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Division: Cyanophyta

Cyanobacteria, Blue-Green Algae

Lab-2

Divisions of Algae

- Cyanophyta (blue -green algae)
- Chlorophyta (green algae)
- Charophyta
- Chrysophyta (Diatoms, yellow-green algae)
- Phaeophyta (brown algae)
- Rhodophyta (red algae)
- Phyrrrophyta (Dinoflagellates)
- Euglenophyta (Euglenoids)

Division: Cyanophyta

- The members of this group are known as **Blue green algae & Cyanobacteria** because of characteristic similarities with bacteria.
- This is a cosmopolitan in distribution and including **150 genera** and about **2500 species**.

The important features of the Cyanophyta is as follows:

1. The main pigments include **C-phycoerythrin** and **C-phycoerythrin** besides other usual pigments (e.g. **chl-a**, **β -carotene**, **flavein**, etc.) so the members are known as "Blue green algae".
2. The majority of the members are **fresh water**, **terrestrial** and some are **marine** also, some of them are **Chasmolithic** (on rock), **Epiphytic** (in plant body) e.g. *Nostoc*, **Cryophilic** (on snow), **Holophylic** (on salty water) and in **symbiotic association** e.g. lichens.
3. The cell is **prokaryotic** in nature.

4. Reserve products are **Myxophycean** starch and **Cyanophycin**.
5. Cell wall consists of **pectin** and also **cellulose** in some quantity.
6. Motile structures (Flagella) are completely **absent**.
7. Sexual reproduction is completely **absent**.
9. 'False' branching is **seen in some filamentous members** e.g. ***Scytonema*** and ***Tolypothrix***.
10. Vegetative reproduction are **fission, fragmentation, hormogonia, akinetes**, and asexually by **endospores, exospores, nanocyst** etc.

How can you identify the species of Cyanophyceae?

- I. **Prokaryotic cellular organization** (no true nucleus).
- II. Reserve food material in the form of cyanophycean granules.
- III. No sexual reproduction.

General classification

Division: Cyanophyta

Class: Cyanophyceae

Order: Chroococcales

Family: Chroococaceae

1- **Genus:** *Gloeocapsa*

2- **Genus:** *Chroococcus*

Common occurrence: Marine or fresh water.

❖ Recently taxonomists divide the class into **two tribes** with **seven orders**:

❖ A). Tribe Coccogoneae (**Unicellular and non-filamentous**)

❖ Order 1. **Chroococcales**

❖ Order 2. **Chamaesiphonales**

B) Tribe Hormogoneae (Filamentous blue green algae)

Order 3. Oscillatoriales

Order 4. Nostocales

Order 5. Scytonematales

Order 6. Stigonematales

Order 7. Rivulariales

Thanks for your attention