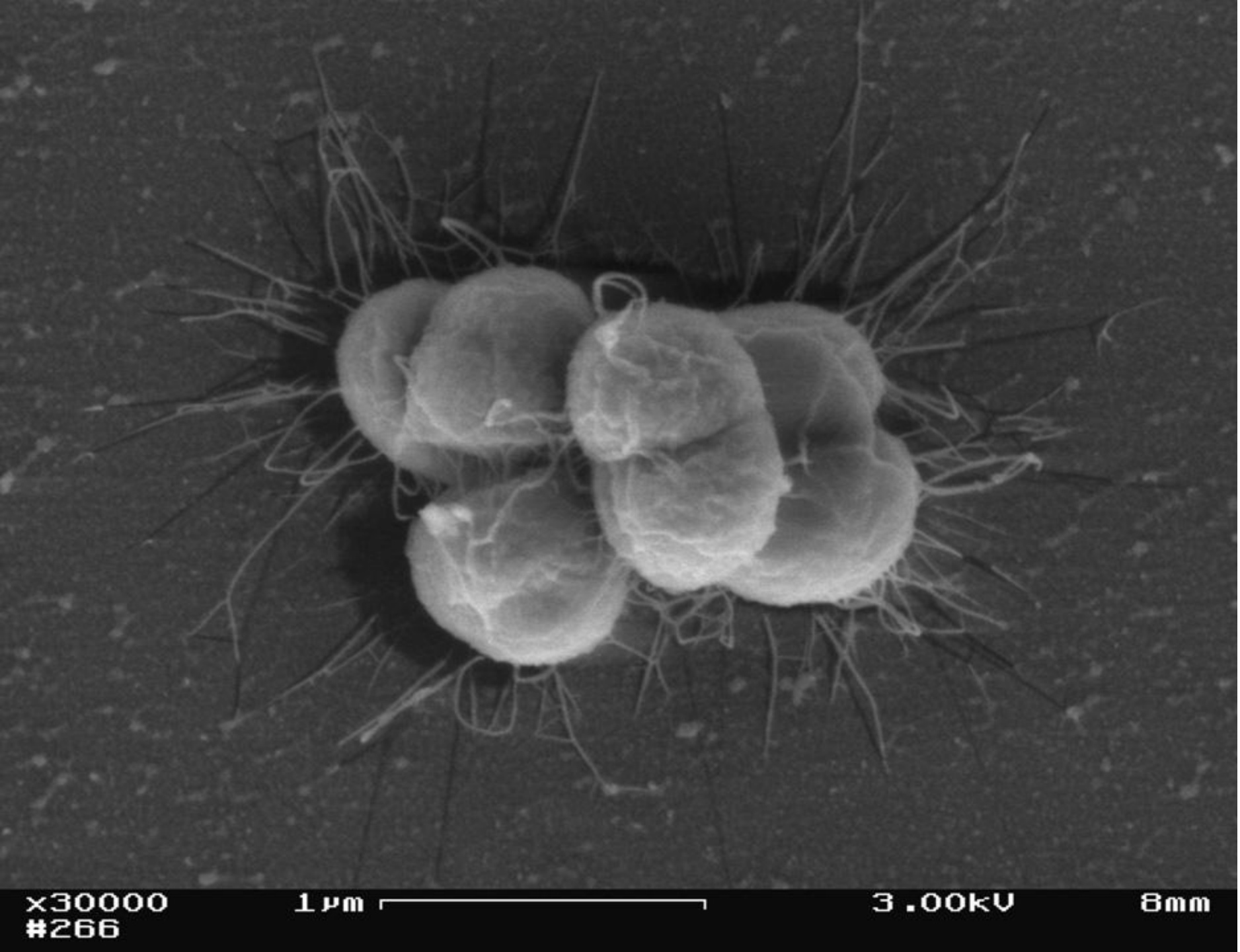
Credit: R. Golder

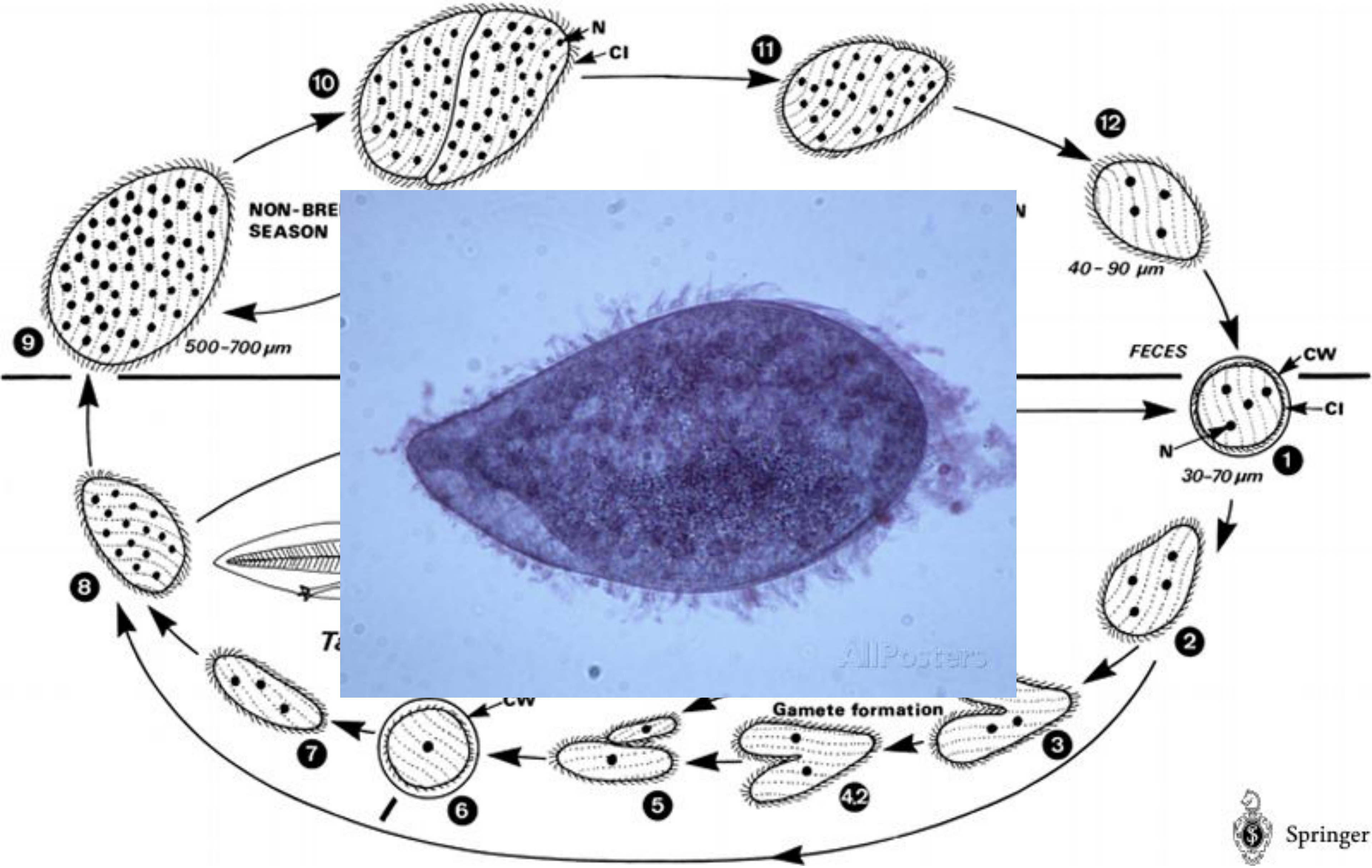




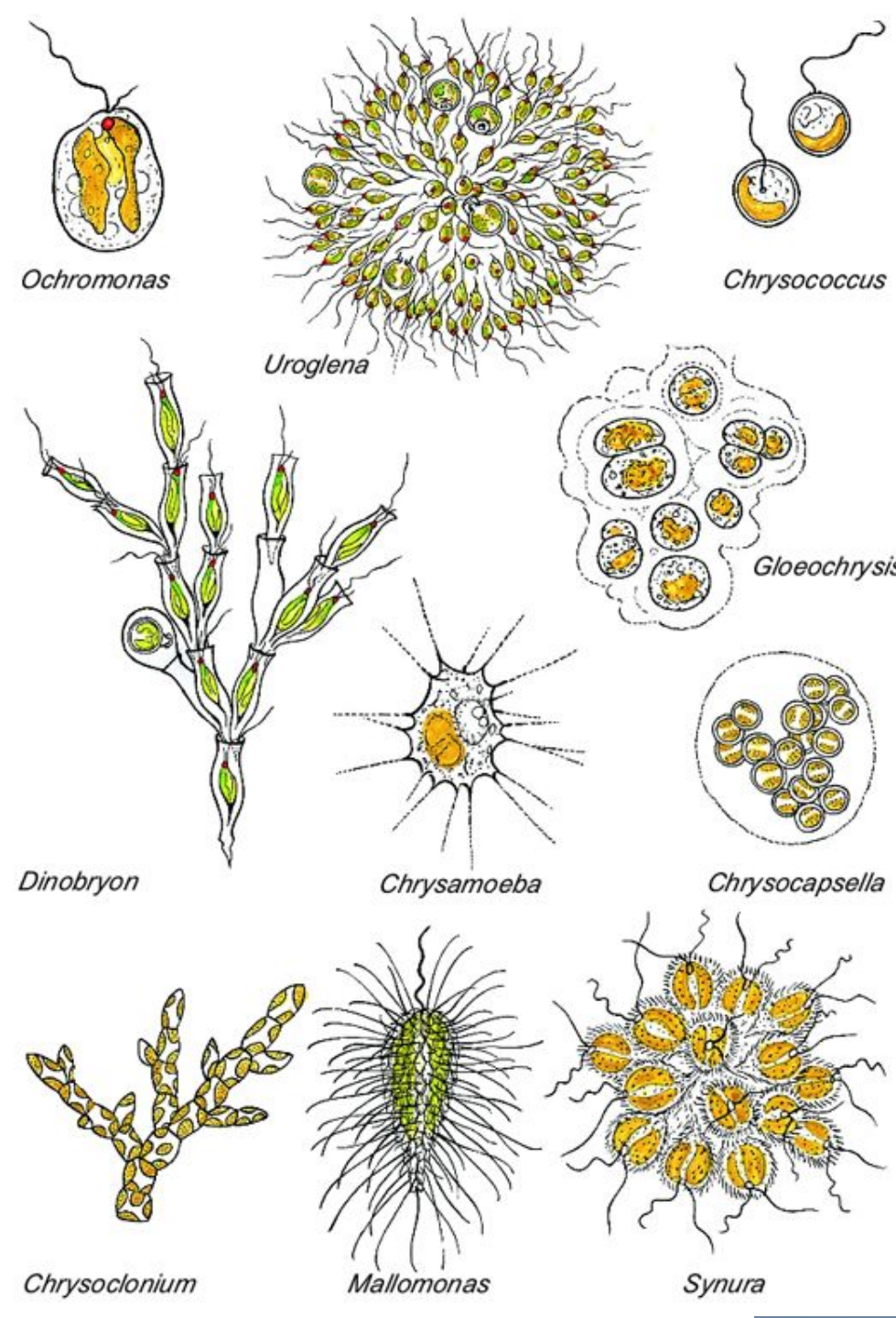

A
s
r
B
p
fb
C
fa
fp
D
p
pd
E
F
fa
G
fp
H
p
I
J
fp
fa

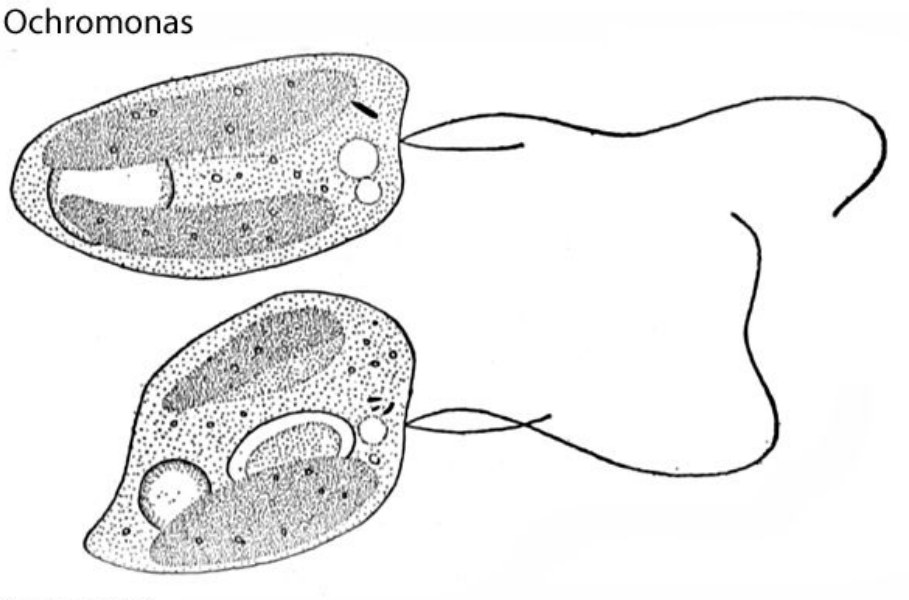



x30000
#266
1μm
3.00kV
8mm

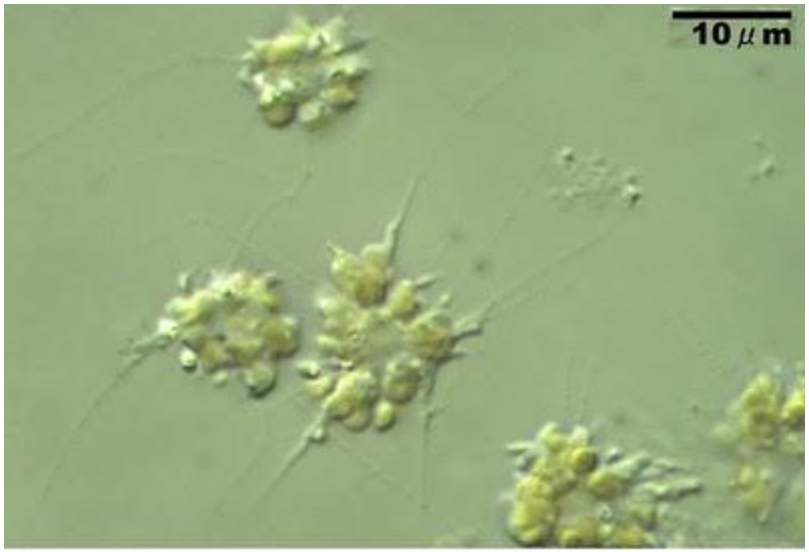

N
CI
SEASON
500-700 µm
40 - 90 µm
FECES
CW
CI
N
30-70 µm
Gamete formation
CW
AllPosters

Springer



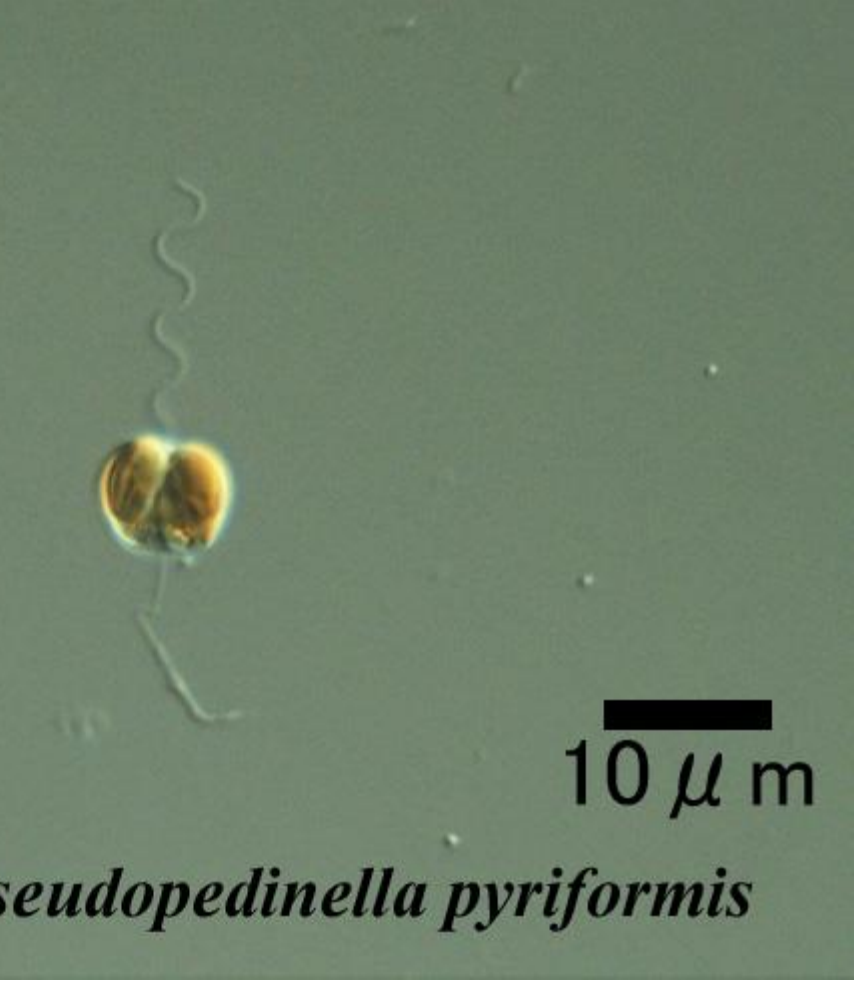


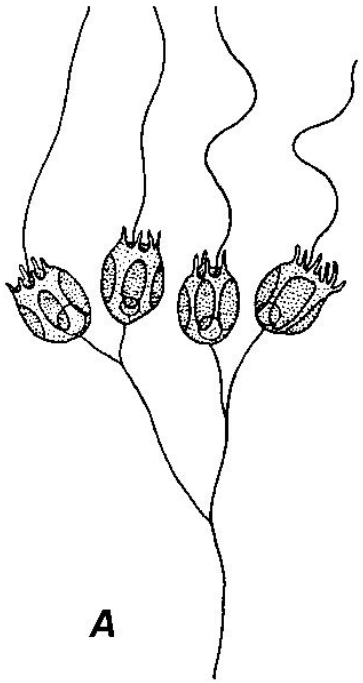
After Smith (1950)

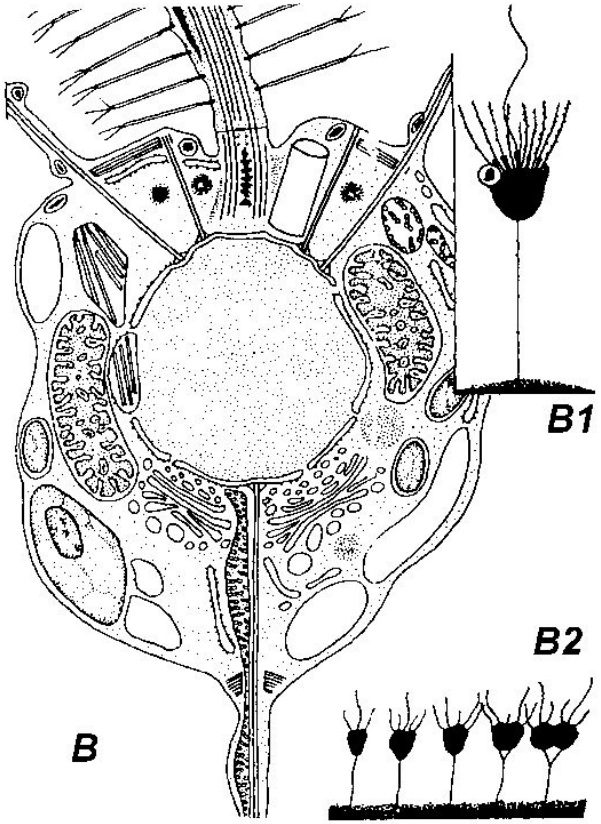

10 µm

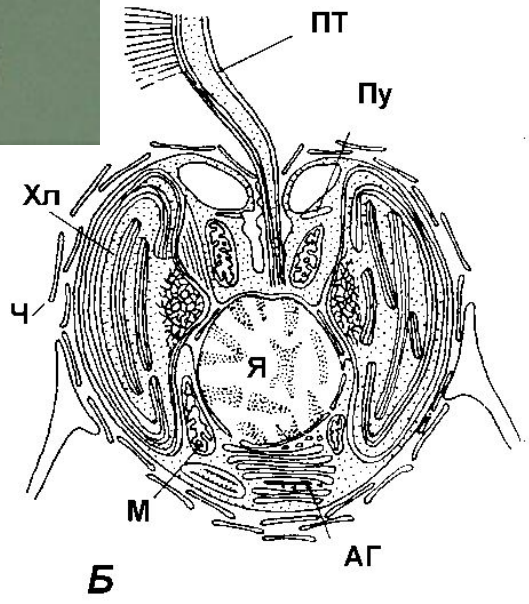

20 µm
© Dr. R. Wagner

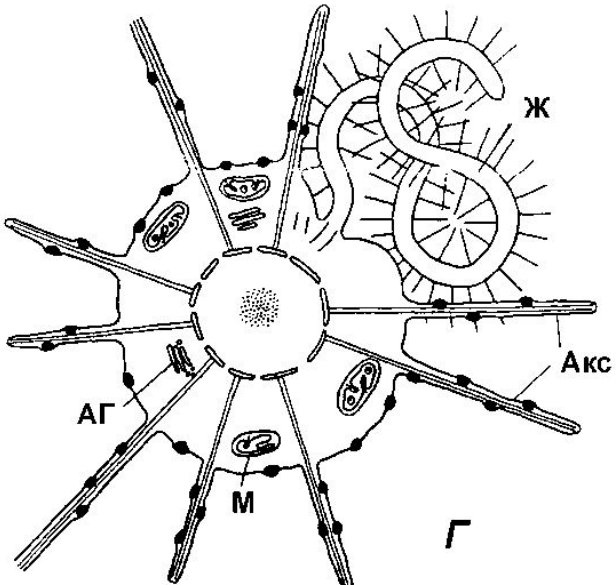
20 µm

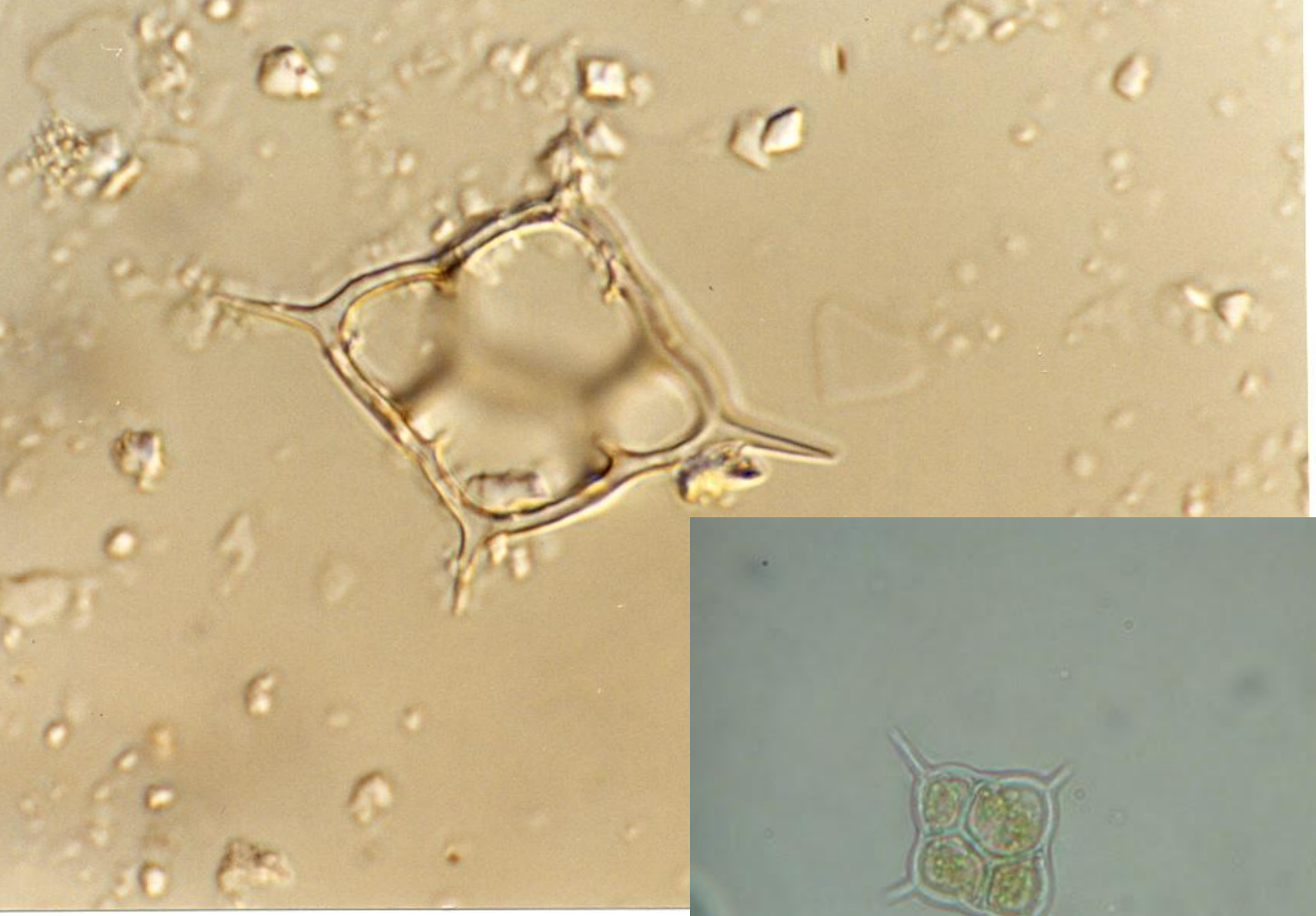

10 μ m
seudopedinella pyriformis

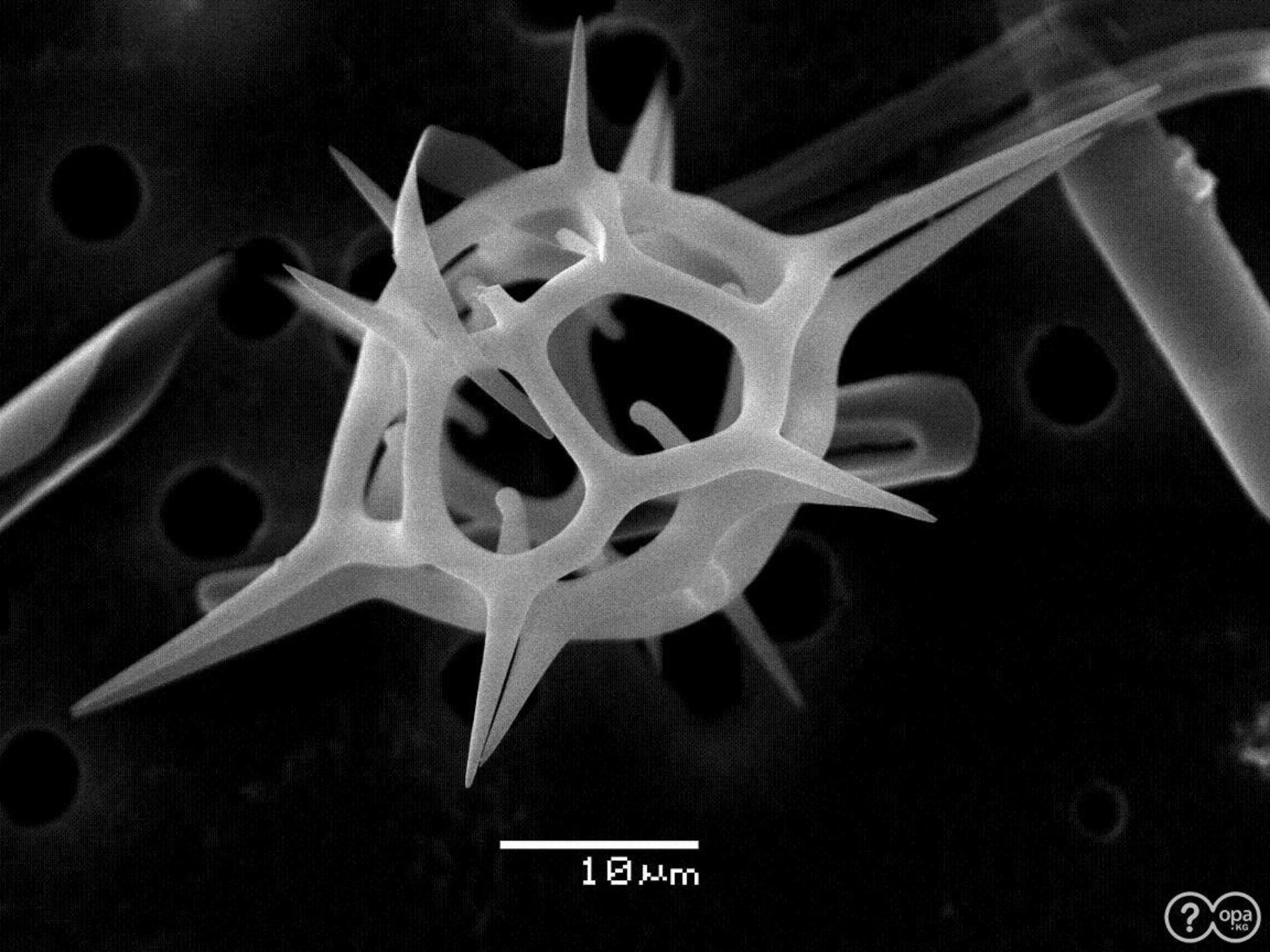

А

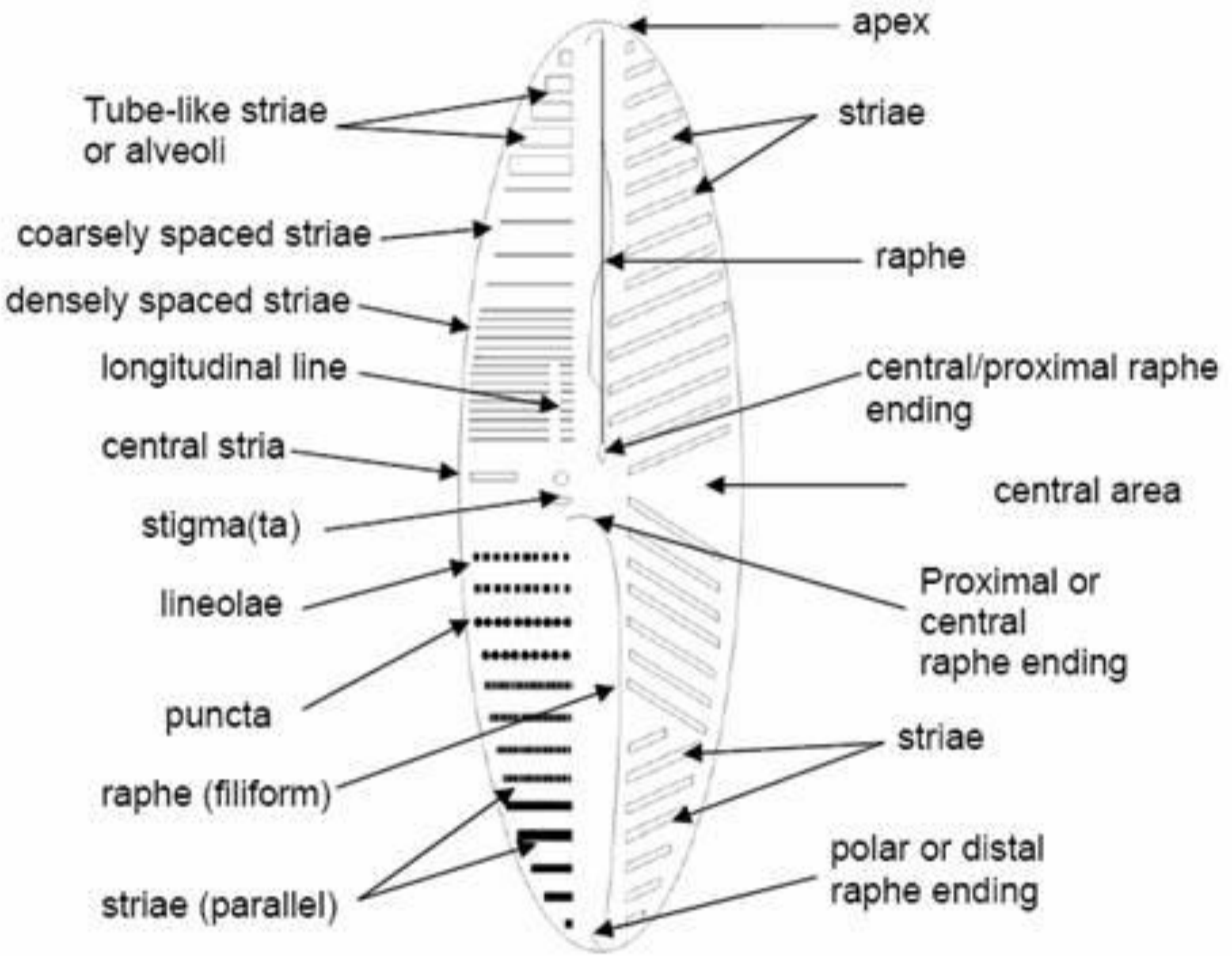

В1
В2
В

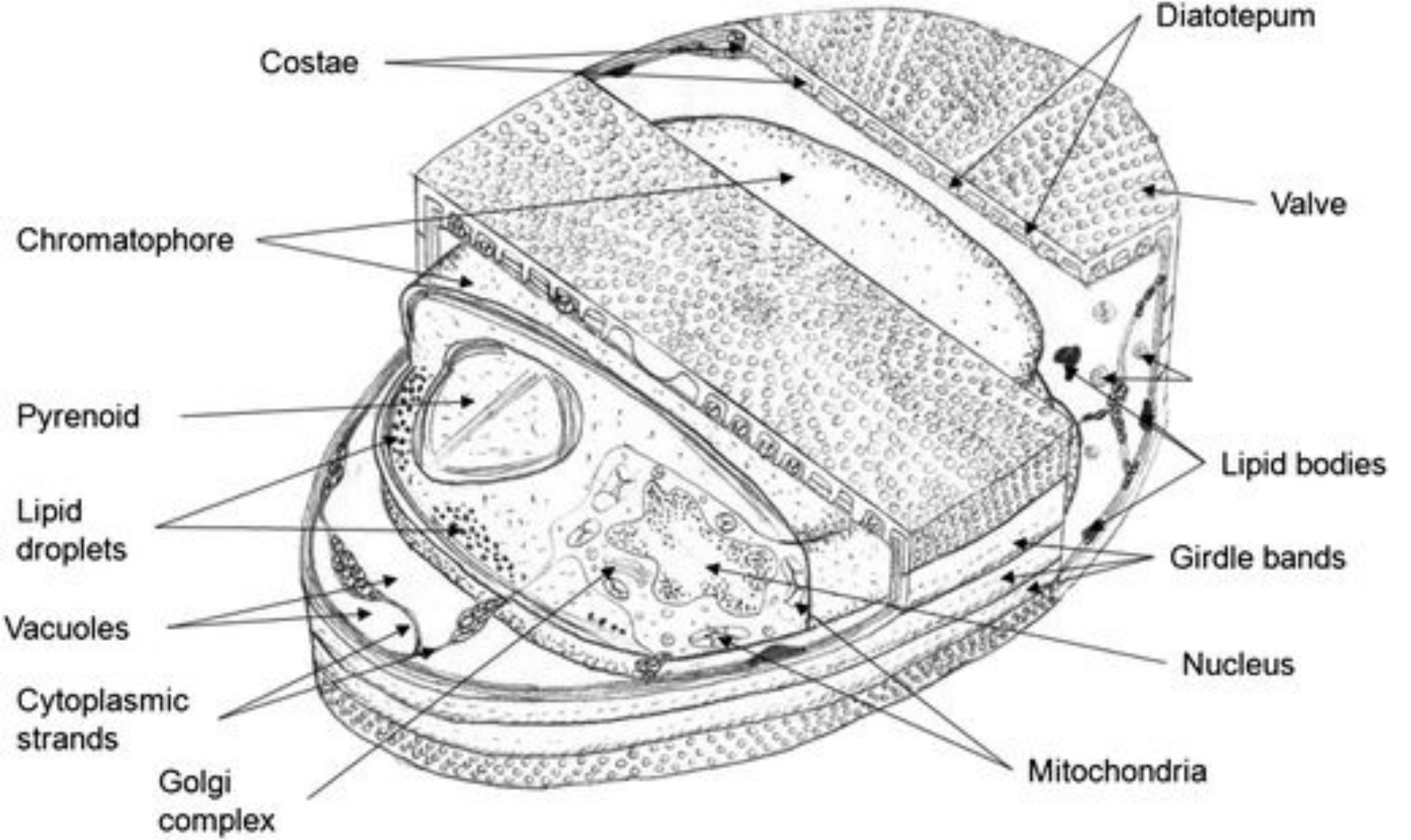

ПТ
Пу
Хл
Ч
Я
М
АГ
Б

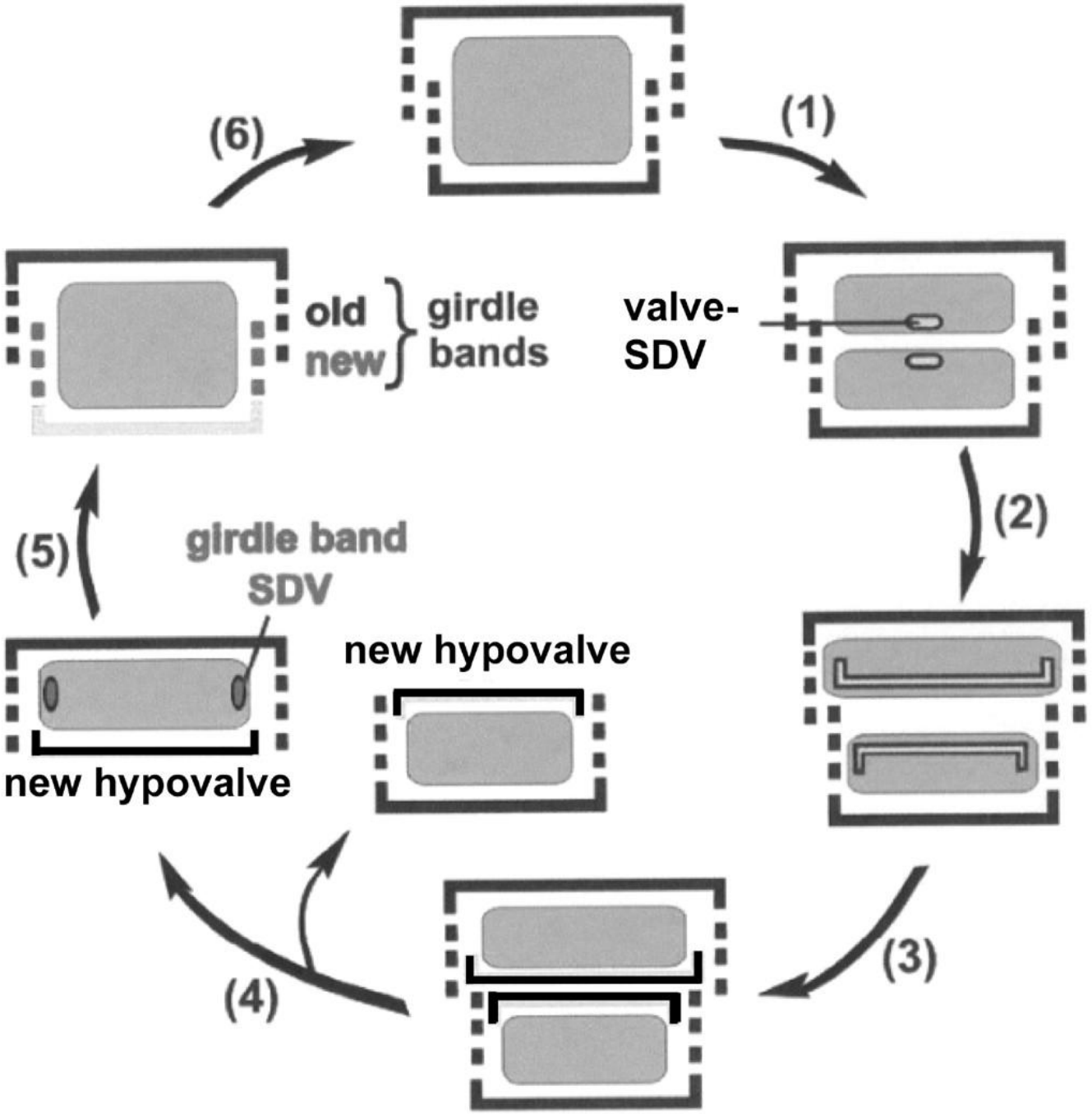

Ж
Акс
АГ
М
Г



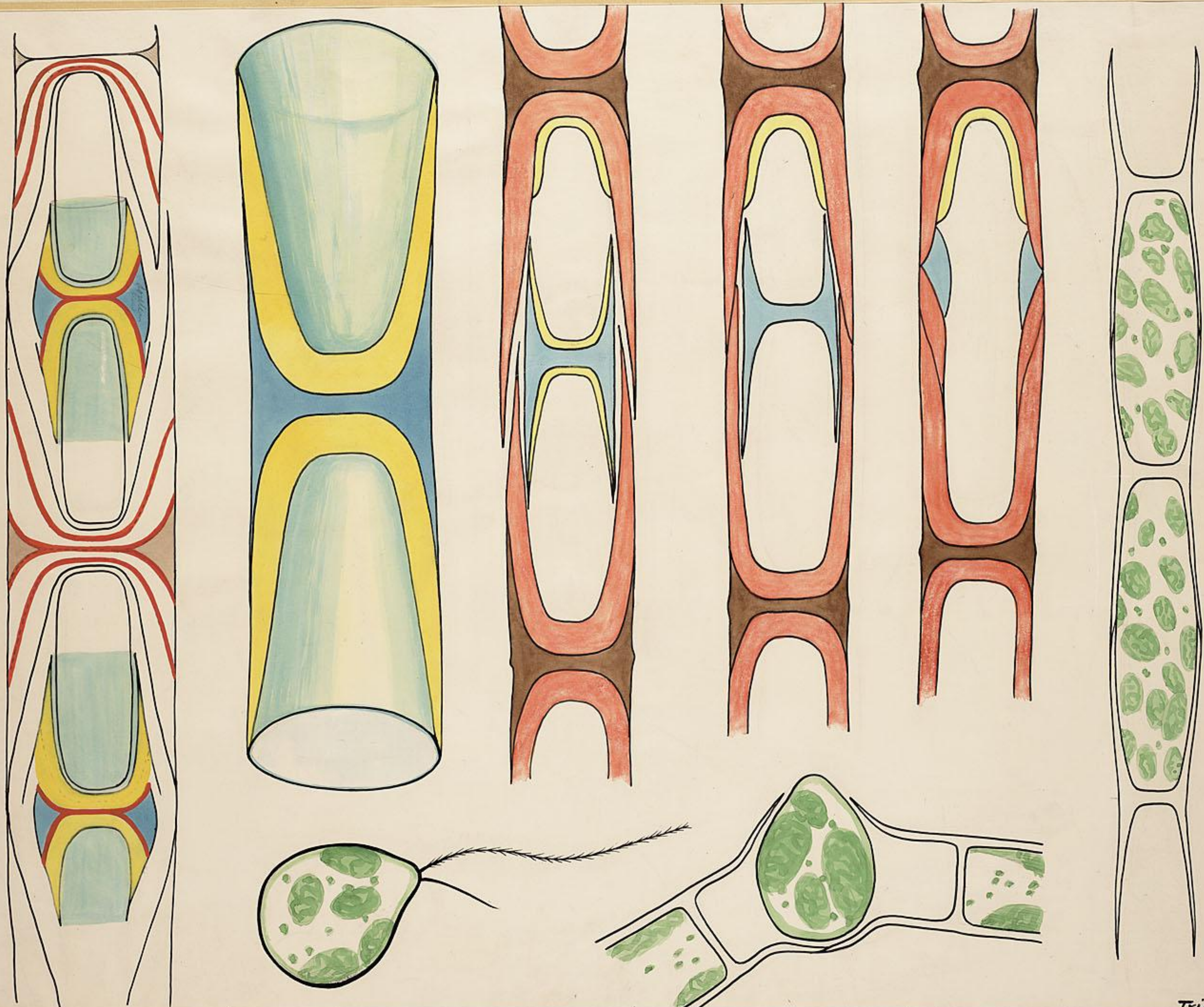

10µm


apex
Tube-like striae or alveoli
striae
coarsely spaced striae
raphe
densely spaced striae
longitudinal line
central/proximal raphe ending
central stria
central area
stigma(ta)
Proximal or central raphe ending
lineolae
puncta
striae
raphe (filiform)
polar or distal raphe ending
striae (parallel)


Diatotepum
Costae
Valve
Chromatophore
Pyrenoid
Lipid bodies
Lipid droplets
Girdle bands
Vacuoles
Nucleus
Cytoplasmic strands
Mitochondria
Golgi complex


(1)
valve-
SDV
(2)
(3)
(4)
(5)
girdle band
SDV
new hypovalve
new hypovalve
(6)
old
new
girdle
bands

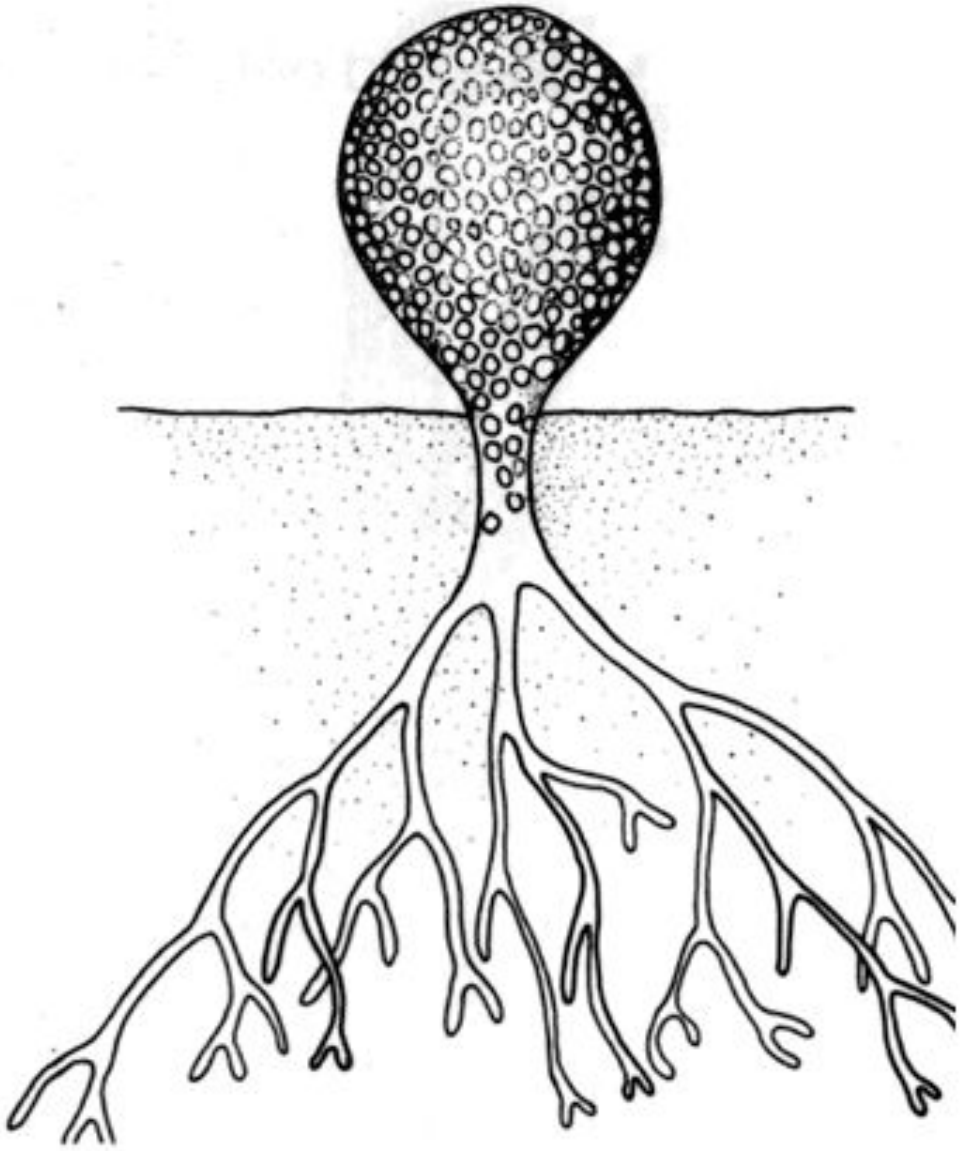
Alg. 80



Alg. 80

Tribonema


10 µm

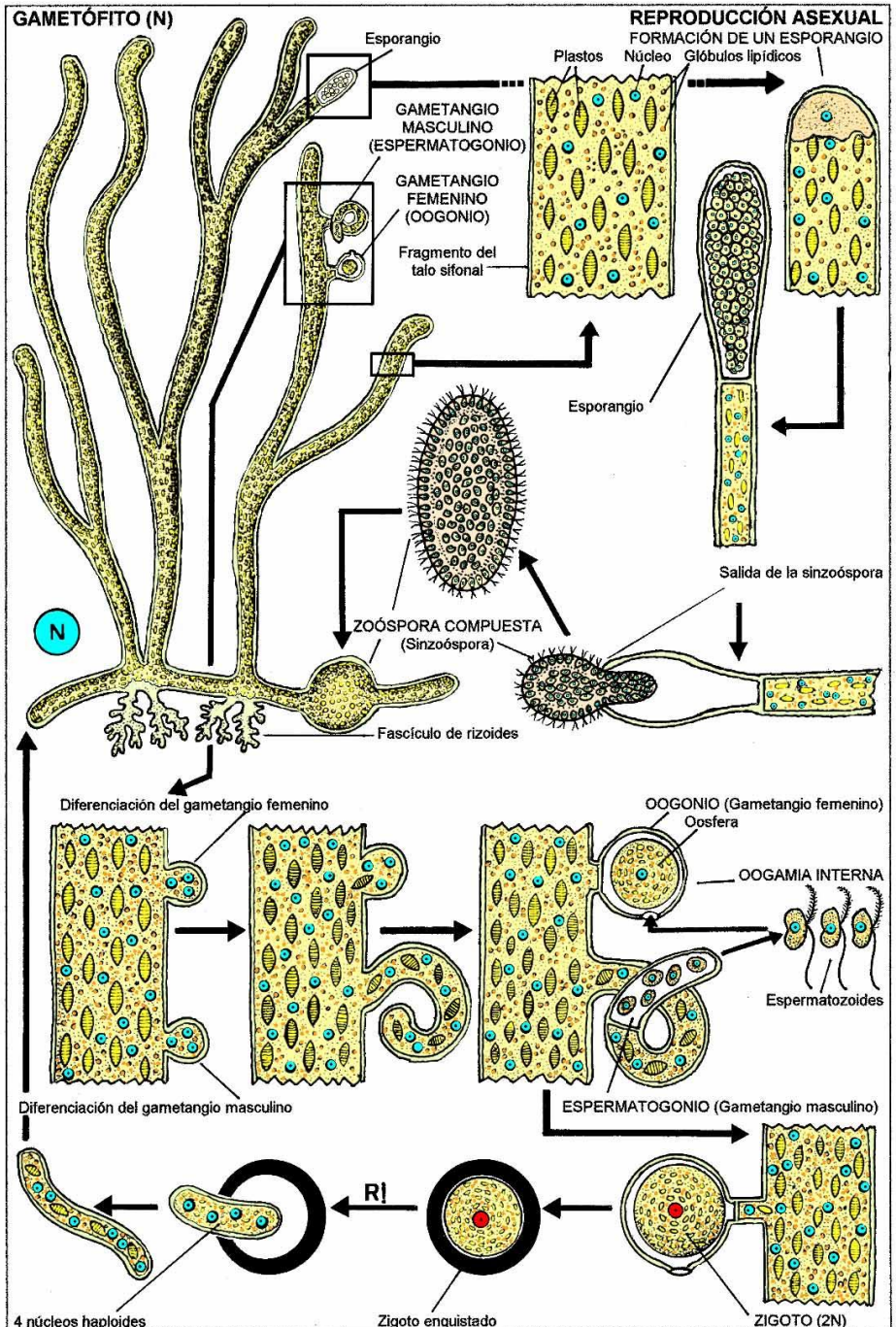


All after Entwisle et al. (1997)

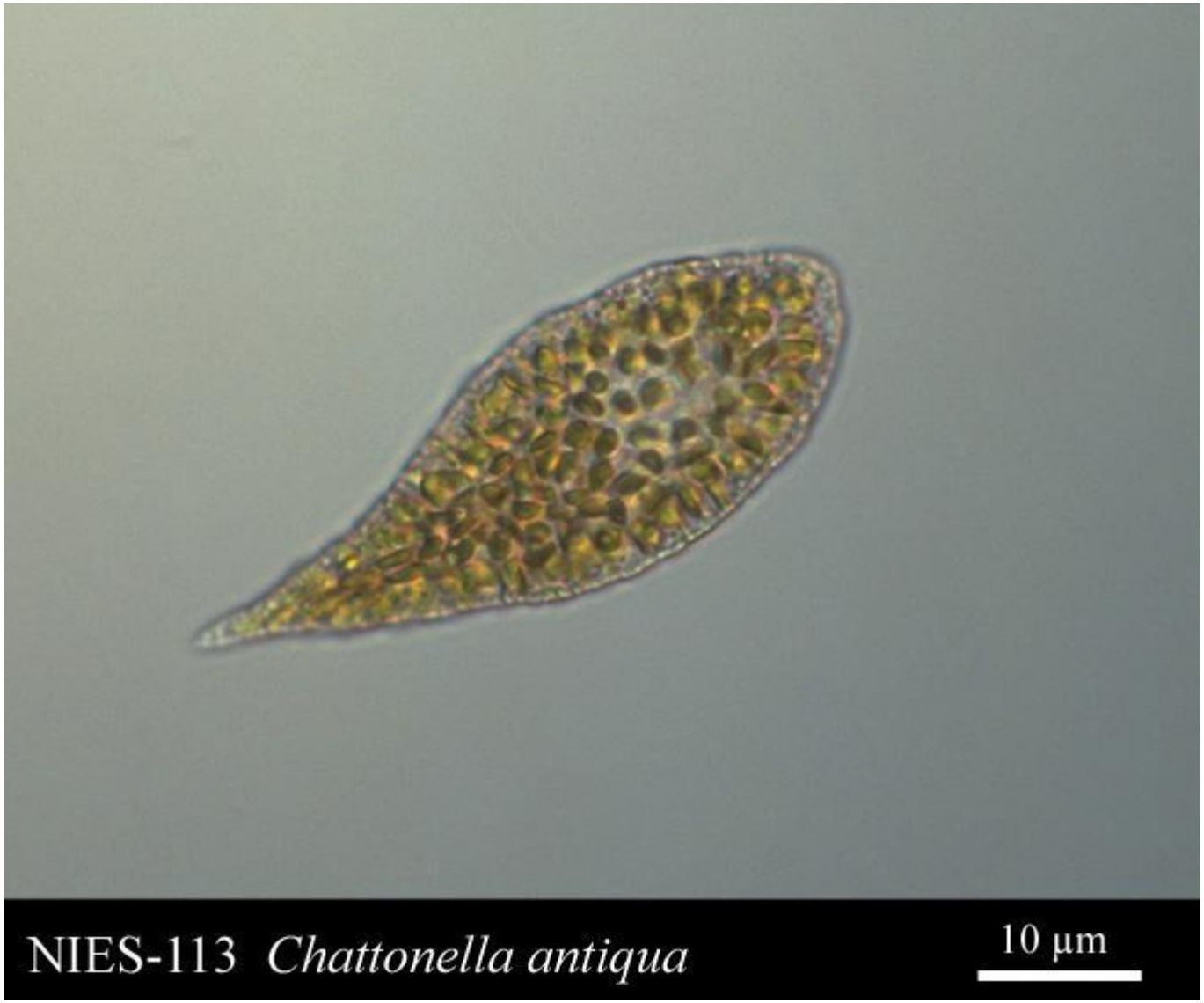

algaeBASE

CICLO DE *VAUCHERIA SESSILIS* (Xantofíceas)

MONOGENÉTICO HAPLOFÁSICO. ORGANISMO HAPLOBIÓNTICO




© Gert Hansen
SCCAP K-1085 Vaucheria taylorii
100 µm


NIES-113 *Chattonella antiqua*
10 µm