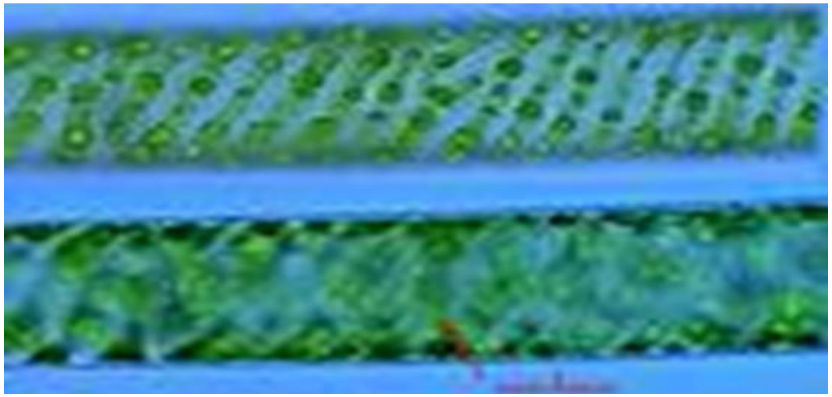
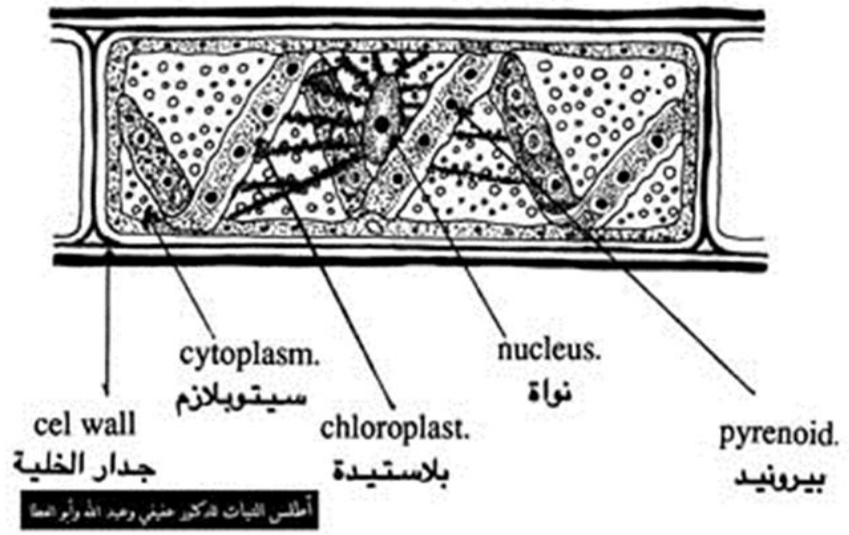
D/ Chlorophyta
Cl/ Chlorophyceae
Or/ Zygnematales
F/ Zygnemataceae
EX: *Spirogyra sp.*



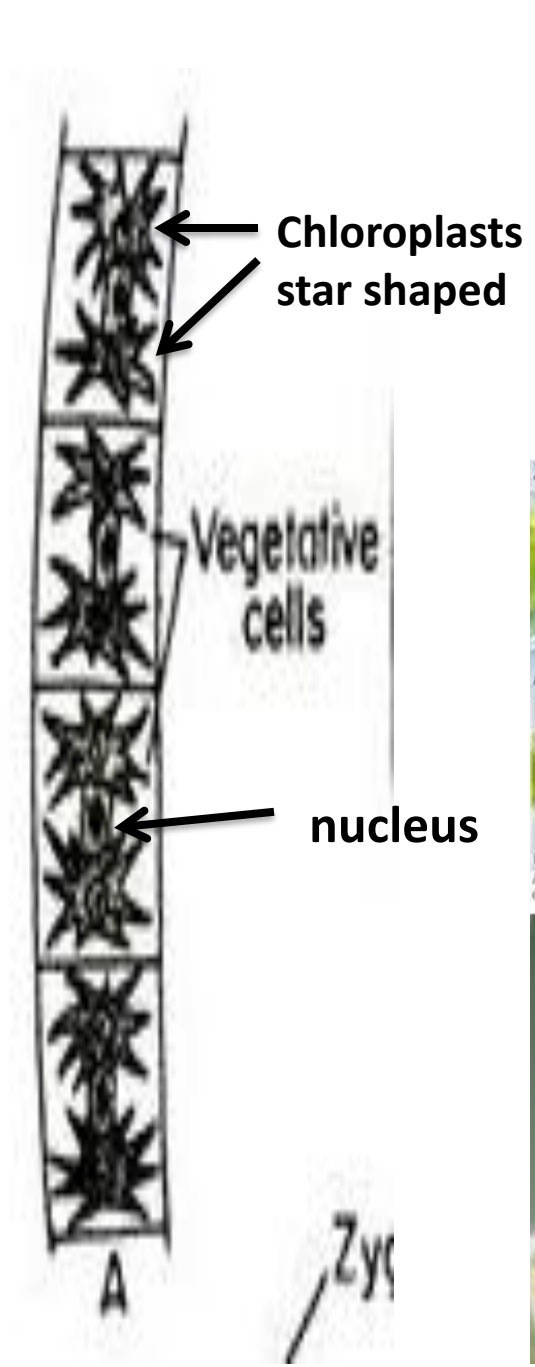
Spirogyra found in freshwater environments around the world. Named for their beautiful spiral chloroplasts, spirogyras are filamentous algae that consist of thin unbranched chains of cylindrical cells.

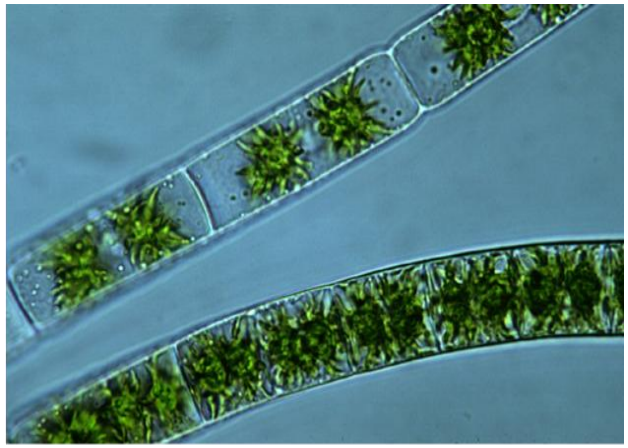
Each cell of the filaments features a large central vacuole, within which the nucleus is suspended by fine strands of cytoplasm. The chloroplasts form a spiral around the vacuole and have specialized bodies known as pyrenoids that store starch. The cell wall consists of an inner layer of cellulose and an outer layer of pectin, which is responsible for the slippery texture of the algae.

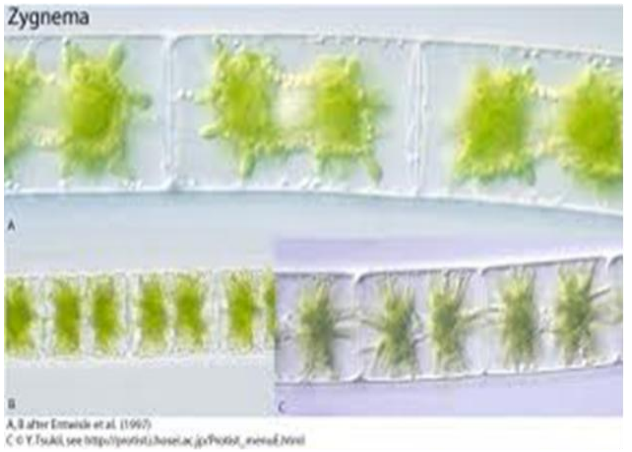


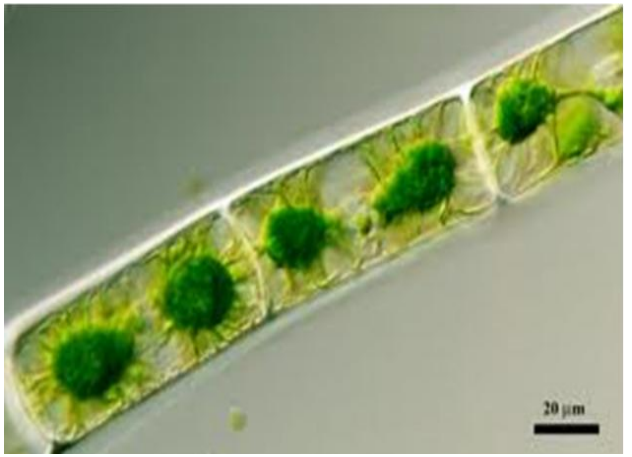
D/ Chlorophyta
Cl/ Chlorophyceae
Or/ Zygnematales
F/ Zygnemataceae
EX: *Zygnema sp.*

Unbranched filamentous zygnematalean with cylindrica cells, each containing 2 green star-shaped axial chloroplasts. Nucleus often visible between the chloroplasts. Filament is coated with a thin mucilage layer; consequently, strands of Zygnema are soapy to the touch. Conjugation is ladder-like.



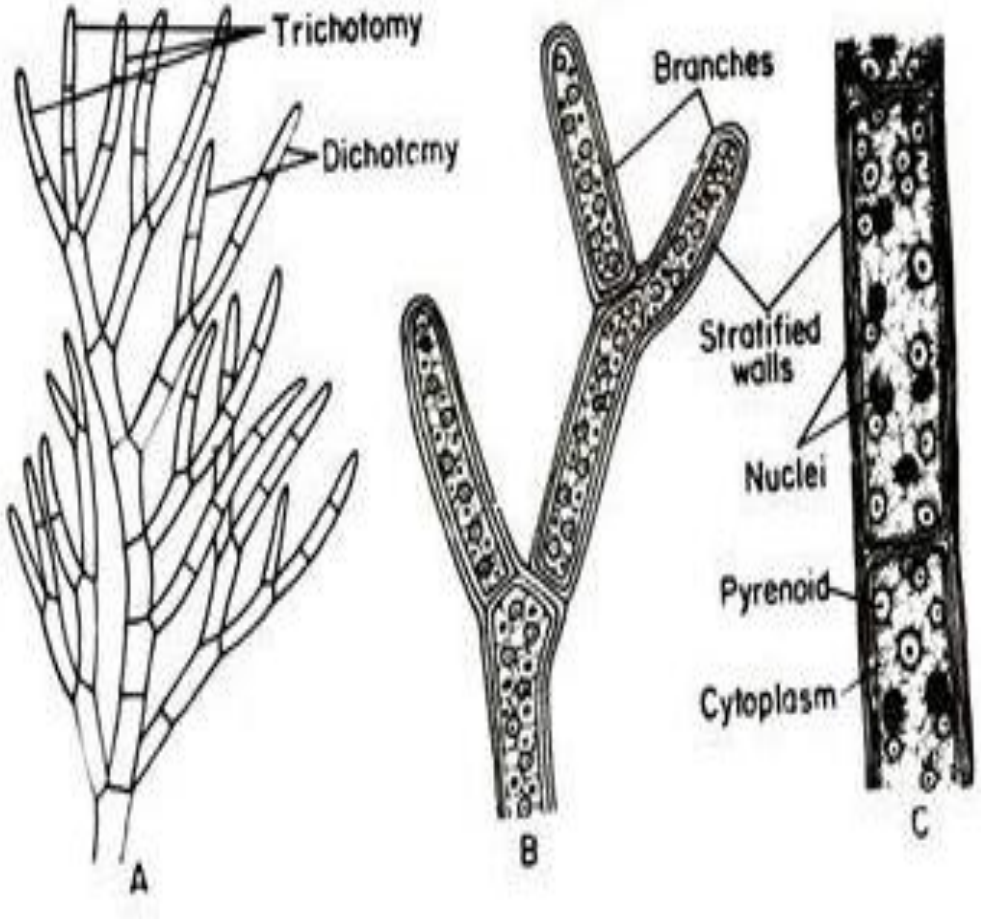






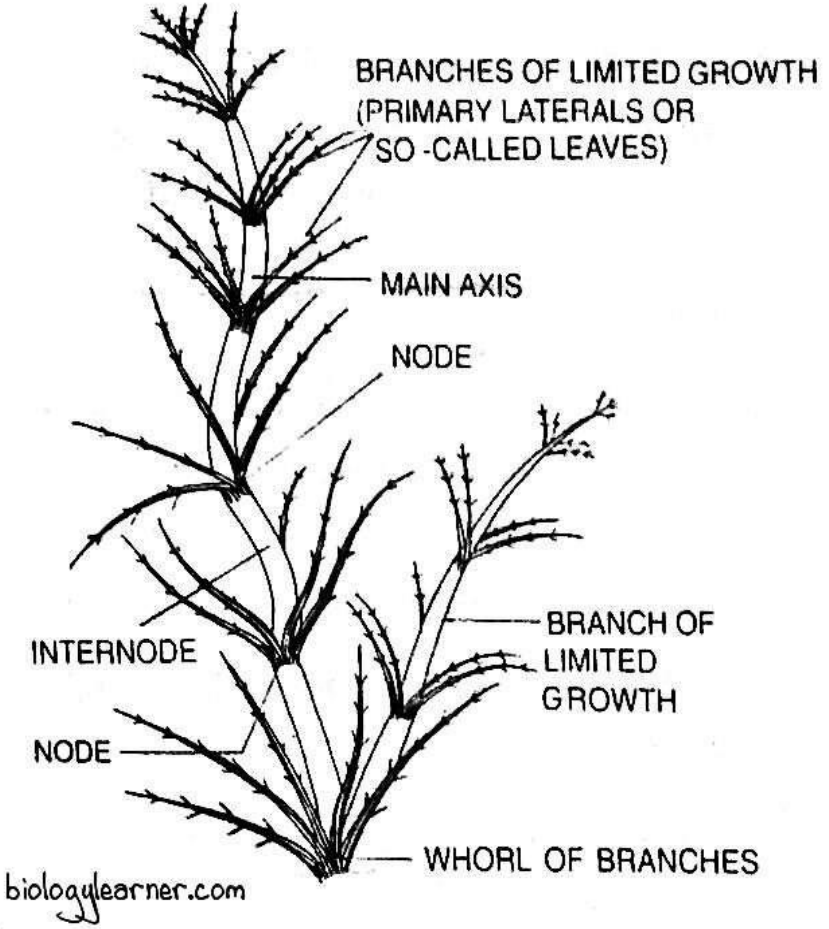
D/ Chlorophyta.
Cl/ Chlorophyceae.
Or/ Cladophorales.
F/ Cladophoraceae
EX: *Cladophora sp*.

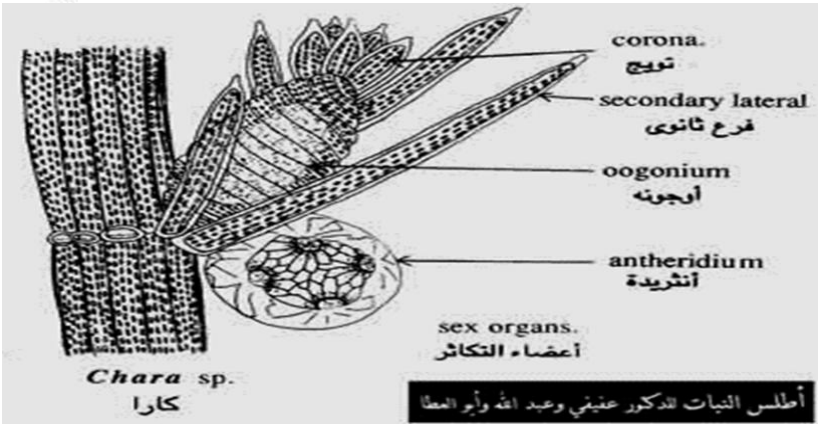
Filaments are branched and uniseriate (single-rowed). Branching occurs just below the cross-wall (septum).Cells are cylindrical, barrel-shaped. They are coenocytic, meaning they contain multiple nuclei. it adhere to substrates via rhizoids,or by holdfast featuring reticulate chloroplasts and thick cellulose cell walls.



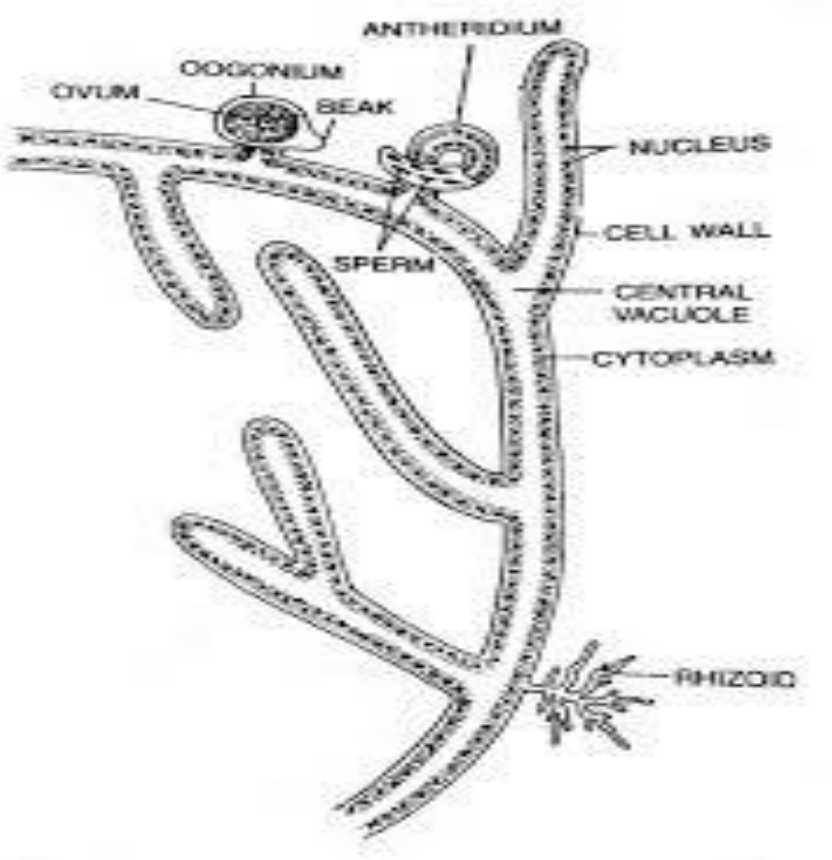
D/ Charophyta
Cl/ Charophyceae
Or/ Charales
F/ Characeae
EX: *Chara sp.*

multicellular and superficially resemble land plants because of stem-like and leaf-like structures. They are found in freshwater, particularly in limestone areas. They are covered with calcium carbonate ($CaCO_3$) deposits and are commonly known as stone worst. The branching system of Chara species is complex with branches derived from apical cells which cut off segments at the base to form nodal and internodal cells alternately. The main axes bear whorls of branches in a superficial resemblance to Equisetum (a vascular plant). They are typically anchored to the littoral substrate by means of branching underground rhizoids. Chara plants are rough to the touch because of deposited calcium salts on the cell wall.





D/ Xanthophyta.
Cl/ Xanthophyceae.
Or/ Vauchariales or heterosiphonales.
F/ Vaucheriaceae
EX: *Vaucheria sp*.



aucheria is a genus of yellow-green algae (Xanthophyceae) characterized by a coenocytic, siphonaceous, and filamentous thallus that is tubular, irregularly branched, and lacks cross-walls (aseptate) except for reproductive structures or injuries. It features a large central vacuole, numerous discoid chloroplasts lacking pyrenoids, and abundant oil droplets for energy storage.