DEPARTMENT OF BOTANY
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LECTURE NO. : 06

DATE - 16th JULY, 2020

HONOUR'S PART - II

GROUP A -ANATOMY

ECOLOGICAL ANATOMY - HYDROPHYTES

- **HYDROPHYTES** - Plants growing in water.

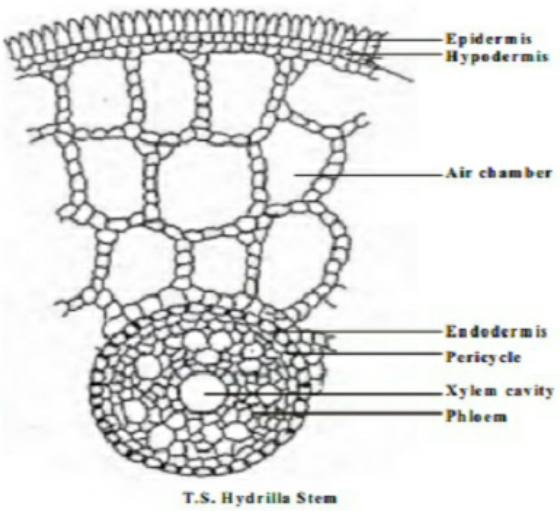
Hydrophytes may further be divided into three categories depending upon their habits and water requirements.

- Submerged, e.g., Hydrilla, Vallisneria
- Floating, e.g., Eichhornia, Lemna
- Amphibious, e.g., Ranunculus, Typha

Morphological Adaptations of Hydrophytes

1. **Roots** Either poorly developed or completely lacking, e.g., Wolffia
2. **Stems** Spongy due to aerenchyma
3. **Leaves** Small, dissected to hairy structure (Utricularia)
4. **Flowers** Develop on long branches which keep them above the surface of water
5. **Vegetative reproduction** It is common and well developed.

6. **Floating leaves** With thin waxy coating, so that water may not adhere to the surface and thus block the stomata which are on the upper surface, i.e., epistomatic condition.



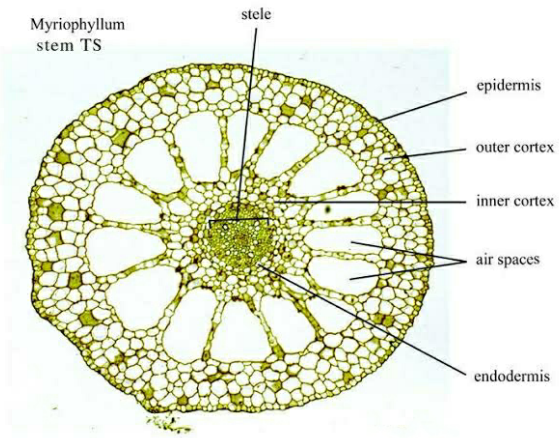
T.S. Hydrilla Stem

Anatomical Adaptations of Hydrophytes

i. Extensive air spaces present in stem, leaves and roots which facilitate exchange of gases and keep buoyancy of the plants.

ii. Absence of protective and mechanical tissues.

iii. Little developed vascular tissues especially xylem which is represented by Xylem lacunae or cavities.



iv. Spongy and palisade cells of leaves are poorly developed.

v. Submerged hydrophytes do not have stomata.

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Physiological Adaptations of Hydrophytes

a) Entire plant body is capable of water absorption.

b) A part of CO_2 evolved during respiration is stored in the air spaces and is utilised during photosynthesis.