




BRYOLOGY


Introduction to Bryophytes


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BRYOPHYTES

- The division Bryophyta (Gr. bryon=moss) includes over 25000 species of non-vascular embryophytes such as mosses, liverworts and hornworts.
- Bryophytes are small plants (2cm to 60cm) that grow in moist shady places.
- They don't attain great heights because of absence of roots, vascular tissues, mechanical tissues and cuticle.
- They are terrestrial but require external water to complete their life cycle.
- Hence, they are called "Amphibians of plant kingdom".
- *Riccia fluitans*

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- The fossil record indicates that bryophytes evolved on earth about 395 – 430 million years ago (i.e. during Silurian period of Paleozoic era).
 - The study of bryophytes is called bryology.
 - Hedwig is called ‘Father of Bryology’.
 - **Shiv Ram Kashyap** is the ‘Father of Indian Bryology’.

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- **Salient features of Bryophytes:**
 - 1. Bryophytes grow in damp and shady places.
 - 2. They follow heterologous haplodiplobiontic type of life cycle.
 - 3. The dominant plant body is gametophyte on which sporophyte is semiparasitic for its nutrition
 - 4. The thalloid gametophyte differentiated in to rhizoids, axis (stem) and leaves.
 - 5. Vascular tissues (xylem and phloem) absent.

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- 6. The gametophyte bears multicellular and jacketed sex organs (antheridia and archegonia).
 - 7. Sexual reproduction is oogamous type.
 - 8. Multicellular embryo develops inside archegonium.
 - 9. Sporophyte differentiated into foot, seta and capsule.
 - 10. Capsule produces haploid meiospores of similar types (homosporous).

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- I 1. Spore germinates into juvenile gametophyte called protonema.
 - I 2. Progressive sterilization of sporogenous tissue noticed from lower to higher bryophytes.
 - I 3. Bryophytes are classified under three classes:

Hepaticae (Liverworts),

Anthocerotae (Hornworts)

Musci (Mosses).



- **Thank You**

*This class prepared for
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Next Class
Classification of Bryophytes