

## *Phycology/practical*

### *Lab.6: green algae (charophyceae), dinoflagellate*

Division: chlorophyte

Class: charophyceae (**stone wort**)

Genus: *Chara* and *Nitella*

- their structure is resembling to the higher plant include root like(rhizoid), erect axis like stem surrounded by a sheath of small cells that divided into nodes and internodes that provide side branches.

| <i>Chara</i>  | <i>Nitella</i>   |
|---|--|
| 1-crenchy texture (calcium chloride deposition on the cell wall), unpleasant odor<br>2-cylindrical whorled branches<br>3- spherical female reproductive organ(Oogonium) are covered with thick cells called (cover cells), their openings are surrounded by five specialized cells named(coronal cells) | 1-soft texture, no odor<br>2-forked bushy branches<br>3- female reproductive organs(Oogonium) are similar to these in <i>Chara</i> , except that their openings are surrounded by ten specialized cells named(coronal cells) arranged into two rows. |

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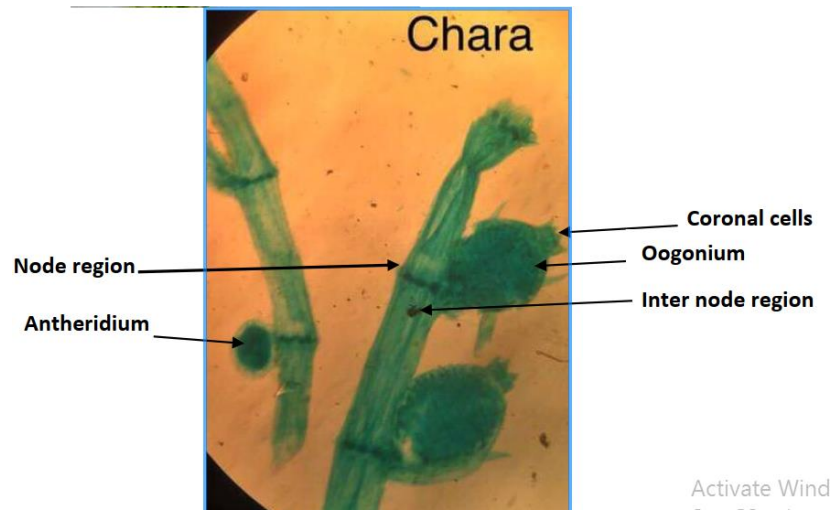


Figure (1): *Chara* , *Nitella*

**Division: Euglenophyta (dinoflagellate)**

Class: Euglenophyceae

1-Order: Euglenales

Genus: *Euglena*

2-peridinales

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Genus: *Peridinium*

### **General characteristics of Euglenophyta:**

1- Euglenophyta usually named pyrophyta from greek word (pyros) meaning flame colored, also called dinoflagellate refers to the forward-spiraling swimming motion of these organism.

2-unicellular eukaryotic organisms, possessing single or double flagella

3-photosynthetic species possesses green pigments including chlorophyll a and c, and golden brown pigment includes **peridinin**.

4-their nutrition varies from autotrophy (photosynthetic species, about 50% from a known species) to heterotrophy (by absorption of organic matter) and mixotrophy (autotrophic cells engulf other organisms).

5-their food reserves as starchy compounds or oil as granules called **paramylum**.

Genus: *Euglena*

1- oval or fusiform shape alga have a single flagellae.

2-linear shape chloroplast

3-there is a red color eye spot near the front of the cell to direct algal movement toward the light source

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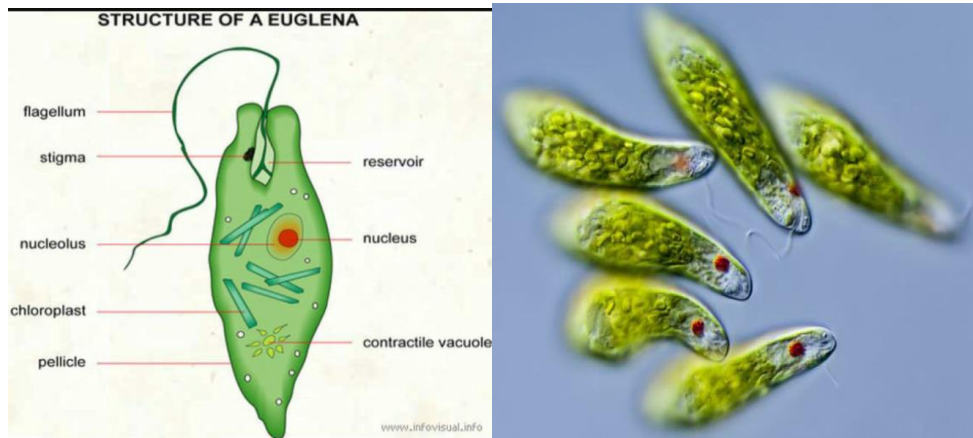


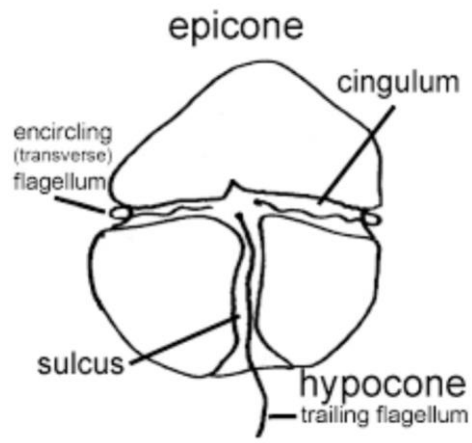
Figure (2): *Euglena*

Order: peridinales

Genus: *Peridinium*

1-. They commonly have a cell covering structure named (theca) composed of cellulose or polysaccharide. The theca is laced with spine.

2-algal bodies are composed of upper part (Epicon) and lower part (Hypocon) separated by transverse groove or annulus. In addition, having a longitudinal groove called (sulcus) containing pair of flagella (long and short).



Figure(3): *Peridinium*