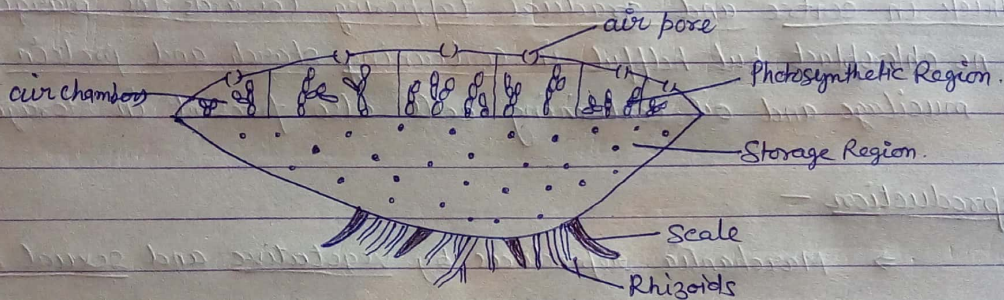


## Internal Structure of *Re. Marchantia* :-

A cross section of thallus shows three distinct region.

(a) Epidermal region (b) Photosynthetic Region (c) Storage region.



### V.T.S. Thallus (Diagrammatic)

(a) Epidermal region :- There is upper covering layer of photosynthetic region which is interrupted by air pores that open into air chambers.

The cells of lower (epidermis) covering layer of the storage region form lower epidermis which grows with rhizoids and scales.

(b) Photosynthetic Region :- This region contains axial air chambers which are uniform in shape and arranged in a single horizontal row. Many simple or branched photosynthetic filaments arise from the floor of each

chamber. These filament cells composed of chloroplast containing cells.

### Storage Region. -

It lies immediately below the photosynthetic region as a compact zone of several layers of polygonal parenchymatous cells. This region is thick in centre and gradual tapering towards the margin. The cells have no chloroplast but helpful in containing starch and protein granules. Some mucilage and oil containing cells also present in storage region.

### Reproduction -

⇒ Marchantia reproduces by vegetative and sexual methods.

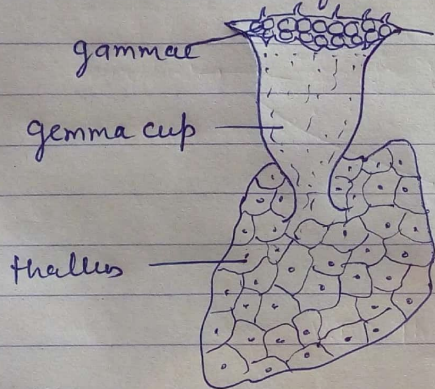
⇒ Vegetatively Marchantia reproduces by progressive death & decay of older thallus, in which process of decay reaches the point of dichotomy and two apical part of thallus separate and form two independent plants.

⇒ By adventitious branches Marchantia can vegetatively reproduce in which on the ventral surface some part of thallus (gametophyte) separate from parent thallus and grow in to new thalli. (M. palmata).

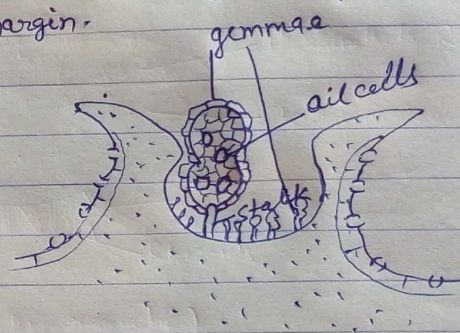
⇒ Gemmae cup formation is a important method of vegetative reproduction. In this method a cup like small stalked structure about 2mm.

in diameter and 3 mm. in height - developed on the dorsal surface near mid sid region of thallus.

⇒ Usually the gemmae present on the male thallus form male plant and those on female thallus give rise to female plants.



Gemma cup



V.S. of Gemma cup showing gemmae.