



PHYCOLOGY

ALGAL HABITATS

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'Algae inhabits a wide range of Habitat'

AQUATIC

TERRESTRIAL

AERIAL

Aquatic/Hydrophytic

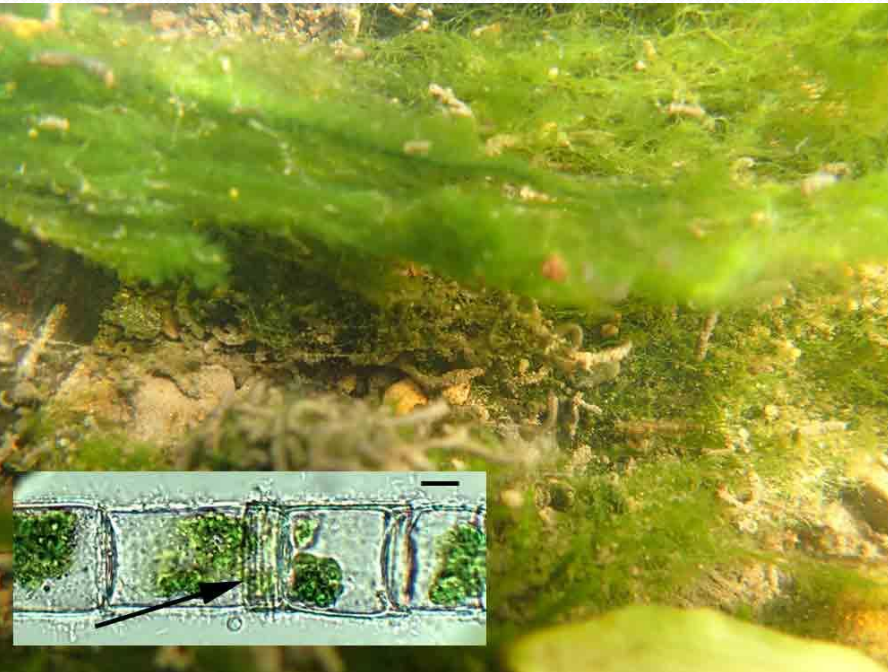
- **The algae are mainly aquatic in habitat**
- **They may be Fresh water or marine**
 1. **Planktophytes**
 2. **Benthophytes**
 3. **Epactiphytes**
 4. **Thermophytes**
 5. **Halophytes**
 6. **Epiphytes**
 7. **Epizoophytes**

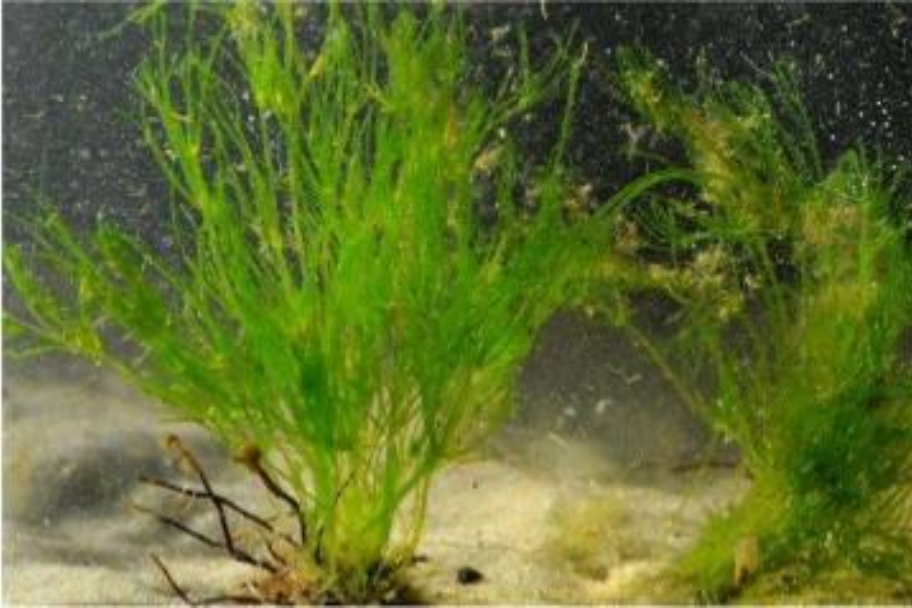
Planktophytes: Floating and drifting algae

- **Euplanktophytes: Non attached freely floating and drifting forms**
- **Eg: volvox, chlamydomonas**



- **Tachyplanktophytes: Initially attached later freefloating Non attached freely floating and drifting forms, eg: Oedogonium, nostoc**





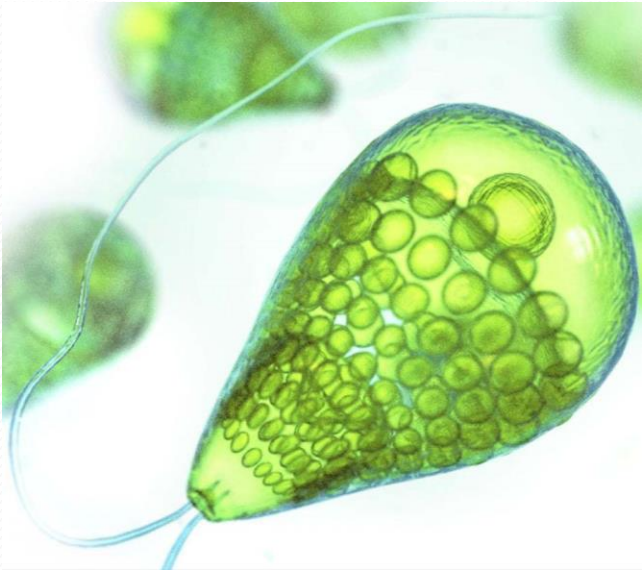
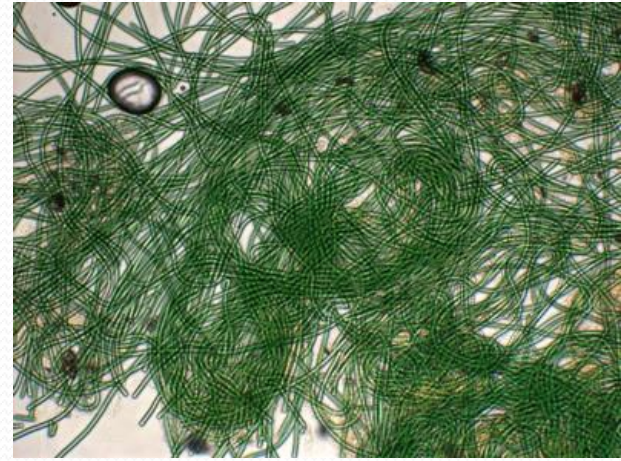
Benthophytes:
Fixed/attached bottom dwelling algae
Periphytons: on plants
Lithophytes: on rocks

Epactiphytes:
Fresh water algae
growing on the
banks of ponds
and river,
eg: oedogonium



Thermophytes: This group of algae occurs in hot water springs (50- 70°C) where normal life is not possible. Many blue-greens (e.g., *Oscillatoria brevis*, *Heterohormogonium* sp.) are grown in such hot springs.

Halophytes: They grow in the highly concentrated salt lakes, and include *Chlamydomonas ehrenbergli*



Epiphytes: They grow on other plants including other algal members.



Epizoophytes

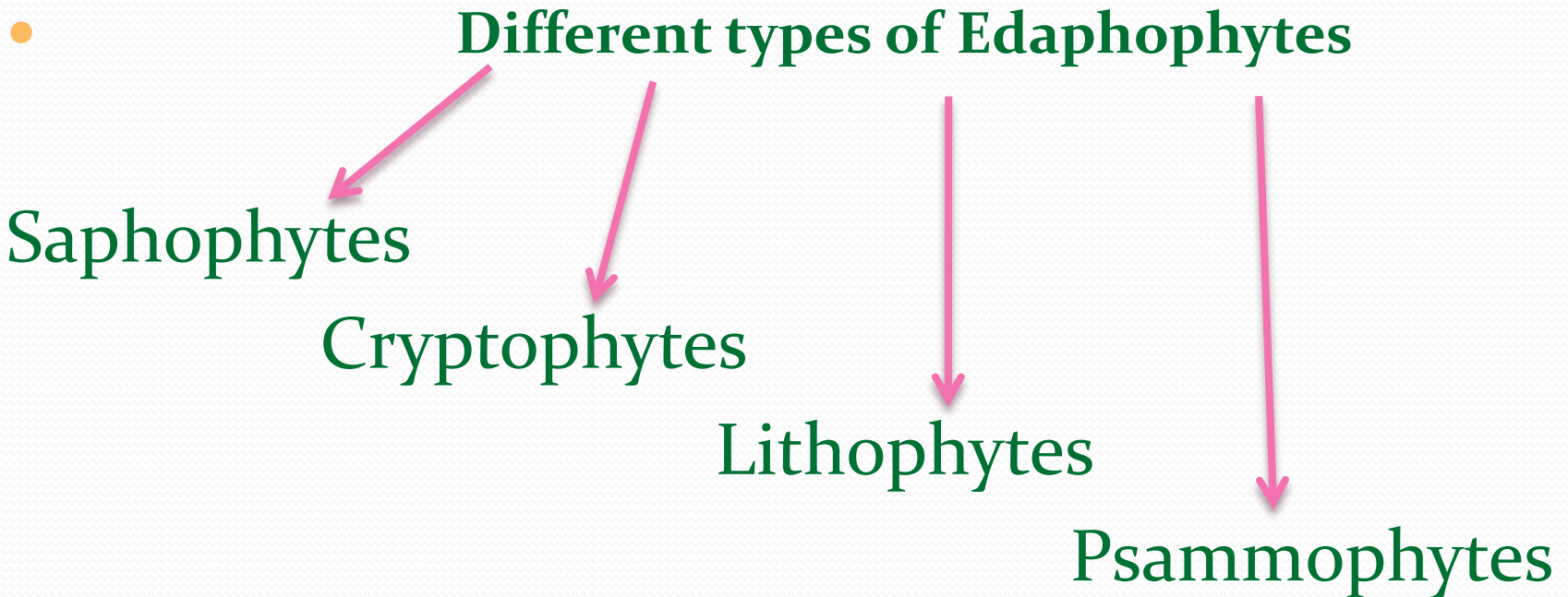
Algae

remaining attached to living aquatic animals such as turtles etc

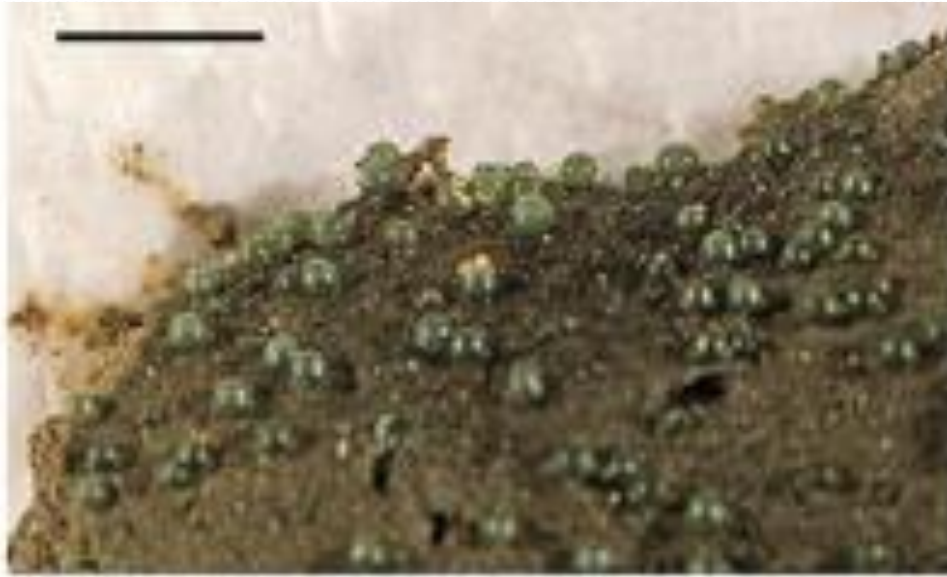


TERRESTRIAL/EDAPHOPHYTES

- These algae are terrestrial and living upon or inside the surface of earth(soil)



Saphrophytes: Living on soil surface



- **Cryptophytes:** Such algae are subterranean in habit and occur inside the soil. The species of Myxophyceae are found in the soil. The species of Nostoc, Anabaena and Euglena have been reported from the paddy fields, where they also fix the atmospheric nitrogen in the soil to enrich the fertility of the fields.

Lithophytes:

Many algae grow on the rocks and walls.

- Epilithophytes: Living on rock surface eg. Rivularia



- Endolithophytes: Living below the surface layers of rock and the holes and crevices of rock



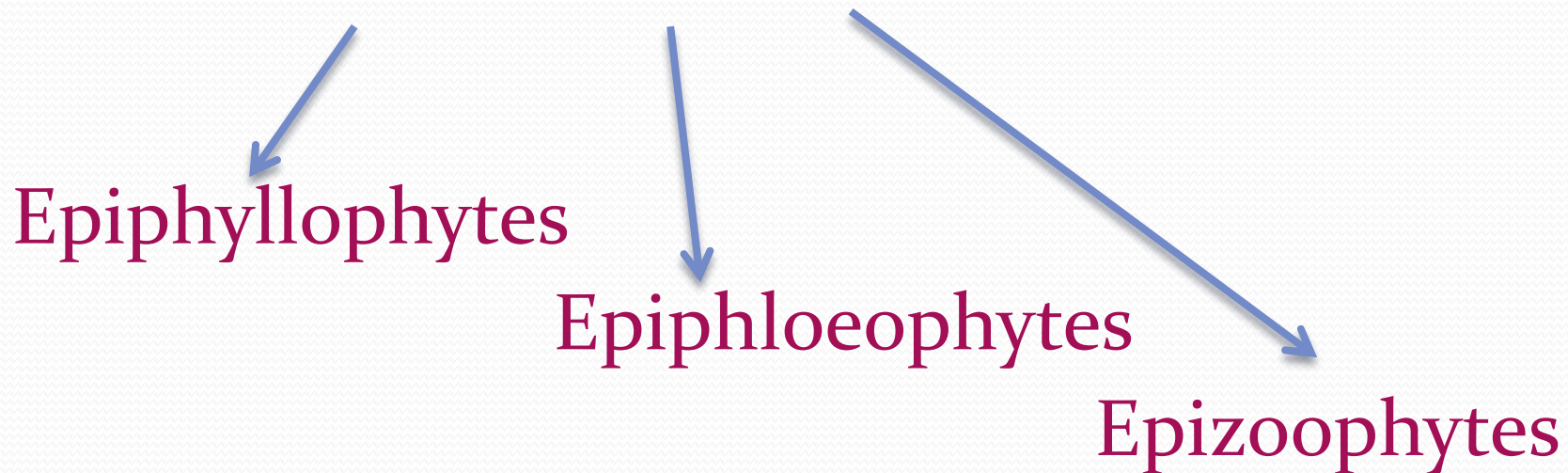
Psammophytes: Terrestrial algae growing in sand along sandy shores



AEROPHYTES/AERIAL ALGAE

- The algae adapted for an aerial mode of life. They grow on the leaves and bark of trees on the bodies of animals and many other aerial substrata

Aerophytes



Epiphylliphytes: remaining attached to the leaves of trees

Epiphloeophytes: algae growing on tree bark



Phycopeltis on Rubus



Epizoophytes:
The algae found on the bodies of land animals

SPECIAL HABITATS

- Cryophytes
- Endophytes
- Endozoophytes
- Symbionts
- Parasites
- Fluvial algae

Cryophytes: algae found in snow and ice, they are usually responsible for red snow, green snow, yellow snow. Eg: Haematococcus, Chlamydomonas

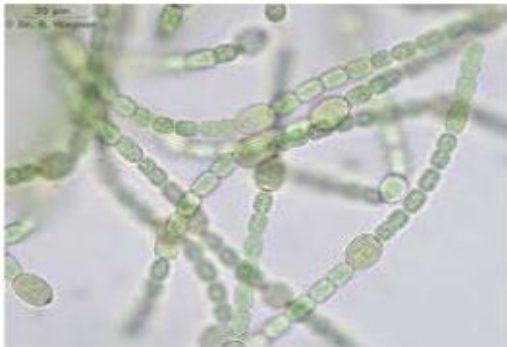
Chlamydomonas nivalis



Chloromonas tughillensis



Endophytes: endophytic algae found living inside the tissue of other plants



Anabaena azollae
found inside
the leaves of
Azolla
(Pteridophyte)



Anabaena cycadae
in the coralloid
roots of cycas

Symbionts: algae existing in symbiotic association with other plants

- Nostoc has been reported from the tissues of Anthoceros and Notothylas.

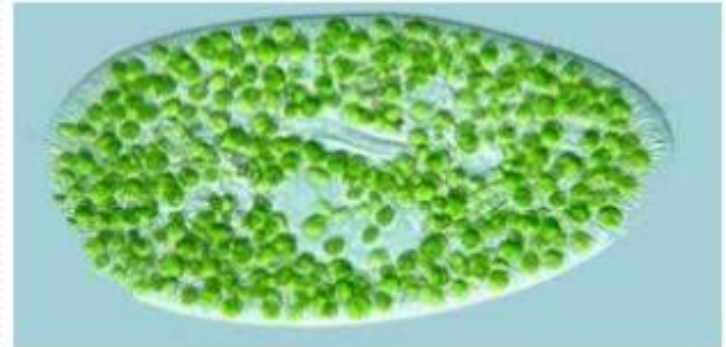


Endozoophytes: The algae found with in the body of animals

- Zooxanthella is found inside fresh water sponges.
- (Zooxanthellae are single-celled dinoflagellates that are able to live in symbiosis with marine invertebrates such as corals, jellyfish, and sea anemones)



- Zoochlorella is found inside *Hydra viridis*. (Zoochlorella is a genus of green algae)



Parasites: Algae exists as parasites on plants

- The most striking example is *Cephaleuros virescens* which causes a disease of tea in Assam and neighbouring areas, called 'red rust of tea'.



Fluviatile Algae: They are found in rapidly flowing water, eg:stigeoclonium





THANK YOU

**This class prepared for
Third Semester BSc Botany Students
Little Flower College, Guruvayur
Affiliated to University of Calicut**

Next class
Classification of algae