

Bryophytes

The term Bryophyta originates from the word 'Bryon' meaning mosses and 'phyton' meaning plants. Bryophyta includes embryophytes like mosses, hornworts, and liverworts. These are small plants that grow in shady and damp areas. They lack vascular tissues. They don't produce flowers and seeds, instead, reproduce through spores. The study of bryophytes is called bryology.

Bryophytes are called "amphibians of the plant kingdom" because they are terrestrial plants, but require water to complete their life cycle at the time of sexual reproduction.

General Characteristics of Bryophytes:

- Plants occur in damp and shaded areas
- The plant body is thallus like, i.e. prostrate or erect
- It is attached to the substratum by rhizoids, which are unicellular or multicellular
- They lack true vegetative structure and have a root-like, stem-like and leaf-like structure
- Plants lack the vascular system (xylem, phloem)
- Bryophytes show **alternation of generation** between independent gametophyte with sex organs, which produces sperm and eggs and dependent sporophyte which contains spores
- The dominant part of the plant body is gametophyte which is haploid
- The thalloid gametophyte is differentiated into rhizoids, axis and leaves
- The gametophyte bears multicellular sex organs and is photosynthetic
- The antheridium produces antherozoids, which are biflagellated
- The shape of an archegonium is like a flask and produces one egg
- The antherozoids fuse with egg to form a zygote
- The zygote develops into a multicellular sporophyte
- The sporophyte is semi-parasitic and dependent on the gametophyte for its nutrition
- Cells of sporophyte undergo meiosis to form haploid gametes which form a gametophyte
- The juvenile gametophyte is known as protonema
- The sporophyte is differentiated into foot, seta and capsule