

SHORT NOTES :-

FRULLANIA

INTRODUCTION → Frullania is a large genus of about 700 species. Which are distributed mainly in tropical regions. The plants are usually large, deep brown green, brownish, reddish or purpleish brown in colour. The rhizoids form a tufts at the base of the underleaved. The archegonia are borne in groups and the capsule cavity contains alternating bands of a sterile and fertile tissue.

HABIT AND HABITAT → It usually grows on well shady rock or on the trunks of living trees which normally grows in moist, wood, swamps or between a streams. The common species include Frullania dilatata, Frullania tamarisci etc.

STRUCTURE OF THE GAMETOPHYTE →

1. The gametophyte are usually large reddish brown in colour.
2. It is dorsiventral branched leafy axis.
3. The prostrate stems are pinnately or bipinnately branched.
4. The stem bears three rows of leaves.
5. Each lateral leaf is completely biparilite. The antical lobe is oblique ovate but the postical lobe is cocculate. It is usually transformed into a curious water sac.

- 40.
6. The plants are attached to the rocks by tufts of smooth walled rhizoid.
 7. The stem shows little differentiation of tissue but the cortical and superficial layers are well differentiated.

REPRODUCTION → Foulania reproduce by the following two methods -

1. Vegetative Reproduction.
2. Sexual Reproduction.

1. VEGETATIVE REPRODUCTION → It occurs by following means.

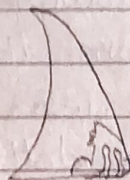
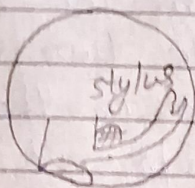
- Ⓐ By gemmae.
- Ⓑ By nodular out growth.
- Ⓒ By separation of ordinary branches.
- Ⓓ By progressive death and decay of older parts.

2. SEXUAL REPRODUCTION → Foulania may be monoecious or dioecious.

ANTHERIDIUM →

1. Antheridium occurs in the axils of bracts.
2. They are borne in 2-5 or more pairs on short lateral branches.
3. The perigenial bracts are densely imbricate manner.
4. The development of Antheridium is in the manner of Jungermanniales.
5. Matured Antheridia has a slender

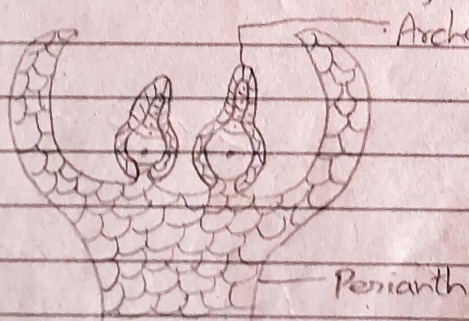
stalk composed of two rows of cells and a nearly globose body.



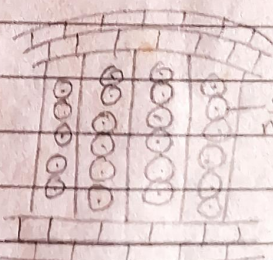
Antheridia.

ARCHEGONIUM →

1. Archegonia are formed in groups of 2 or 3 at the apices of branches.
2. The perichaetal leaves are in 2 to 5 layers. They are dentate or lobed.
3. The uppermost bracts are laterally fused to form a perianth.
4. The development of the archegonium is like typical Jungermanniales.
5. Mature archegonium is a flask shaped structure with the neck composed of 5 vertical rows of cells.



Matured Archegonium



spore mother

A Part of Capsule showing alternate.

SPOROPHYTE →

1. The first division of zygote is transverse.
2. The transverse and vertical intersecting divisions results in the formation of

- 12 celled structure in which there are 3 tiers of 4 cells.
3. The lower tier form the bulbous foot and from the middle tier seta develop.
4. Upper tier gives rise to the capsule.
5. The endothecium represent the archesporium.
6. The capsule cavity contains alternate band of elaters and spore tetrad.
7. The wall of the capsule consists of 2 layers of cells.
8. Dehiscence of the capsule takes place along 4 dehiscence lines.

SYSTEMATIC POSITION →

Class - Hepaticopsida

Order - Jungermanniales

Family - Frullineaceae.