

SYSTEMATICS OF DIVISION MARCHANTIOPHYTA (HAPLOMITRIOPSIDA, MARCHANTIOPSIDA AND JUNGERMANNIOPSIDA)

Class Haplomitriopsida

In the class Haplomitriopsida the plants are acrocarpous and the gametophyte is leafy. Generally the stems are able to secrete copious amounts of mucilage, which is discharged from the epidermal cells.

The gametangia are typically situated in the axils of the leaves or lobules. It is worth noting however that the archegonia and antheridia are normally not differentiated from the surrounding tissue of the gametophyte.

The sporophytes, which are relatively large, generally open along four lines of dehiscence.

Subclass Haplomitriidae

The species in the subclass Haplomitriidae have leaves that are 3-ranked on the stem. A closer look will reveal the presence of two rows of lateral leaves and one row of underleaves, the latter being reduced. Oil bodies, which are small, can be found within the leaf cells of these species. Although the plants within this subclass lack rhizoids they have an extensive rhizomatous network.

Species in Haplomitriidae can either be dioecious or monoecious and the female reproductive structures may be either acrogynous or anacrogynous. Although the perianth is lacking, the female protective tissue surrounding the developing sporangium may be a shoot-calyptra or a true calyptra.

The sporophyte, which is typically cylindrical in shape and robust, has a sporangial jacket that is unistratose. A closer look at the sporangial wall will reveal that each cell has a

single transverse band thickening. Spore dispersal in this subclass generally occurs along 1, 2, or 4 lines of dehiscence.

Class *Jungermanniopsida*

Class Jungermanniopsida includes leafy and simple thalloid liverworts. There is a lack of shared characteristics between these two groups.

The leaves of leafy liverworts may be entire or lobed with various forms of insertion. The thalloid liverworts may be branched.

Oil bodies may or may not be present. When present, oil bodies are typically found in both gametophytic and sporophytic regions of the liverwort. There are multiple oil bodies per cell.

REFERENCES

1. Url1. <https://blogs.ubc.ca/biology>“Introduction to Bryophytes”