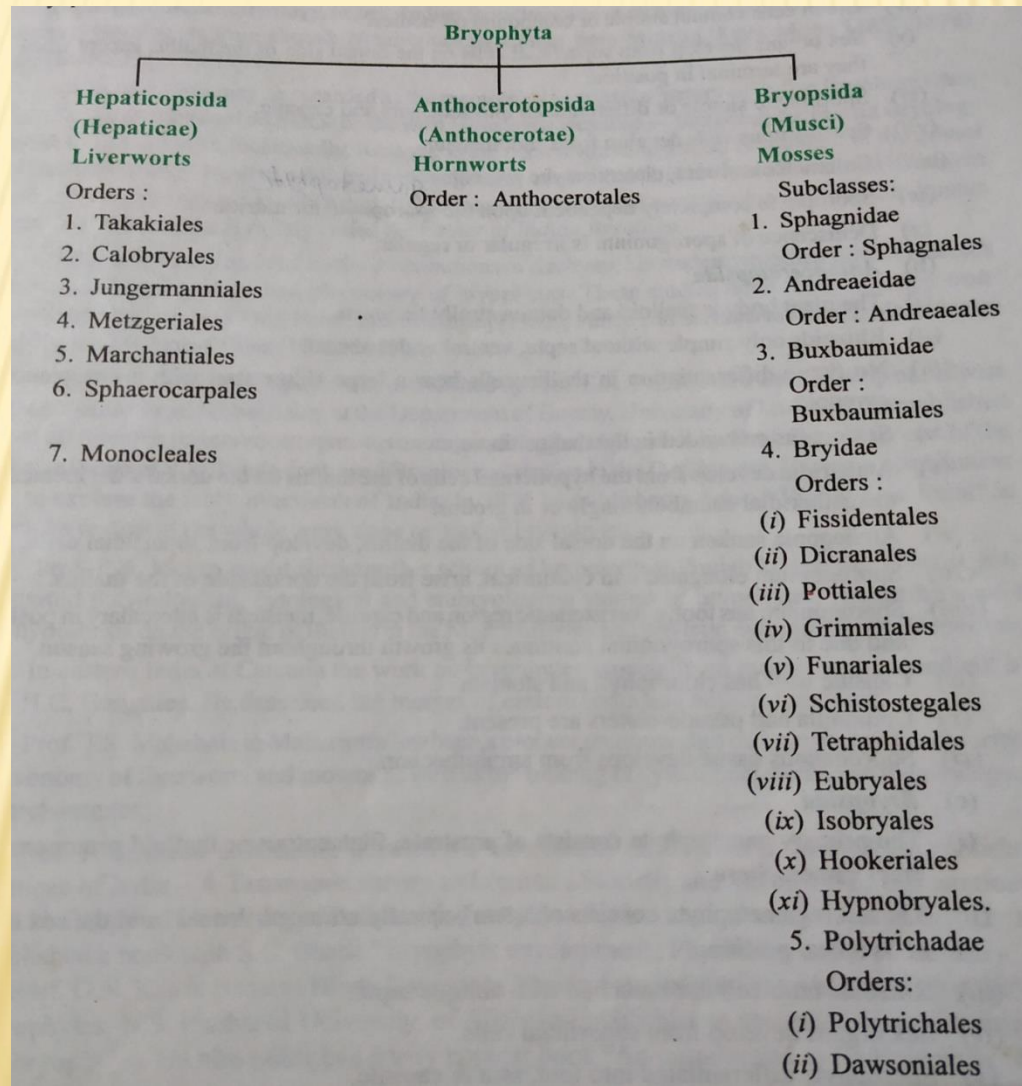


# CLASSIFICATION OF BRYOPHYTA

Dr. H. Saha  
Dept. of Botany  
Dum Dum Motijheel College  
Email: [hsaha1956@gmail.com](mailto:hsaha1956@gmail.com)  
Mobile:8902108159

# CLASSIFICATION OF BRYOPHYTA

(According to Proskauer 1957)



# Salient Features of Class i: Hepaticopsida (Hepaticae)

- ❖ Plant body(i.e. gametophyte) may be either simple **thallus** like or **foliose** type
- ❖ Internal differentiation of thallus may be present (heterogenous) or absent(homogenous)
- ❖ Unicellular Rhizoids (smooth walled and pegged) and multicelullar scales are present
- ❖ Sex organs generally from on the **superficial cells** on the dorsal surface of the thallus
- ❖ Sporophyte may be simple or differentiated into foot, seta and capsule

# Salient Features of Class i: Hepaticopsida (Hepaticae)

- ❖ Sporogenous tissue develops from **endothecium** of an embryo
- ❖ Columella is absent, elaters and nurse cells may be present
- ❖ Sporophyte is completely dependent upon the gametophyte for food and nutrition
- ❖ Dehiscence of the capsule may be regular or irregular
- ❖ Example: *Riccia*, *Marchantia*, *Pellia*, *Porella*, *Calobrya*, *Sphaerocarpus* etc

# Salient Features of Class ii: Anthocerotopsida (Anthocerotae)

- ❖ Gametophyte is **lobed thalloid** and dorsiventrally flattened
- ❖ Rhizoids are only **smooth walled** and ventral **scales** are absent
- ❖ Internally thallus is **homogenous**
- ❖ Sex organs are **embedded** in the gametophytic tissue
- ❖ Antheridia develop from the **hypodermal** cells of the thallus on the dorsal side
- ❖ Antheridia are located in **antheridial chamber singly or in groups**

# Salient Features of Class ii: Anthocerotopsida (Anthocerotae)

- ❖ Archegonia develop from the **superficial** cells of the thallus on the dorsal side
- ❖ Sporophyte is differentiated into **foot** and **capsule**; **seta** is absent and its place is occupied by **meristimatic** region
- ❖ Capsule is **chlorophyllous** and provided with **stomata**
- ❖ **Columella** and **pseudo-elaters** are present
- ❖ Sporogenous tissue develops from **amphithecium** of an embryo.
- ❖ Example: *Anthoceros*, *Megaceros*, *Dendroceros* and *Notothylas*

## Salient Features of Class iii: Bryopsida (Musci)

- ❖ Sporogenous tissue is derived either from **endothecium** or **amphithecium** but in either case sporogenous tissue encircles in sterile columella
- ❖ Elaters are absent
- ❖ Complicated dehiscence mechanism of the capsule is present
- ❖ Example: *Pogonatum*, *Funaria*, *Polytrichum* etc

# Salient Features of Class iii: Bryopsida (Musci)

- ❖ Gametophyte having two stages of development:
  - a) Primary, prostrate, filamentous or thalloid **protonemal stage**
  - b) Adult erect **gametophore** stage- differentiated into stem like **cauloid** (=axis) , leaf like **phylloid** and **rhizoids**
- ❖ Rhizoids are multicellular, branched and with oblique septa
- ❖ Sex organs are developed **superficially** forming a cluster at the apex of the stem.
- ❖ Sporophyte is differentiated into foot, seta and capsule
- ❖ Capsule is provided with stomata



---

**Thank you**