

FYBSC Semester-I: Paper-I
Bo-111: Plant Life And Utilization I

INTRODUCTION

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Lichens(Algae+Fungi)

Lichens are composite organism consisting of mycobiont and living phycobionts, both led to symbiotic life.

Phycobionts (Algae) are from algal or cyanobacterial genera.

The mycobionts (Fungi) are exclusively from ascomycotina or basidiomycotina.

1. Lichens are plants in which algal and fungal members are living symbiotically. algae members are known as **phycobionts** and fungal members are known as **mycobionts**.
2. Algal members are mainly unicellular and from the chlorophyceae or cyanophyceae.

3. Fungal forms are belonging to the ascomycetes or basidiomycetes.

4. Morphologically lichens are classified into three types

1. Crustose

2. Foliose.

3. Fruticose.

5. Asexual reproduction is by production of soridia.

6. Sexual reproduction is observed only in fungal members producing sexual spore in the special grouped in a cup shaped structures known as apothecia .

E.g.= *Parmelia*, *Haematoma*, *Graphis*, *Usnea*, *Cladonia* etc.

Parmelia,



Haematoma,



Graphis,



Usnea,



Cladonia



Bryophytes:

Bryophytes generally form a natural group where the common plant body is gametophyte. They represent a phase in evolution when plants migrated from water to land. Water is essential for the completion of their life cycle and they are called as amphibians of the plant kingdom.

1. Plant body is thalloid, differentiated into root like structures (rhizoids) and prostrate or erect bearing green leafy lobes.
2. Plant body is gametophytic developing multicellular sex organs. male sex organ is known as **antheridium** and female sex organ is known as **archegonium**.
3. Vascular tissues are absent so known as non **vascular cryptogames**.

4. Mode of nutrition is autotrophic.

5. Water is necessary for fertilization .It is oogamous type.

6. Zygote remain on gametophytic thallus and develops into saprophyte.

7. Saprophyte is with foot, seta and capsule or some time with only capsule. It is total or partial parasite on the gametophyte.

8. Plant life shows alternation of generation. Life cycle is with dominant gametophytic phase so known as haplontic life cycle .

E.g. *Riccia*,

Anthoceros, Funaria, Polytrichum, Marchantia. etc.

Riccia,



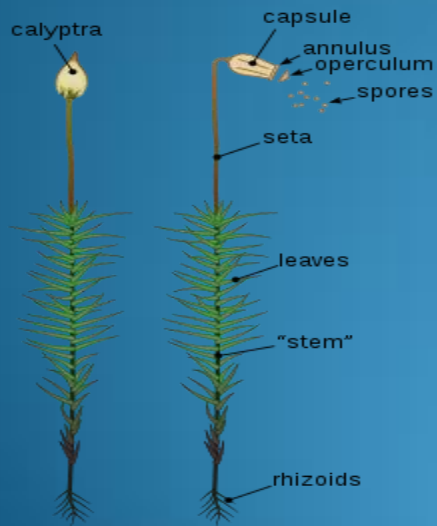
Anthoceros,



Funaria



Polytrichum



Marchantia.



THANK YOU