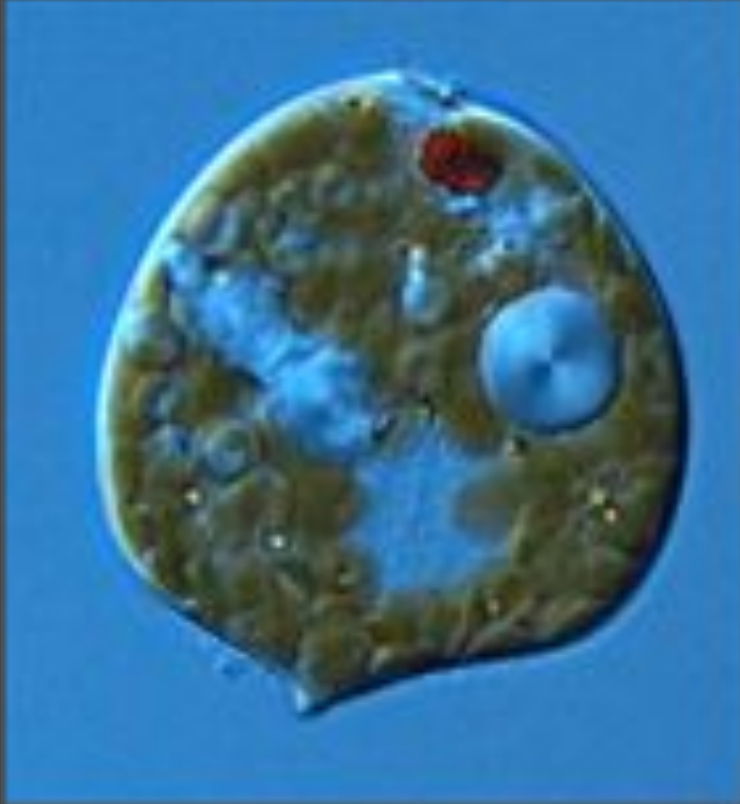
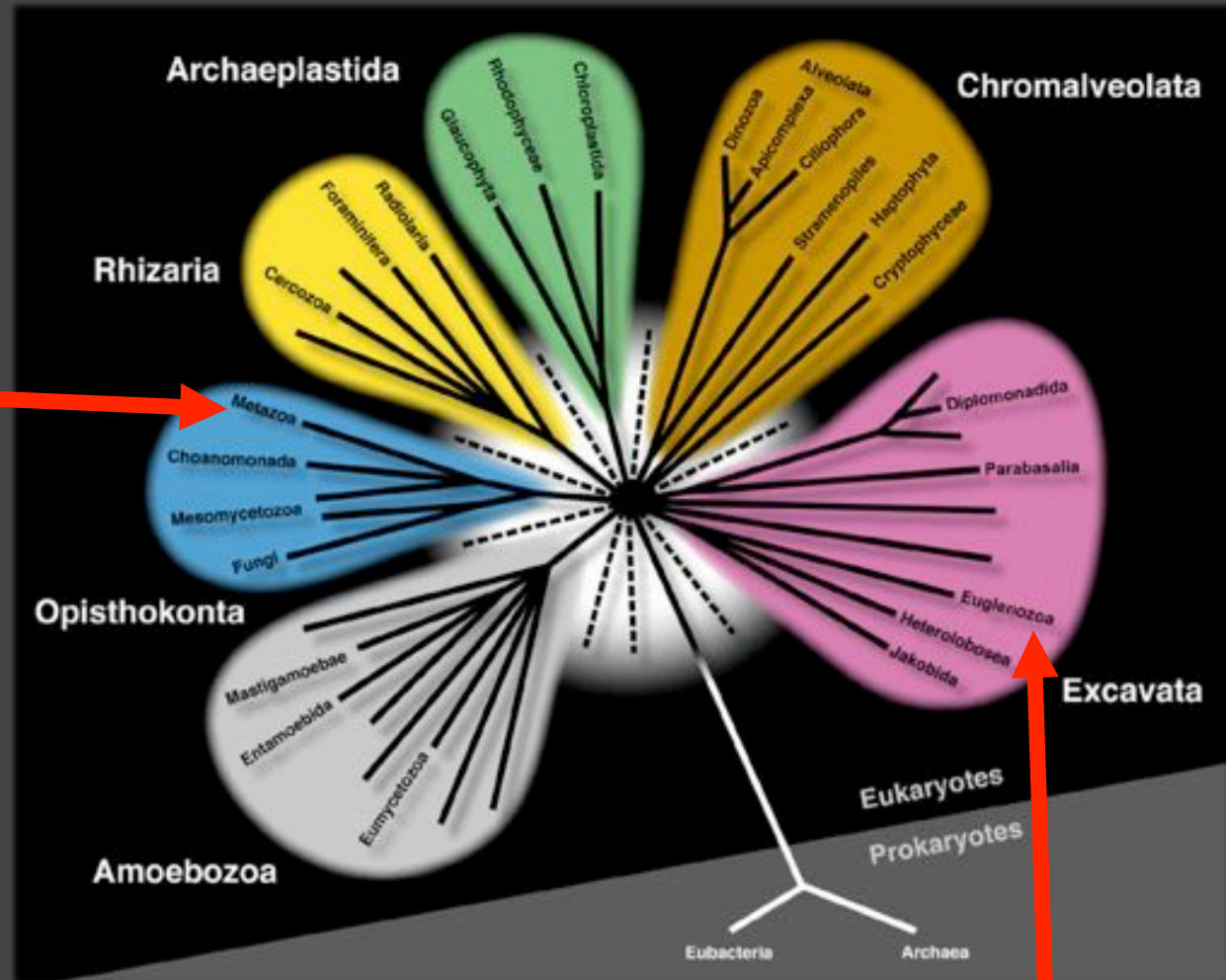


# EUGLENOPHYTA

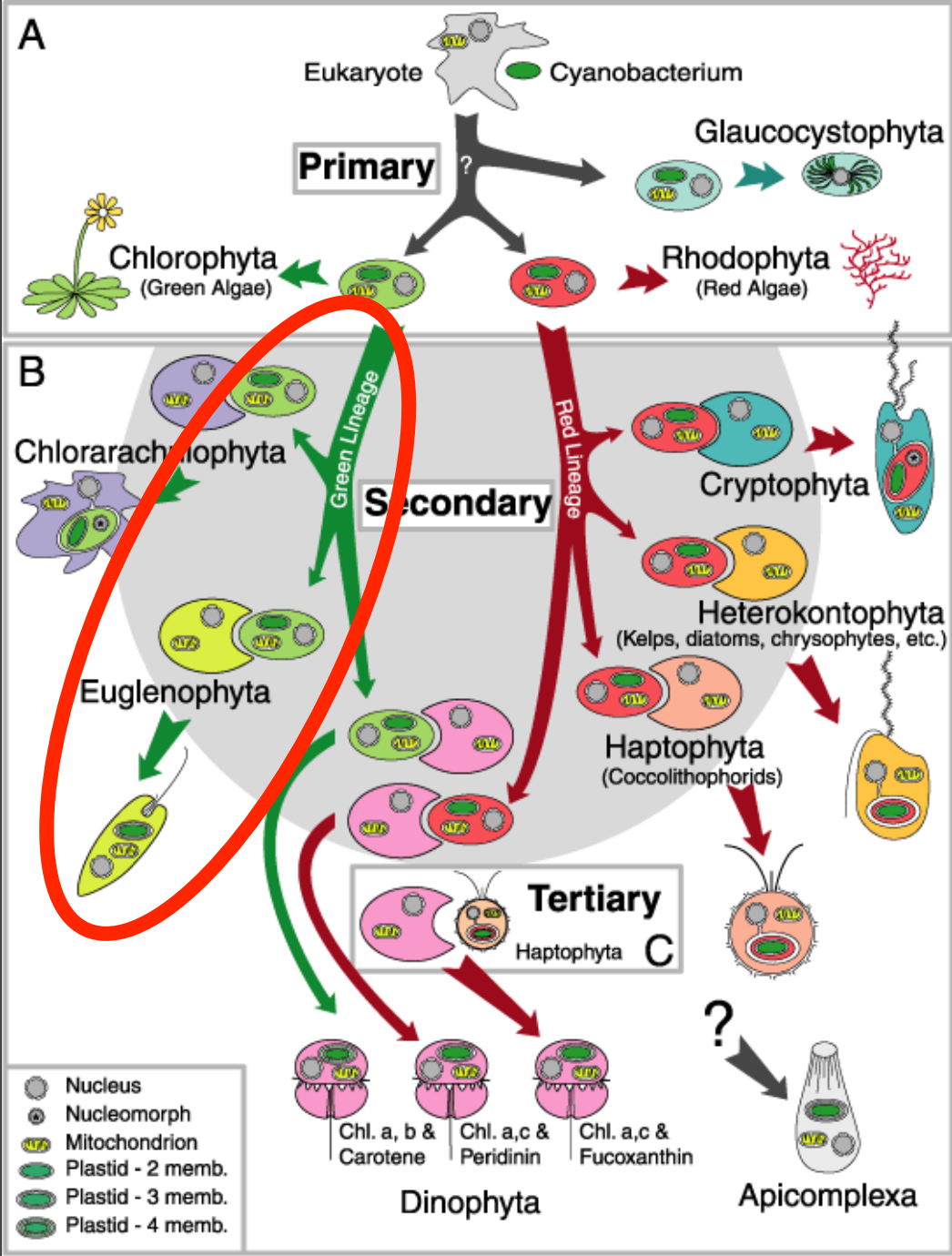
## The Euglenoids



You are here



Euglenas are here



Euglenoids are an example of a secondary endosymbiosis in the Green Lineage

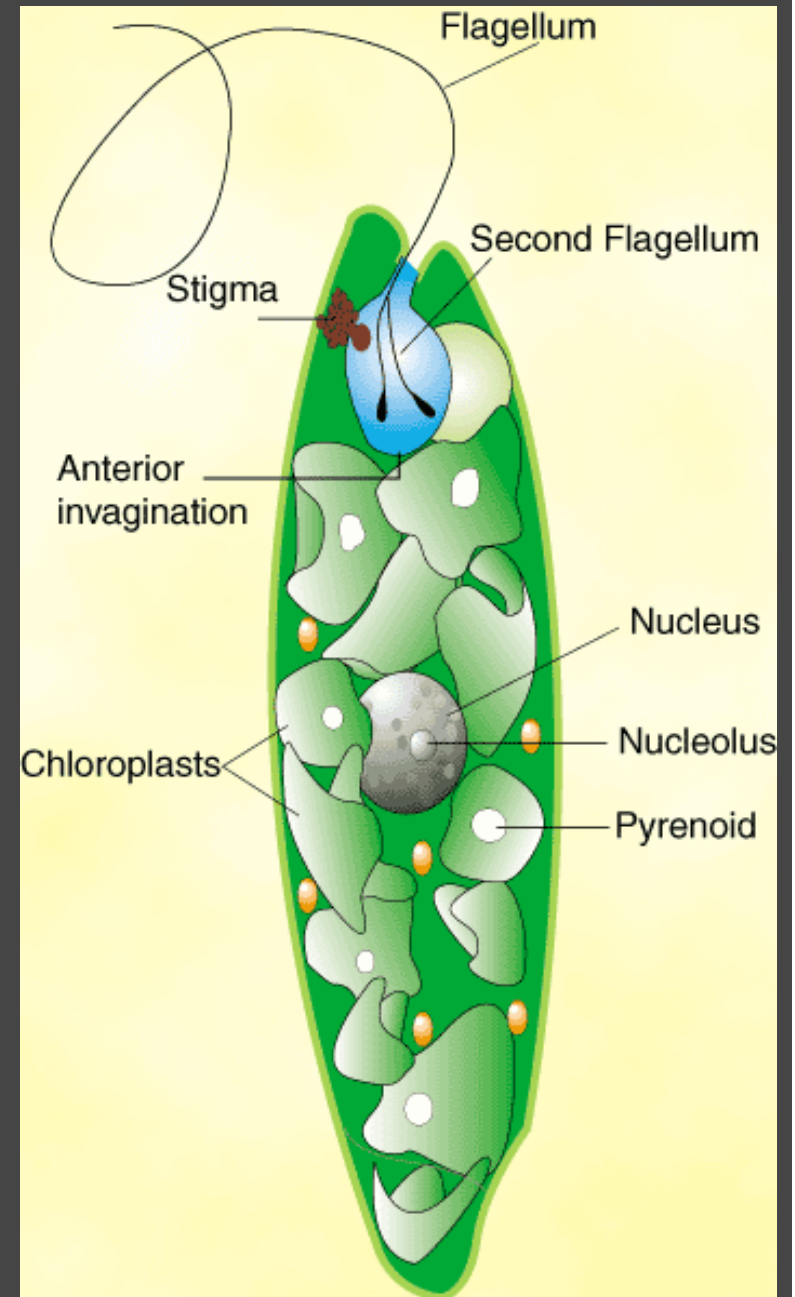
Their chloroplasts represent an eukaryotic ancestral green alga

Euglenoids are an early divergent group of eukaryotes related to the Kinetoplastids (blood pathogens, trypanosomes, sleeping sickness)

Modified from Delwiche, C.F. 1999. Tracing the thread of plastid diversity through the tapestry of life. *Am. Nat.* 154:S164-S177.

# Euglenoids (Euglenophyta aka Euglenozoa)

- Unicellular, uninucleated
- Chlorophylls *a* & *b*,  $\beta$ -carotene, and other xanthophylls
- Each plastid with 3 membranes (Cellular Vampirism or Myzocytosis?)
- Thylakoids associated in triplets
- Storage: paramylon
- Flagella: 1–2 stichonematic
  - Reservoir
  - Paraflagellar body, flavin
- Stigma
- Pellicle or periplast, protein; inside the plasmalemma
- Photosynthetic & non-photosynthetic forms
- Closed mitosis
- Almost entirely freshwater
- Metaboly
- Auxotrophic
- NO sex

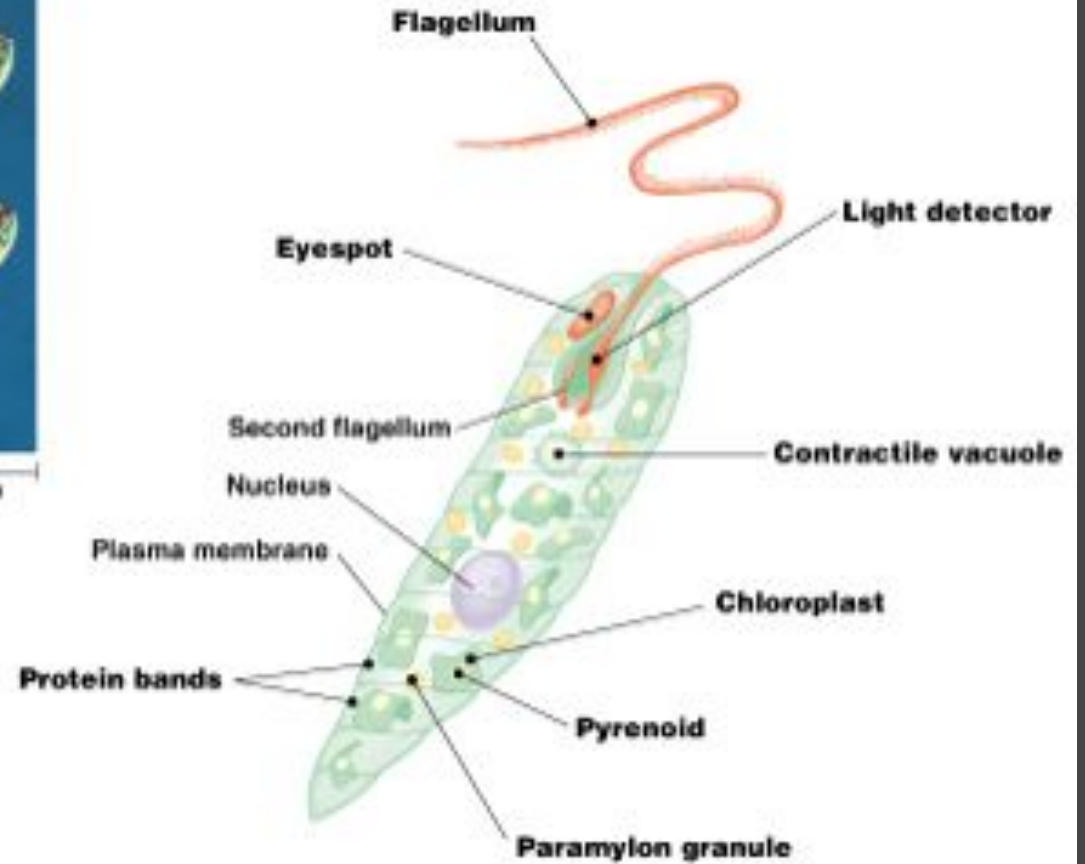


# Euglena

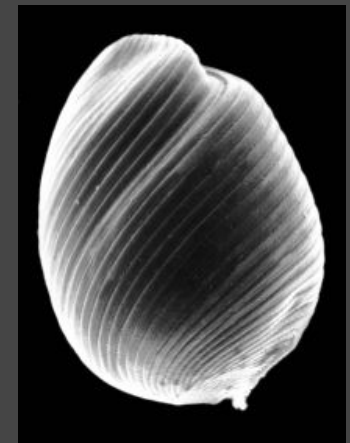
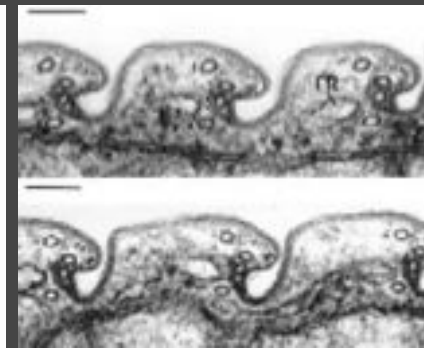
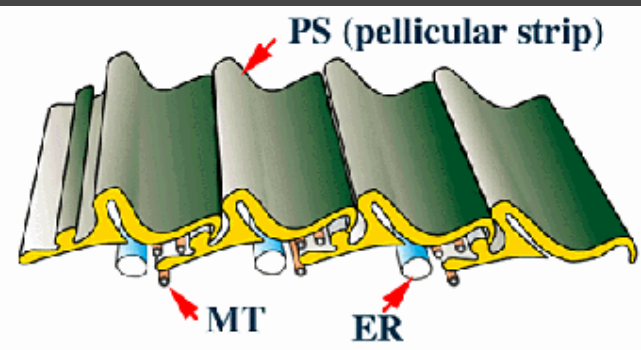
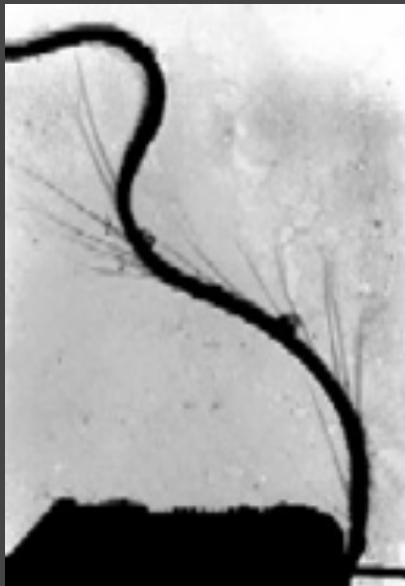


Euglena (LM)

0  $\mu$ m

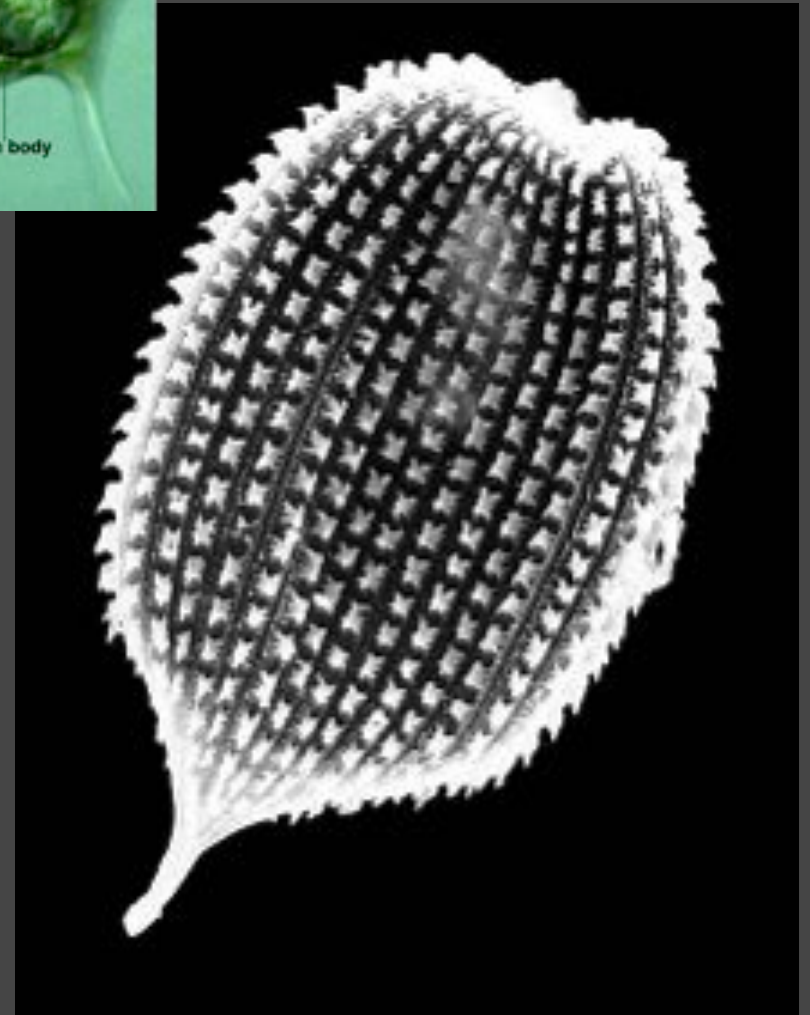


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# *Phacus*

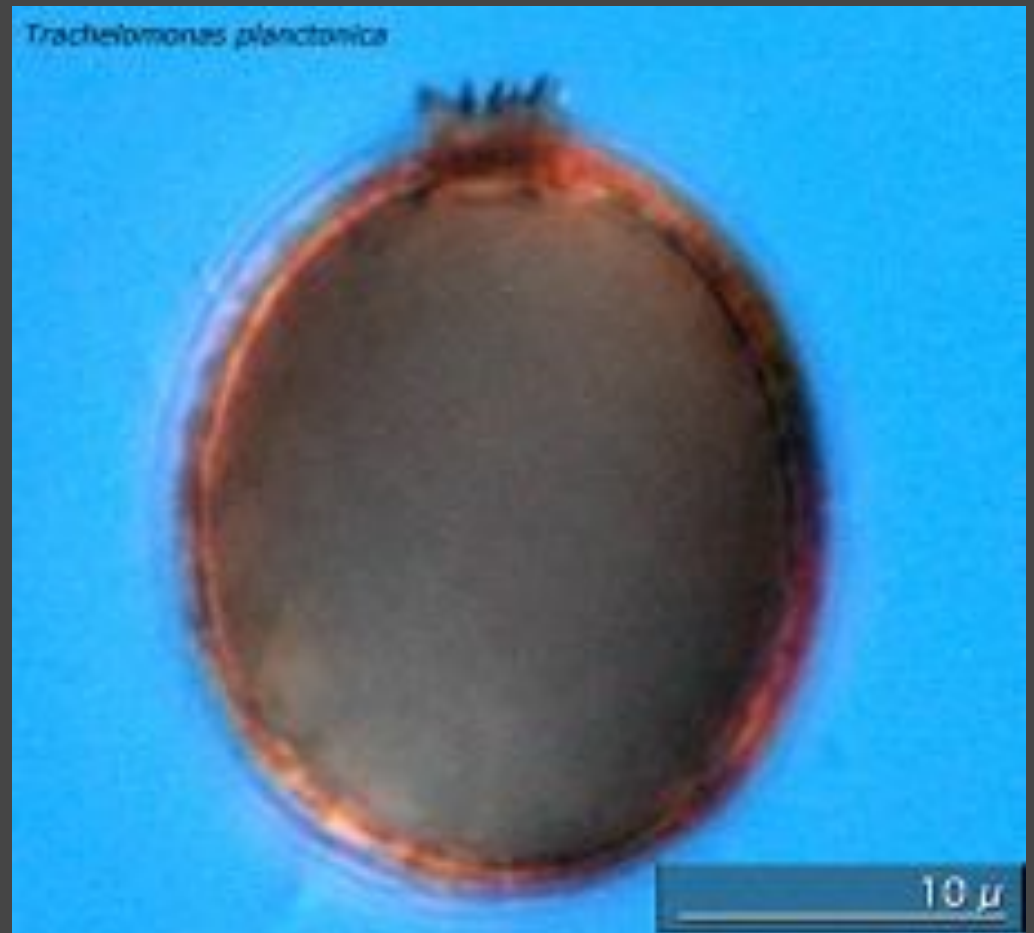
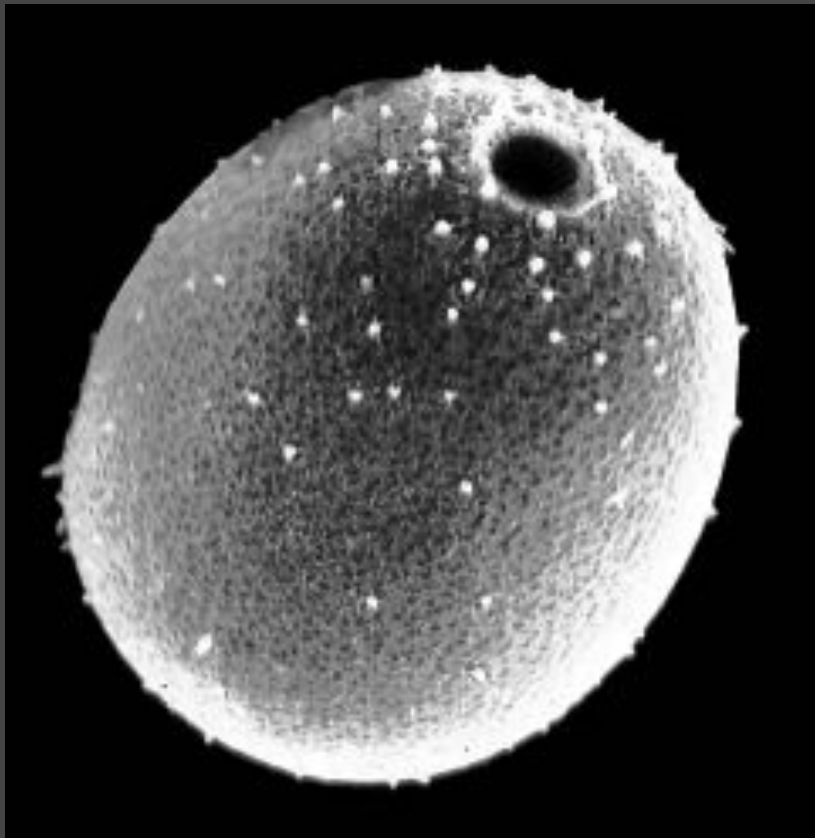
With a rigid  
flattened pellicle



# *Trachelomonas*

With a rigid lorica

Minerals giving a dark brown color



## Ecology

Abundant in waters with a high organic content

They require certain vitamins, cyanocobalamin

Red blooms are caused by a red species of *Euglena*

Bloom of *Euglena sanguinea*

