

DEPARTMENT OF BOTANY BY: DR. RANJANA
D.B. COLLEGE, JAYNAGAR ASST. PROFESSOR
L.N.M.U. DARBHANGA. (BINEST)
LECTURE NO. 05 DATE: 06 NOV. 2020

B.Sc. PART I PAPER / SUB / GEN.
CORE CONCEPT OF PTERIDOPHYTE

SALIENT FEATURES OF PTERIDOPHYTA.

1. Main plant body is a sporophyte ($2n$) well differentiated into root, stem and leaf (except psilotales and psilophylales which are rootless and leafless).
2. The roots are generally adventitious, often in association with mycorrhizal fungus.
3. Stem generally represented by rhizomes giving out aerial branches. The conducting tissue (xylem and phloem) is well organized within different types of steles.
4. Leaves are of two types: —
(a) microphyllous — ~~stem~~ smaller leaves with a single weak vein. These may have a small lanceolate structure associated with leaf called ligule. microphyllous leaves are also two types —

- (i) Eligulate — ligule absent
- (ii) Ligulate — Ligule present
- (b) megasporulous: larger ones having a well developed venation pattern.

5. The sporophytes produce haploid spores by meiosis in sac like structure called sporangia.

The sporangia are two types

(i) Eusporangium — Develops from a group of initial cells, has many wall layers and produces unlimited spores.

(ii) Leptosporangium — Develops from a single initial cells has ~~many~~ wall layers only one wall layer and produces maximum 64 spores.

6. On the basis of types of spores pteridophytes may be —

(a) Homosporous — Develops from producing only one kind of spores

(b) Heterosporous — Producing two kinds of spores the smaller microspores (andros pores) and the larger megaspores (gynospores).

Heterosporous is said to have played an important role in origin of seed habit in higher plants.