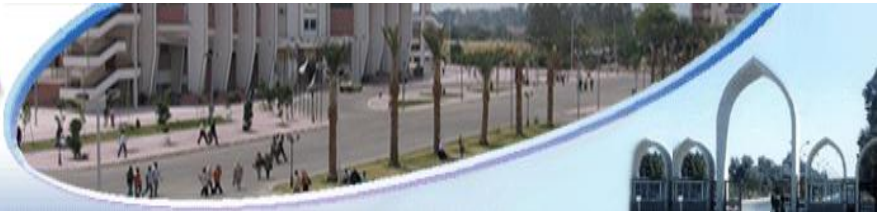
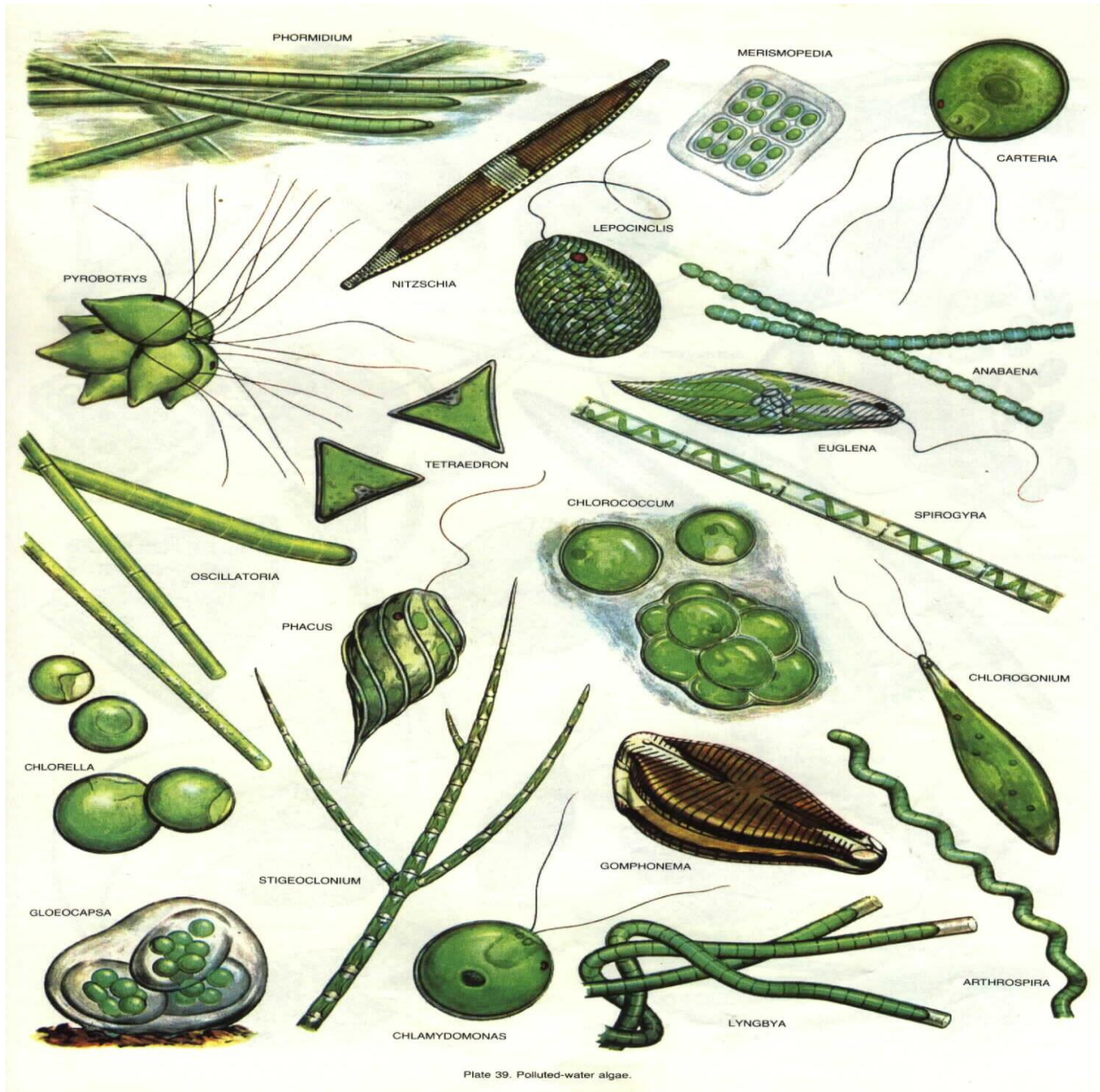




جامعة جنوب الوادي
South Valley University



PHYCOLOGY



FOR 2ND YEAR BIOLOGY & GEOLOGY
BY
DR. ABLA A.M. FARGHL

Phycology (Practical part)

Phycology (Practical part)

Division1 : Cyanophyta (Cyanophycophyta)

Kingdom: Monera

Division: Cyanophyta

Class: Cyanophyceae

Prokaryotic that contains chlorophyll a, phycobiliproteins, glycogen as storage product and cell walls consisting of amino acids and amino sugars.

It is a small primitive group comprising of about 2,500 species placed under 150 genera. All of them are included in a single class Cyanophyceae or Myxophyceae.

Morphology

1- unicellular free living

2-Enclosed with a mucilaginous envelope

3-Arranged in a row of cells called a trichome

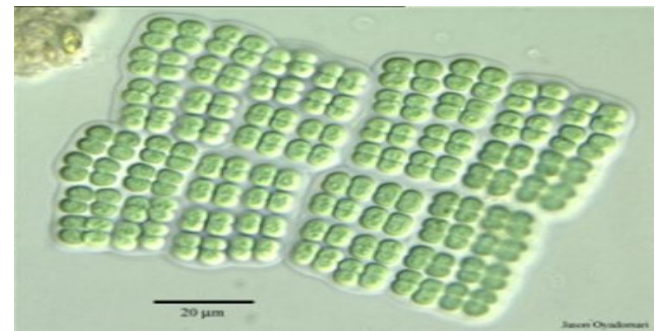
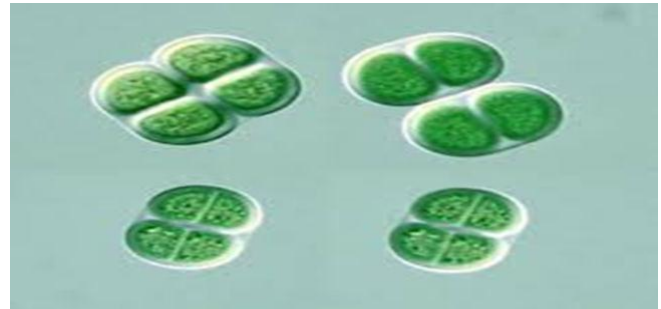
4- Filamentous: the trichome (one or more) is surrounded by a sheath.

5-Branched filamentous which could be uniseriate (one row of cells) or multiseriate (more than one row).

Taxonomic Position

Division : Cyanophyta
Class : Cyanophyceae
Tribe : Coccogoneae
Order : Chroococcales
Family : Chroococcaceae
Genus : *Chroococcus* sp
Mrismopedia sp

Genus



Order : Oscillatoriales
Family : Oscillatoriaceae
Genus : *Oscillatoria* sp
Spirulina sp
Lyngbya sp

Lyngbya



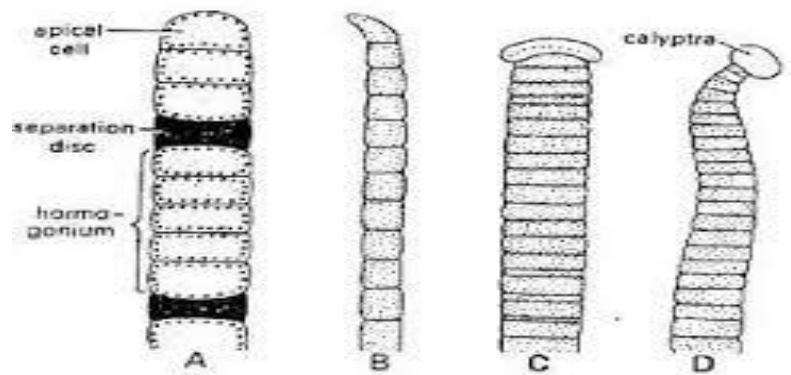
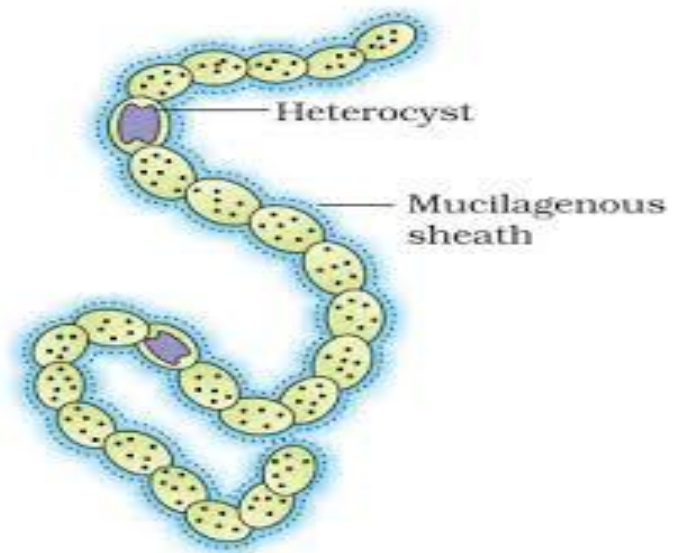
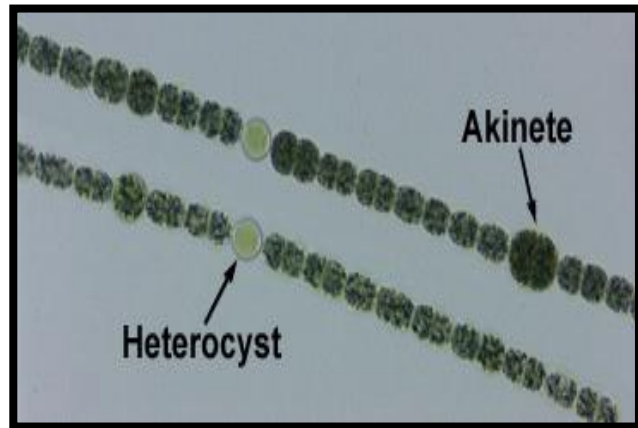


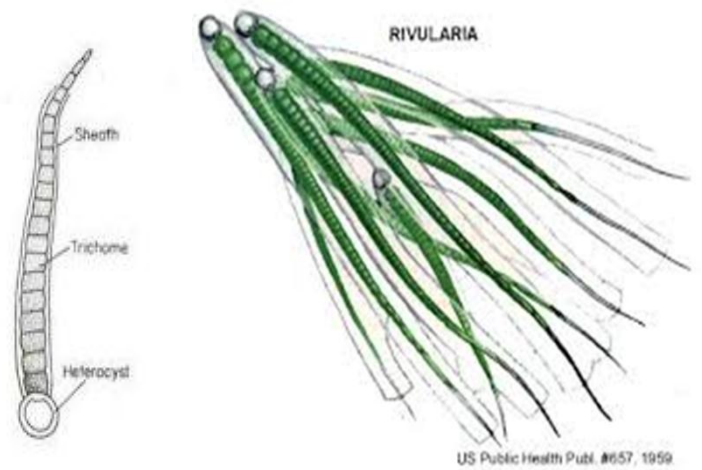
Fig. 1 (A-D) : *Oscillatoria* : Trichomes.

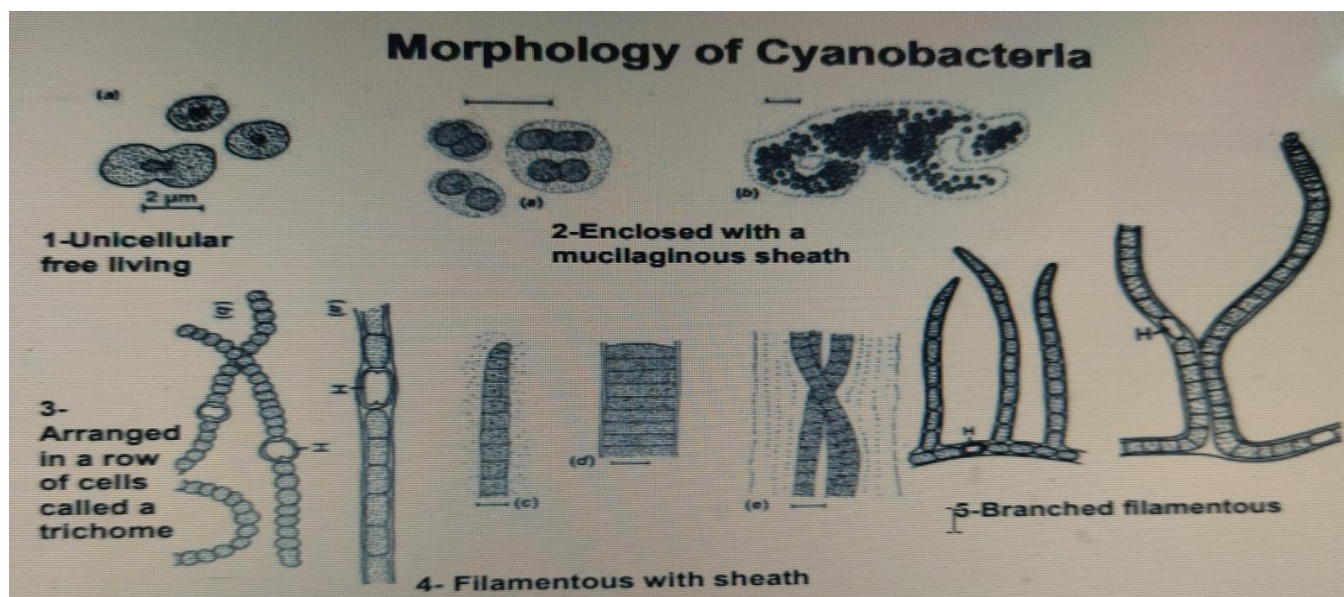
Order : Nostocales
Family1 : Nostocaceae
Genus : Nostoc
Anabaena





Order : Nostocales
Family: Rivulariaceae
Genus : Rivularia





Kingdom Protista (Eukaryotes)

Algae

Division1: Chlorophyta

have chlorophylls a and b.

- form starch with the chloroplast, usually in association with a pyrenoid. The Chlorophyta thus differ from the rest of the eukaryotic algae in forming the storage product in the chloroplast instead of in the cytoplasm.
- No chloroplast endoplasmic reticulum occurs around the chloroplasts.
- The Chlorophyta are primarily freshwater; only about 10% of the algae are marine, whereas 90% are freshwater.
- Some orders are predominantly marine, whereas others are predominantly freshwater or exclusively freshwater. The freshwater species have a cosmopolitan distribution, with few species endemic in a certain area.
- In the marine environment, the green algae in the warmer tropical and semitropical waters tend to be similar everywhere in the world. This is not true of the Chlorophyta in the colder marine waters; the waters of the Northern and Southern hemispheres have

markedly different species.

Taxonomic Position

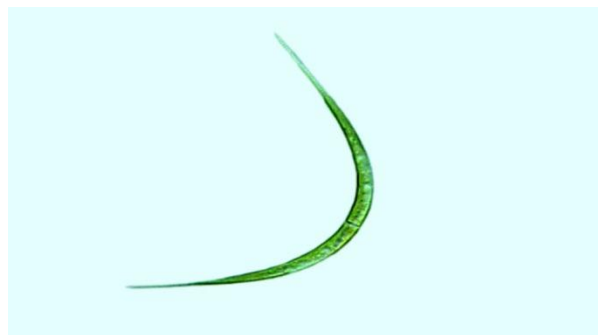
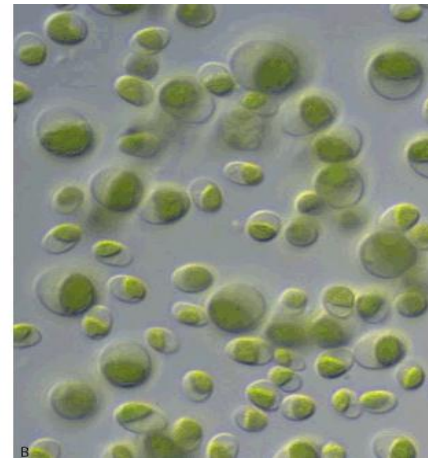
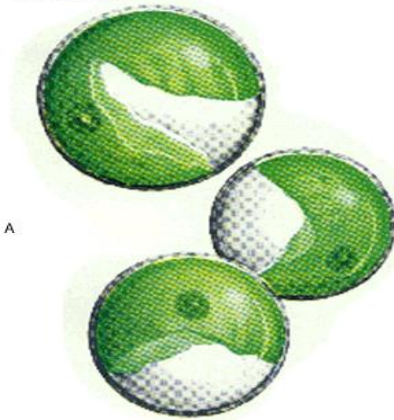
Division : Chlorophyta
Class1 : Chlorophyceae
Order : Chlorococcales
Family : Chlorococcaceae
Ex : *Chlorococcum* sp.

Genus



Family : Oocystaceae
Ex : *Chlorella* sp.
: *Ankistrodesmus* sp.

Chlorella



Family : Hydrodictaceae
Ex : *Hydrodictyon* sp.
 : *Pediastrum* sp.

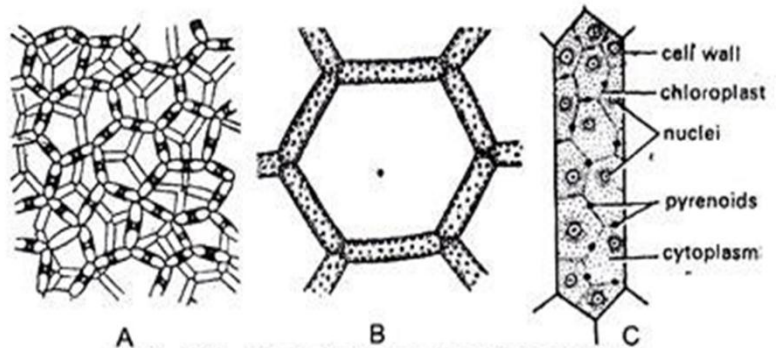
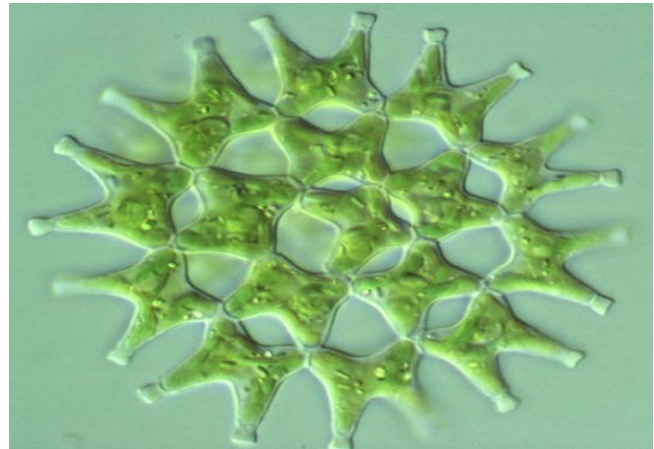
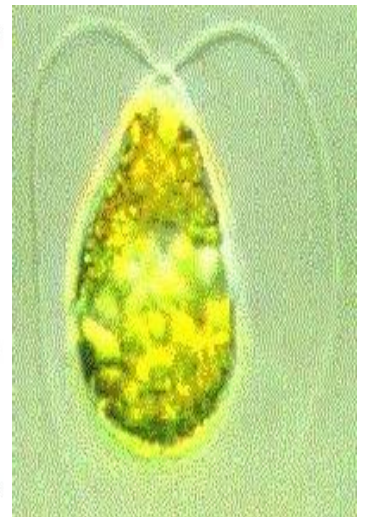
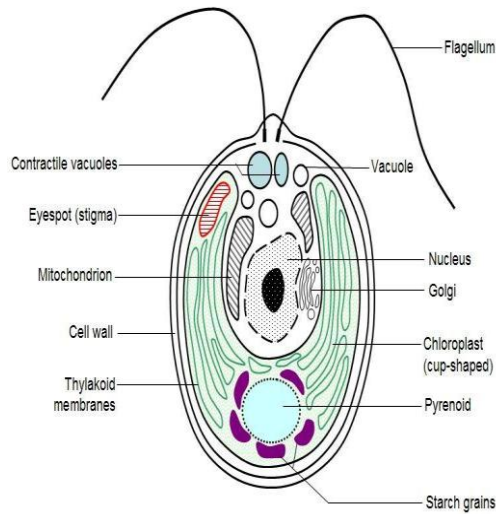


Fig. 2 (A—C). *Hydrodictyon*. Vegetative structure.
A. A part of the net; B. Hexagonal mesh; C. A cell.



Order : volvocales
Family : Chlamydomonaceae
Ex : *Chlamydomonas* sp.

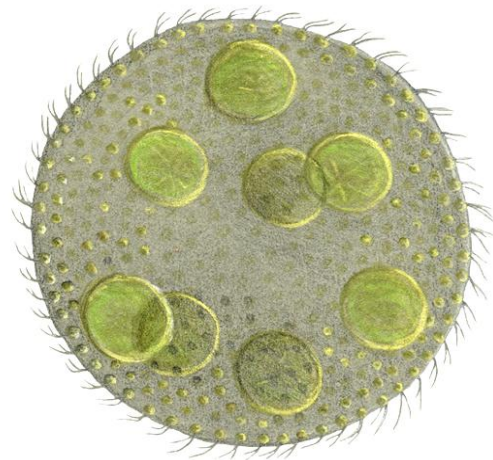
Chlamydomonas



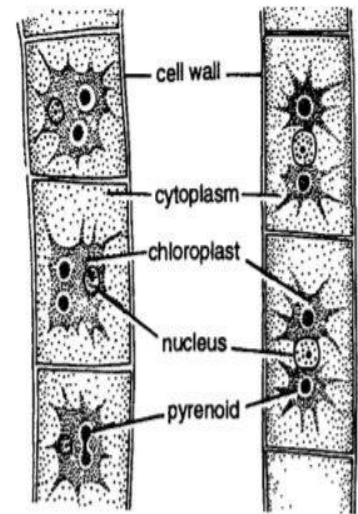
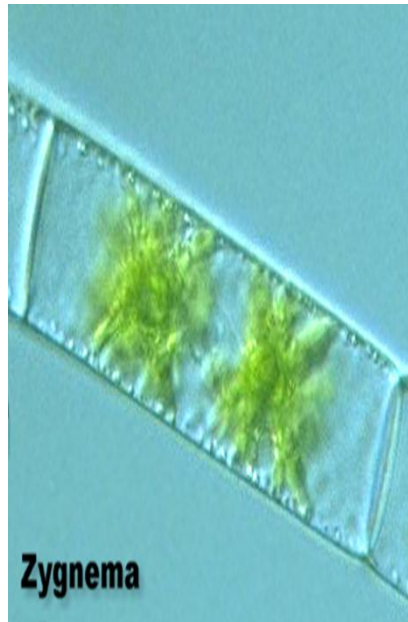
Family : Scenedesmaceae
Ex : *Scenedesmus* sp



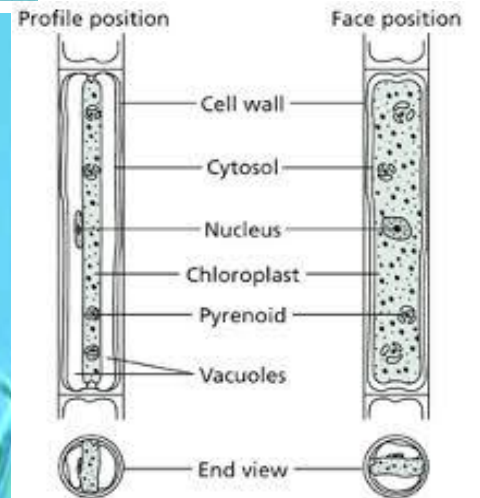
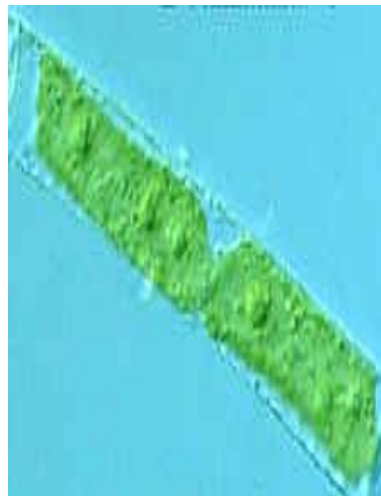
Order : volvocales
Family : volvocaceae
Ex. : *volvox* sp.
: *Gonium* sp.
: *Pandorina* sp.
: *Eudorina* sp.

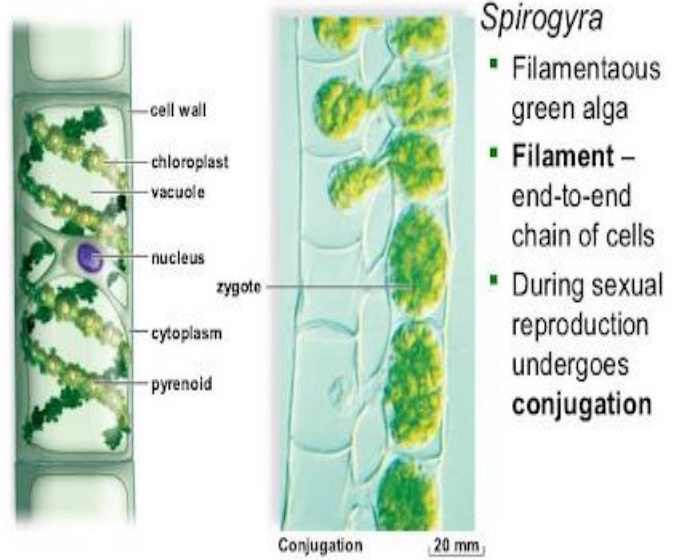


Order : Zygnematales (Zygnematales)
Family : Zygnemataceae (Zygnemataceae)
Ex : *Zygnema* sp.
 :*Spirogyra* sp.
 :*Mougeotia* sp.



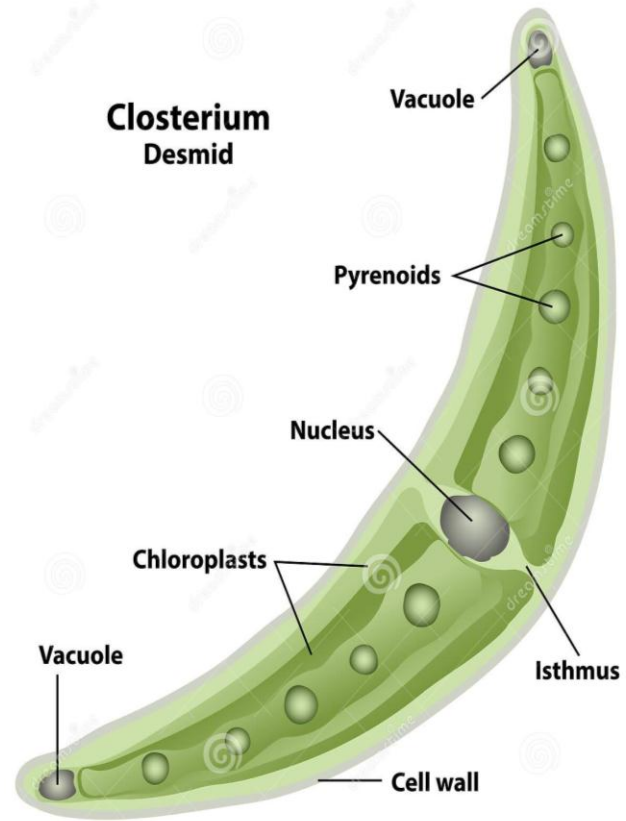
Zygnema. Filaments showing internal structure of the cell.





Family 2 :Desmidiaceae
Ex :Cosmarium sp.
: Closterium sp.

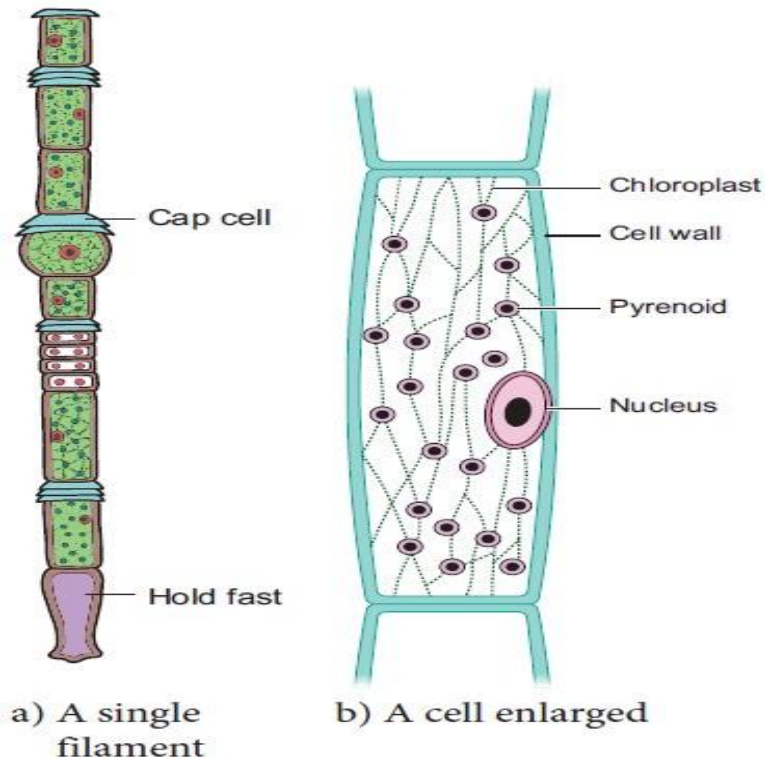




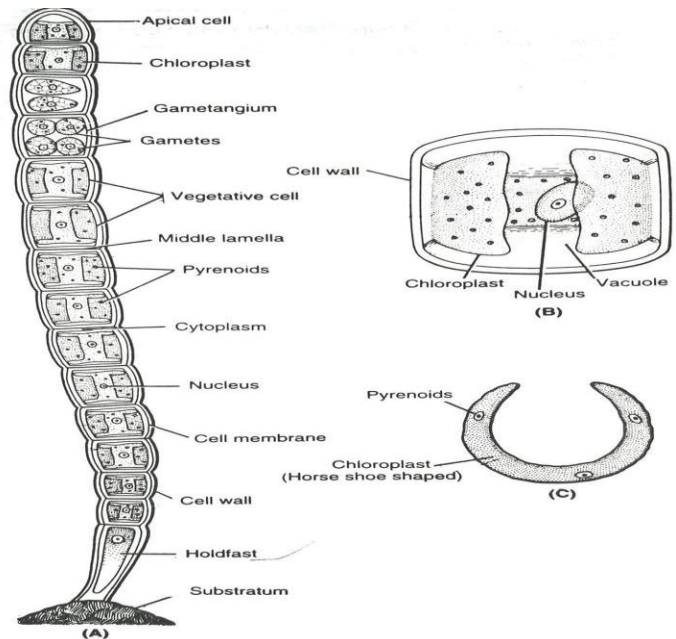
Order :Cladophorales
Family :Cladophoraceae
Ex :*Cladophora* sp.



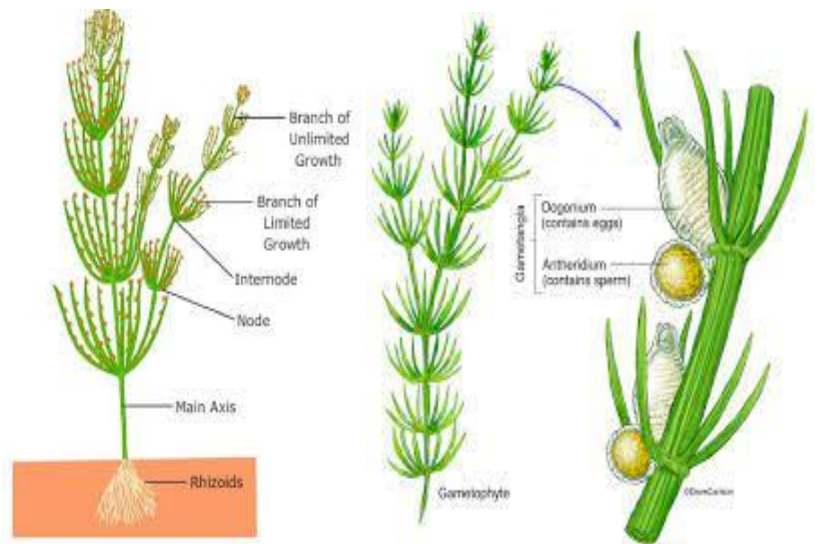
Order :Oedogoniales
 Family :Oedogoniaceae
 Ex :*Oedogonium* sp.



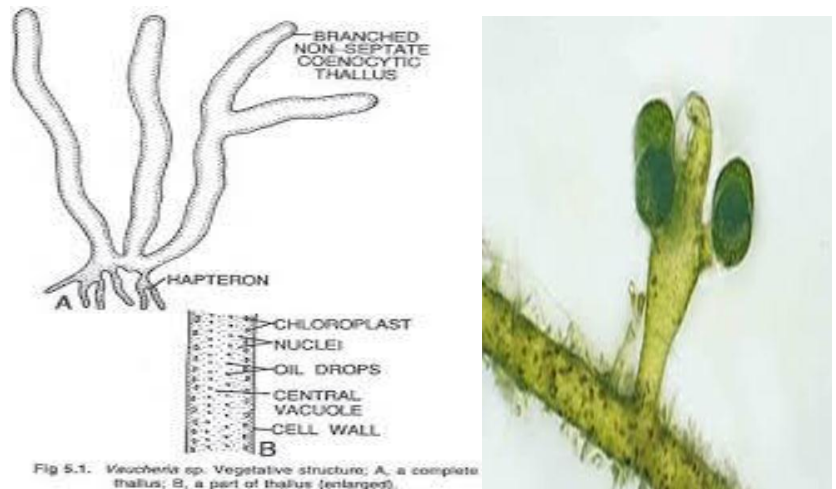
Order :Ulotrichales
 Family :Ulotrichaceae
 Ex :*Ulothrix* sp.



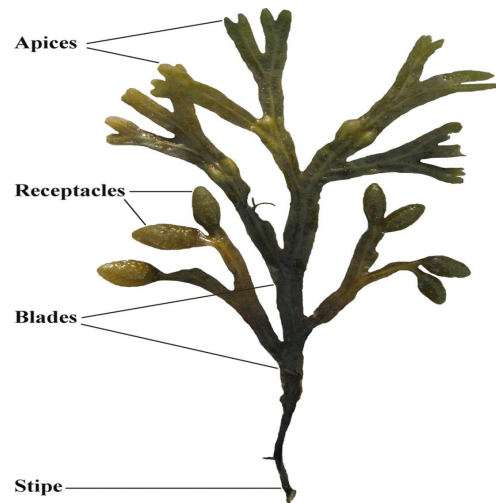
Class2 : Charophyceae
 Order :Charales
 Family :Characeae
 Ex. :*Chara* sp.



Class :Xanthophyceae
 Order :Heterosiphonales
 Family :Vaucheriaceae
 Ex. :*Vaucheria* sp.



Division : Phaeophyta
 Class :Phaeophyceae
 Order :Fucales
 Family :Fucaceae
 Ex. :*Fucus* sp.



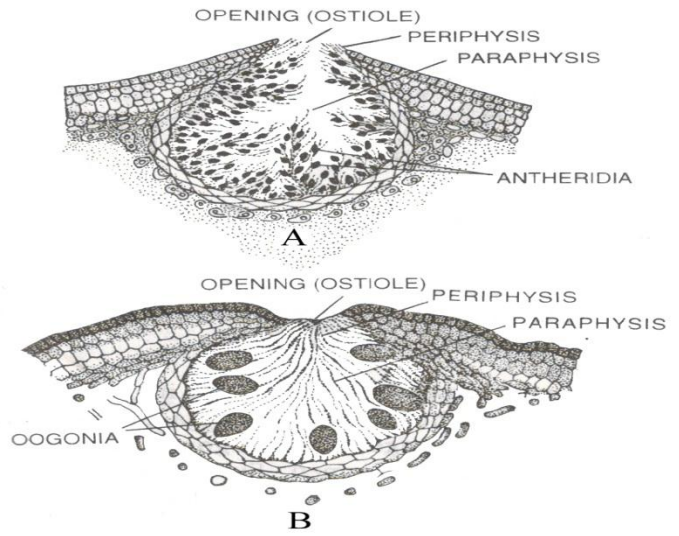


Fig : Male Conceptacle bearing Antheridia.
Fig : Female Conceptacle bearing Antheridia.

WITH MY BEST WISHES
DR. ABLA AM FARGHL