

## Class Note for - B.Sc. Part I (Subsidiary)

### Anthoceros =

Systematic position

Class. - Anthocerotopsida

Order - Anthocerotales

Family - Anthocerotaceae

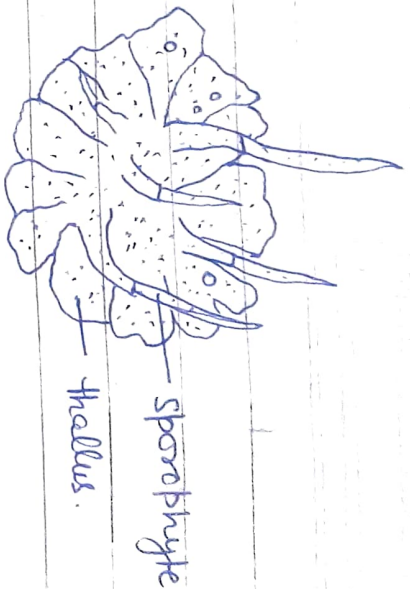
### Occurrence -

It occurs in both the tropical and temperate regions of the world at moist shady places of the ~~river~~ river banks and rock. Some species grow on the decaying wood.

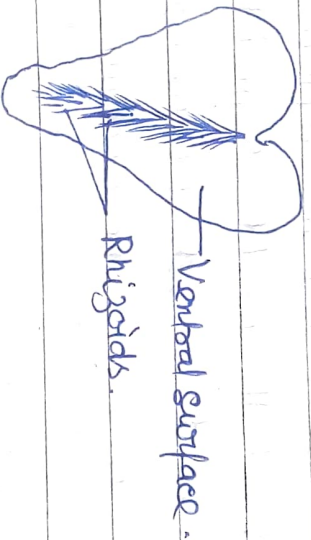
### External feature =

The gametophyte plant is dark green crossventral and prostrate thallus. The thallus is thick in the middle but it is always without a sharply defined midrib. The dorsal surface of the thallus is smooth (A. laevis) velvety (A. crispulus) or rough (A. fusiformis).

Ventral surface of thallus bears many unicellular smooth walled rhizoids along median line. Tuberculate <sup>rhizoids</sup> and scales are absent. The mature thalli have erect, elongated and cylindrical sporophytes which usually develop during September-October.



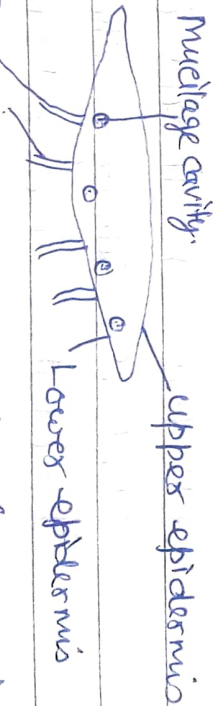
Dorsal surface (A. crispulus)



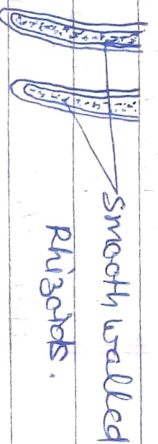
Ventral surface



Erect thallus of A. himatensis



V.T.S. of Thallus (Schematic)



Rhizoids

Internal structure of thallus :-

The thallus is simple without any cellular differentiation all the cells are similar in structure

There is a distinct and continuous epidermis made up of comparatively small cells.

The thallus is composed of thin walled parenchymatous cells which have one or more discoid chloroplasts with many pyrenoids.

Instead of air pores or air chambers the mucilage cavities are present which open on the ventral surface through narrow stromata like slits called stromata pores.

The mucilage cavity invaded by colonies of *Nostoc*, <sup>through</sup> these stromata pores which is an example of symbiotic association.

The thallus grows by means of a single apical cell or by a group of marginal meristematic cells which are located in a shallow depression at the distal end of the thallus and are covered by a mucilaginous substance.