

SPHAGNUM SPOROPHYTE

INTRODUCTION → The sporophyte of Sphagnum is remarkable because it shows characteristic of both Hepaticopsida and Bryopsida. In some of features it differs from both the groups.

Zygote forms the first cell of the sporophyte. The development process has been outlined in detail by Bryan (1920) in several stages. The zygote undergoes transverse division to form a filament of 6 to 12 cells. The upper 3 or 4 cells form the capsule of the mature sporogonium and the rest forms the foot and seta. The amphithecium forms the capsule wall and the archesporium where as the entire endothecium gives rise to bulky columella.

MATURE SPOROPHYTE → It is complex and has three parts —

1. Foot,
2. Seta
3. Capsule.

1. FOOT → The basal foot is large and bulbous. It is absorptive in nature.

2. SETA → It is middle zone. It is short and is represented by a short neck like connection.

3. CAPSULE → The capsule is spherical and

and dark brown, black in colour. It has a single layer thick capsule wall. These may become 4 to 6 layers thick at maturity. It may bears non-functional stomatas.

The centre of the capsule has a dome like structure called columella. It is parenchymatous and take part in spore dispersal.

Just above the columella there is C-shaped spores ^{sac} containing haploid spores.

At the top of the capsule there is a circular, convex, disc shaped operculum which is separated from the rest of the capsule by a circular groove with thinner walls. This is called Annulus. Peristomes are absent.

The matured sporophyte is born upon a prolongation of the axis of the archegonial branched called the Pseudopodium.

The foot remains surrounded by a sack like structure named as Vaginula. The capsule as a covering of archegonial neck named as Calyptra.

DEHISCENCE OF THE CAPSULE → It is explosive called "Air gun mechanism."