Lab(5): Non-Vascular Plant (Cryptogams)

Thallophyta

Super kingdom: Eaukaryota

Kingdom: Protista

Division: Rhodophyta

1-Class: Bangiophyceae

Order : Bangiales

Genus: *Porphyra*

2-Class: Floridiophyceae

Order:ceremeales

Genus: ***Polysiphonia***

General characteristics of Rhodophyta (red algae):

1- unicellular to multicellular (**parenchematous)** mostly in marine water and also in fresh water.

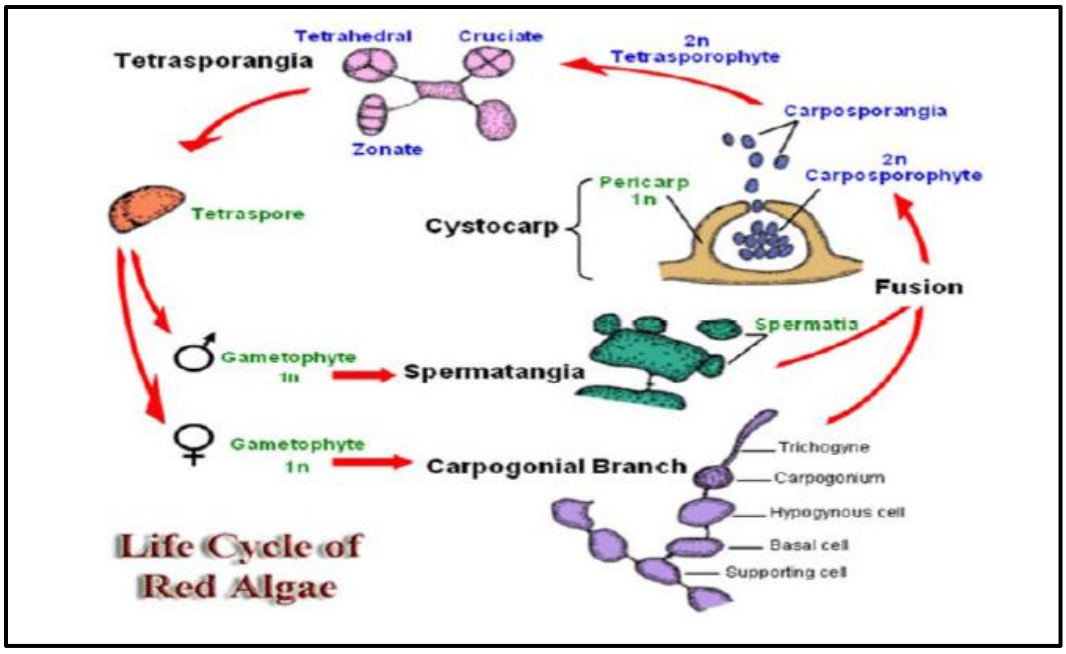
2- Contain chlorophyll type **A** and **D**

3- Most brown algae contain the pigment **phycoerythrin** which is responsible for the distinctive red color that gives them their name

4- Store their food as compounds named **floridean starch**

5- Characteristical for red algae is that **no motile stage occurs**, during the entire life cycle. The spores and gametes are transported by the water in a passive manner.

6- They show **alternation of generations**. In addition to gametophyte generation, many have two sporophyte generations, the **carposporophyte-**producing carpospores, which germinate into **a tetrasporophyte**, which generates spore tetrads, which dissociate and germinate into gametophytes,



Figure(1) life cycle of Rhodophyta

Genus: *Porphyra*

Irregularly lobed and split from central holdfast, and multiple blades grouped together to appear like a rosette.

Figure(2): *Porphyra*

Genus: ***Polysiphonia***

Highly branched filamentous thalli with bushy structure.

Figure(3): *Polysiphonia*

Practical section

See under microscope:

- ***Polysiphonia* sporophyte shows tetrapores**