

Phycology/practical

Lab.3: Blue-green algae

Super kingdom: prokaryota

Kingdom: Monera

Division: cyanophyta

Class: cyanophyceae

1-order: Chroococales

Genus: ***Gleocapsa***

2- order: Oscillatoriales

Genus: ***Oscillatoria***

3- order: Nostocales

Genus: ***Nostoc*** and ***Anabaena***

4- order: Stigonematales

Scytonema

General characteristics of cyanophyta (blue-green algae):

1- The simplest algae occurring essentially as solitary cells or be aggregated

into plate –like or globular colonies. or occurring as filamentous form.

Surrounded by thin mucilage layer

2- Contain chlorophyll type A.

3- Contain accessory pigment phycocyanean (this pigment give unique blue-

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green color for this algal division)

4- Chloroplast is absent

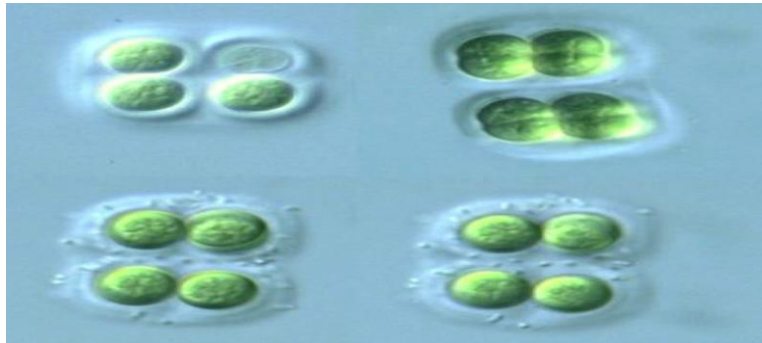
5- store their food as unique starch compound named as **cyanophycean** starch

6- Cyanophyta **lacking** flagellated stage

7- Sexual reproduction is **absent**.

1-order: **Chroococales**, Genus: *Gleocapsa*

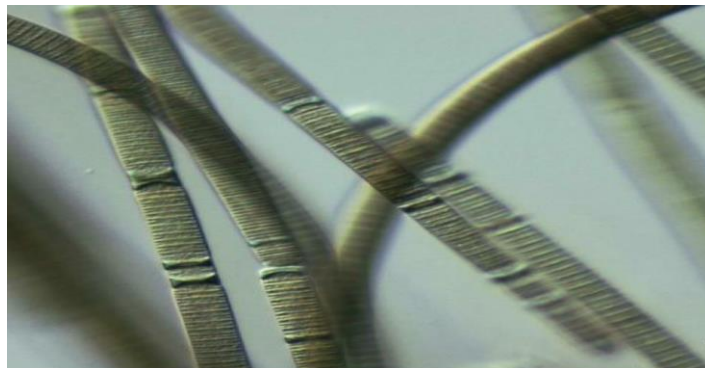
clustered cells enclosed in concentric layers of mucilage



figure(1) : *Gleocapsa*

2- order: **Oscillatoriales** , Genus: *Oscillatoria*

1-single filamentous form, un-branched



figure(2) : *Oscillatoria*

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3- order: Nostocales

Genus: *Nostoc* and *Anabaena*

1-filamentous algae (bead like filaments) covered with mucilaginous

2-possesing specialized vegetative cell with homogenous transparent named (Heterocyst) responsible for nitrogen fixation.

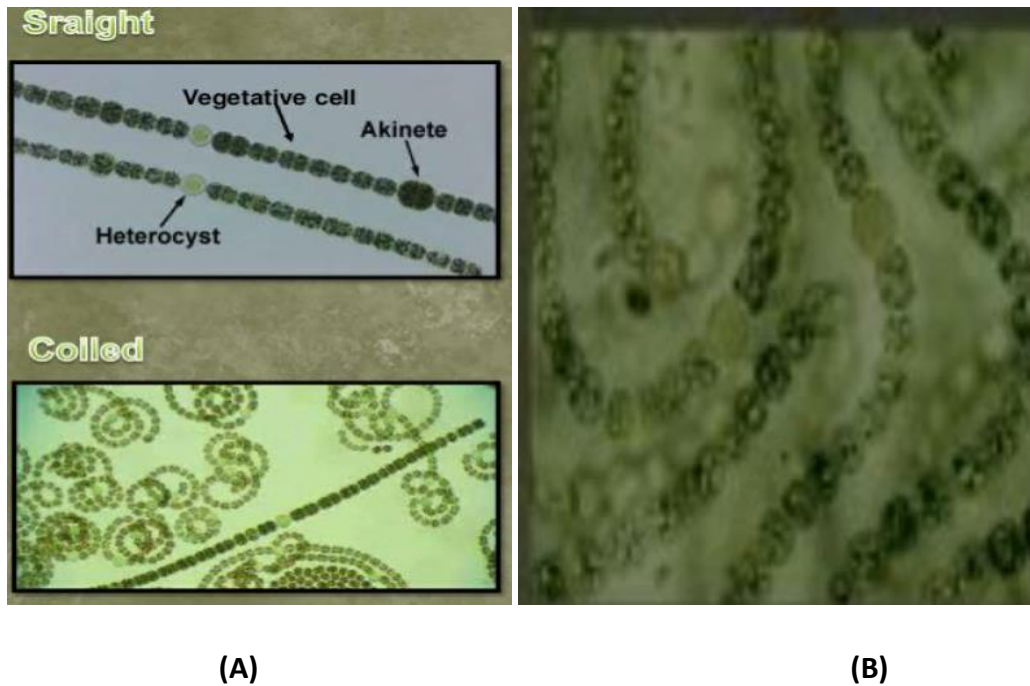


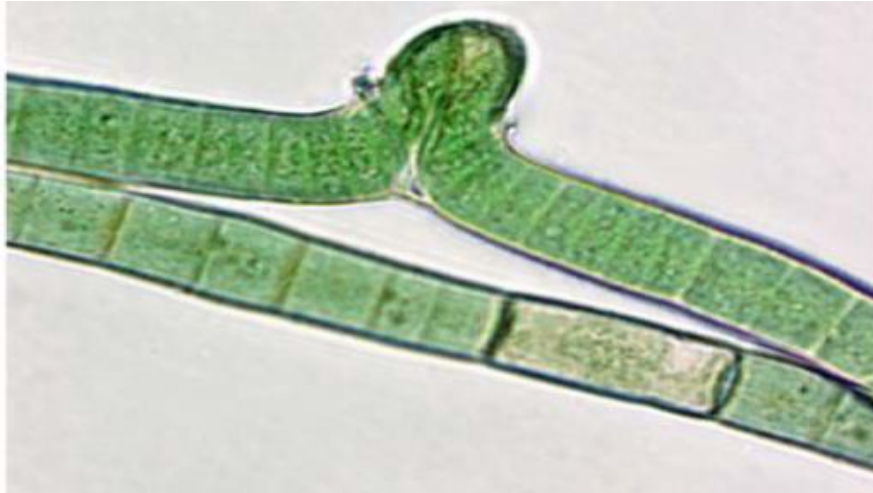
Figure (3): (A) *Anabaena* , (B) *Nostoc*

4- order: Stigonematales

Genus: *Scytonema*

1-filamentous algae characterized with false branching. False branching may occur when a filament breaks apart at the site of added cells, both ends of filament then break through the mucilage sheath and continue to grow as branches.

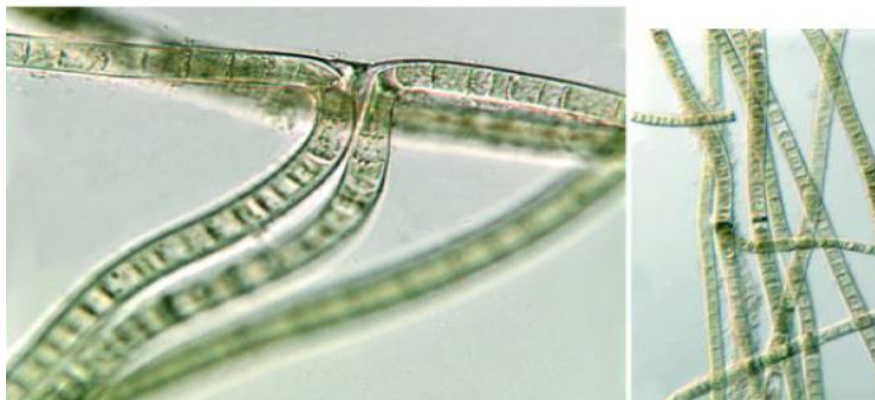
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False branching begins to develop as both ends of the filament break through the mucilage sheath.



The right portion has grown quite a bit, while the portion to the left is just breaking through the sheath.



Figure(4) *Scytonema* (false branching)