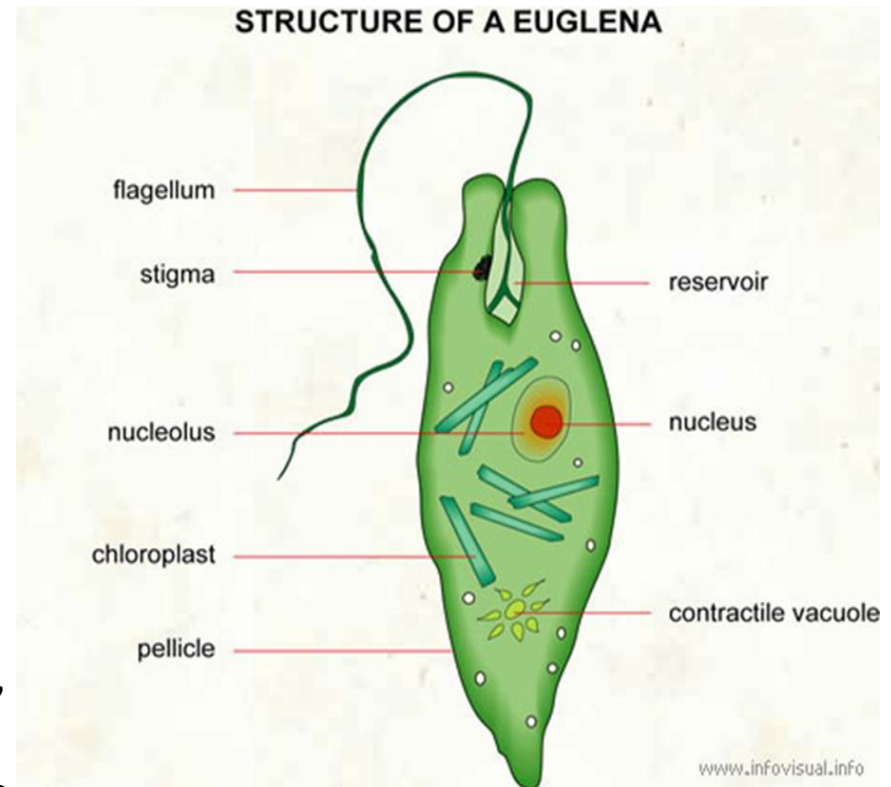


K: Protista  
D: Euglenophyta  
Cl: Euglenophyceae  
Or: Euglenales  
F: Euglenaceae  
Ex: *Euglena sp.*

-Euglena is a single-celled organism with plant-like (chloroplasts for photosynthesis) and animal-like (movement with flagellum, no cell wall) features, characterized by an elongated body, flexible pellicle, contractile vacuole for water balance, a light-sensing eyespot (stigma), a nucleus, mitochondria, and one or two flagella for movement, originating from a reservoir. The stored food is paramyloid.



**K: Protista**

**D: Chlorophyta**

**Cl: Chlorophyceae**

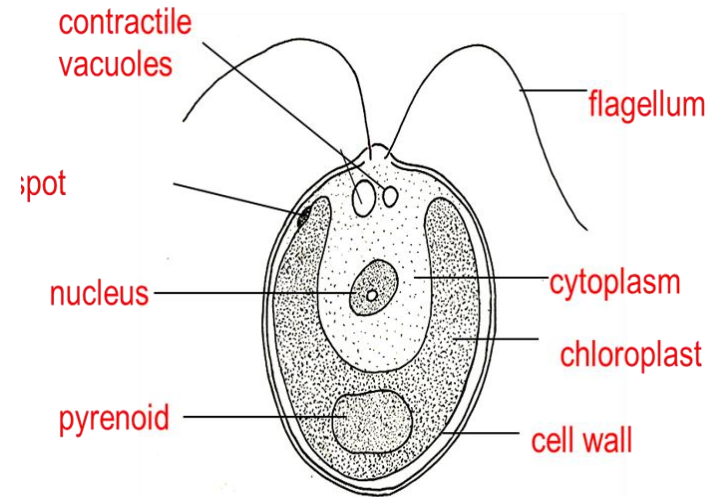
**Or: Volvocales**

**F: Chlamydomonaceae**

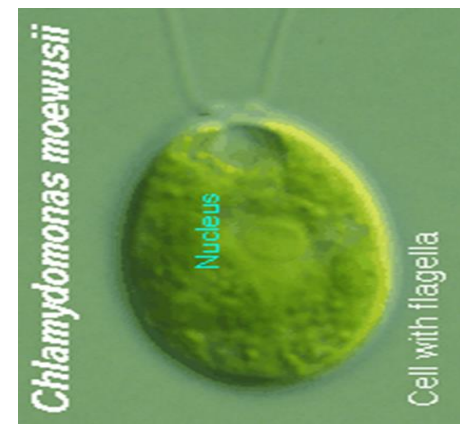
**Ex: *Chlamydomonas* sp.**

**Chlamydomonas is used as a model organism for molecular biology, especially studies of flagellar motility and chloroplast dynamics, biogenesis, and genetics. All Chlamydomonas species are motile, unicellular organisms.**

**Cells are generally spherical to cylindrical in shape, but may be elongately spindle-shaped, and a papilla may be present or absent. Chloroplasts are green and usually cup-shaped. A key feature of the genus is its two anterior flagella, each as long as the other.**



**Chlamydomonas**



K: Protista

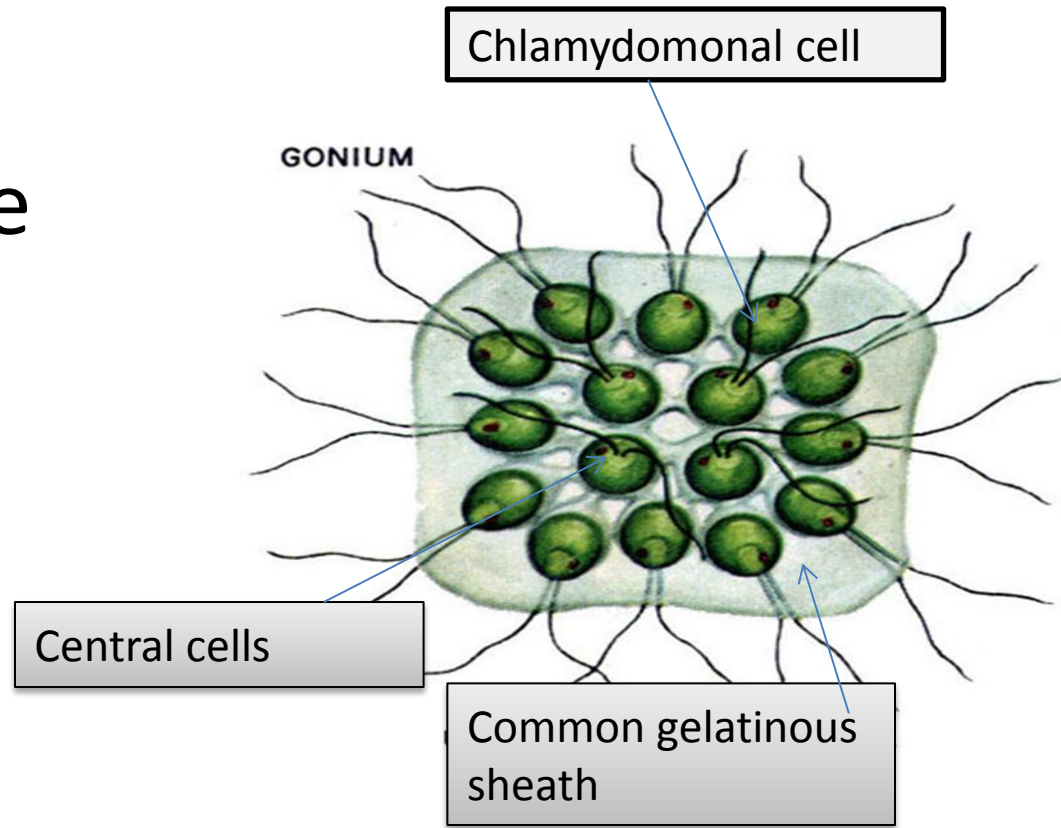
D: Chlorophyta

Cl: Chlorophyceae

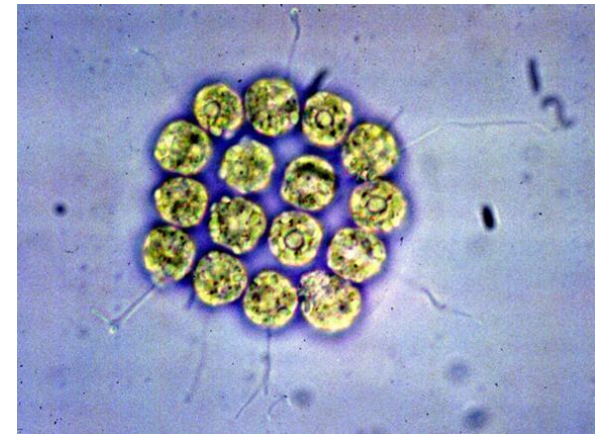
Or: Volvocales

F: Volvocaceae

Ex: *Gonium* sp.



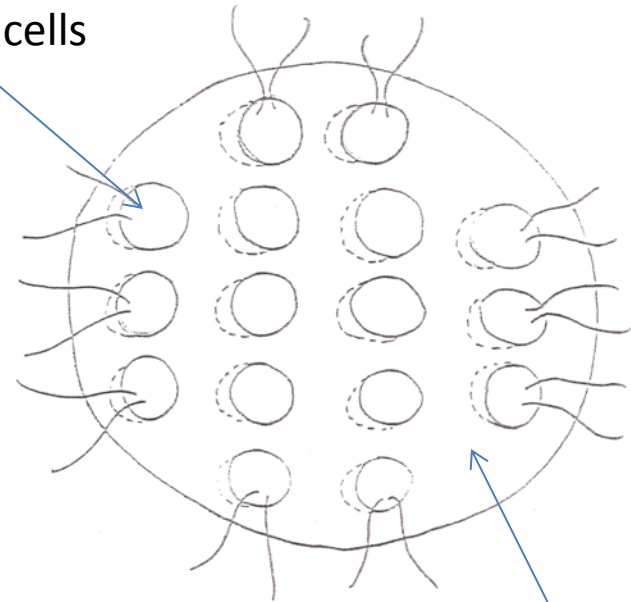
forms flat, plate-like colonies (4-32 cells) of identical, Chlamydomonas-like cells, embedded in a jelly (extracellular matrix). Each cell has two flagella, a chloroplast, eyespot, and contractile vacuoles.



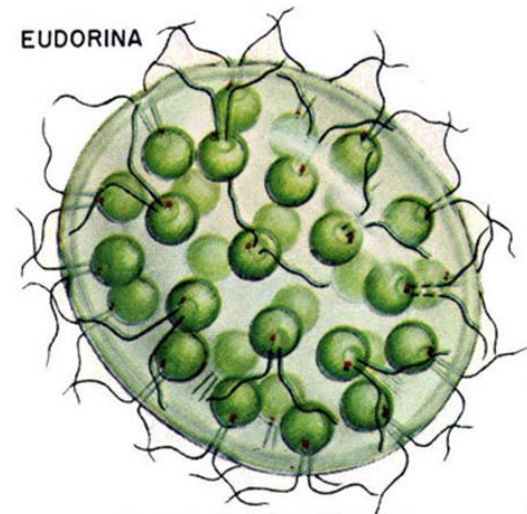
K: Protista  
D: Chlorophyta  
Cl: Chlorophyceae  
Or: Volvocales  
F: Volvocaceae  
Ex: *Eudorina* sp.

forming hollow spheres (16-32 cells)  
embedded in a gelatinous matrix, with each  
cell resembling Chlamydomonas, possessing  
two flagella, contractile vacuoles, a stigma  
(eyespot), and a large cup-shaped chloroplast  
with pyrenoids; cells orient themselves  
radially, with anterior cells having larger  
stigmas, allowing for motile.

Chlamydomonas cells

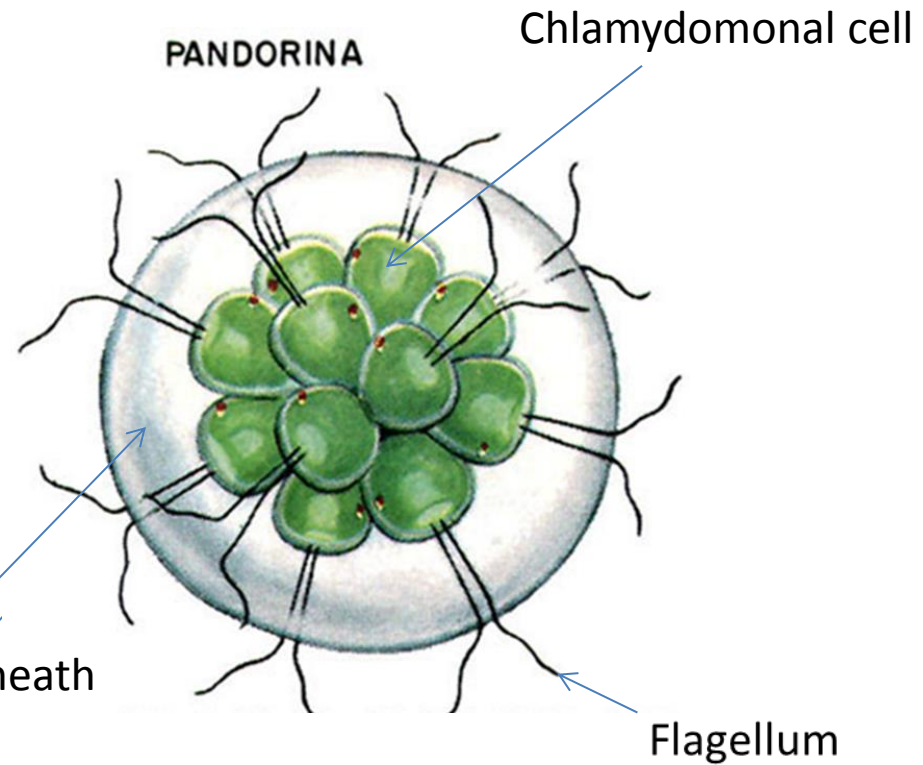


Common gelatinous sheath



K: Protista  
D: Chlorophyta  
Cl: Chlorophyceae  
Or: Volvocales  
F: Volvocaceae  
Ex: *Pandorina* sp.

Common gelatinous sheath



forming spherical colonies (coenobia) of 8, 16, or 32 cells bound by mucilage, with cells arranged compactly inside, unlike related genera. Each cell has two flagella, contractile vacuoles, an eyespot, and a cup-shaped chloroplast with pyrenoids, functioning as a simple multicellular organism that can indicate organic pollution.



K: Protista

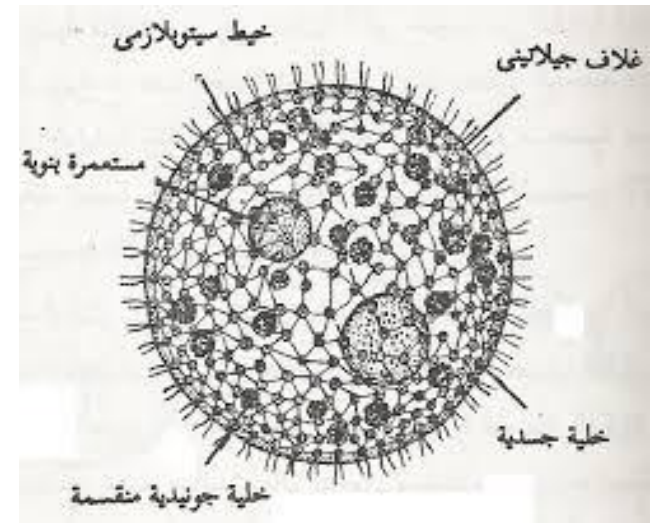
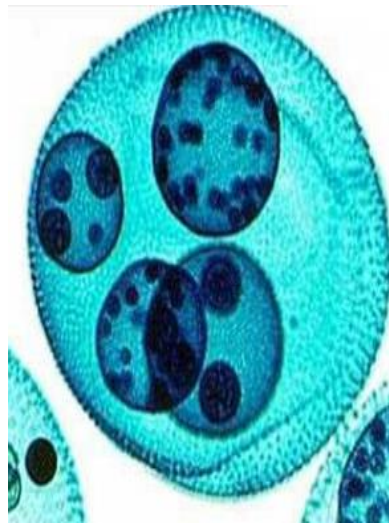
D: Chlorophyta

Cl: Chlorophyceae

Or: Volvocales

F: Volvocaceae

Ex: *Volvox* sp.



**Volvox thallus is a motile colony with definite shape and number of cells. This habit of thallus is called coenobium.**

**The colony is hollow, spherical or oval in shape and the size of colony is about the size of a pin head. The number of cells in a colony is fixed. Depending upon the species of Volvox the cells can be 500-60,000. The central part of colony is mucilaginous and the cells are arranged in a single layer on periphery of the colony.**

