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Class: Deg.I(Hons.)  
Paper: II(Bryophyta)  
Topic: Marchantia  
Lecture no.-197  
Date: 17/12/2020

### **General characters and life cycle of Marchantia:**

Marchantia is a genus of bryophytes. They are liverworts and found in moist and shady places. They lack true roots, stem and leaves. The plant body is thalloid.

### **Classification of Marchantia**

Marchantia is classified under division Hepaticophyta, which includes all the liverworts. Riccia is also a liverwort. Bryophyta is divided into three main classes:

**Hepaticopsida**- contains liverworts

**Anthocerotopsida**- contains hornworts

**Bryopsida**- contains mosses

**Kingdom:** Plantae  
**Division:** Hepaticophyta  
**Class:** Hepaticopsida  
**Order:** Marchantiales  
**Family:** Marchantiaceae  
**Genus:** Marchantia

The genus *Marchantia* contains around 65 species. They are present in moist and shady places all over the world. Some of the examples are: *Marchantia polymorpha*, *Marchantia berteroana*, *Marchantia palmata*, *Marchantia nepalensis*, etc.

### **Characteristics of *Marchantia*:**

- The common habitat is moist and shady places.
- The plant body is thalloid. The thallus is dorsiventral, flat and dichotomously branched. The gametophyte is the dominant phase of plant life.
- The dorsal surface contains diamond-shaped markings, which has central pore in the middle for gaseous exchange. There are chambers present internally beneath the polygonal markings.
- The ventral surface contains scales and rhizoids. The rhizoids are unicellular and the root-like structure. The main function is to anchor the plant to the substratum and absorb water and minerals.
- The reproductive bodies are present on the dorsal surface.
- They bear a cup-shaped structure called gemmae for asexual reproduction.
- Sexual reproductive organs are born on the stalks called antheridiophore and archegoniophore. They contain male and female reproductive organs called antheridia and archegonia, respectively.
- The upper epidermis consists of air pores, which open in the air chamber present in the photosynthetic zone. The upper epidermis also contains few chloroplasts.

- Beneath the air chamber and photosynthetic zone lies the storage zone. It lacks chloroplasts and is made up of parenchymatous cells. They store protein, starch, oil and mucilage.
- The rhizoids and scales are extended from the lower epidermis.

### **Reproduction in Marchantia:**

Marchantia reproduces asexually as well as sexually.

#### **Asexual Reproduction**

Asexual reproduction in Marchantia is by fragmentation or by forming specialised structures known as gemmae.

#### **Gemmae**

They reproduce asexually by gemmae, which are asexual buds. They are formed in the receptacles known as gemma cups. Gemma cups are present on the dorsal surface, near the midrib of the gametophytic thalli. Gemmae are multicellular and green.

Gemmae detach from the parent plant and germinate to give rise to the new plant.