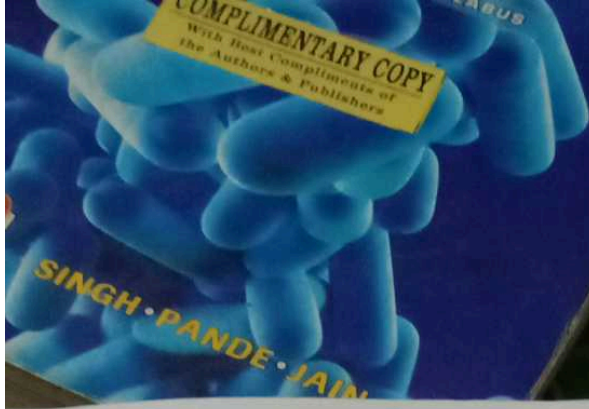


General features of Pteridophytes :

- Pteridophytes are primitive land vascular plants both (Lycopodium, Salvinella, Equisetum) and also fossil vascular plants (Rhynia)
- Pteridophytes grow in cool and shady places through few are xerophytic and many are aquatic (Marsilea, Azolla)
- Adult plant body is a sporophytic usually differentiated into leaves, stem and roots
- Rhizoids and rhizophores are reported in pteridophytes.
- Mature sporophyte are independent, though in early stage of development they are partially or completely depend upon gametophyte.
- Vascular system is composed of both xylem and phloem and stele may be protostele (ectophloëic, endophloëic and amphiphloëic) or





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- Prothallus is multicellular, autotrophic (Zoo-
-pendent) structure and may bear both sex
organs: archegonia and antheridia.
- Water is essential for fertilization. Zygote
is formed following fertilization.
- Zygote develops into epiphytic plant body.
- Alternation of generation is an essential
part of life cycle is heterologous.

Introduction of Pteridophyta

Pteridophytes is derived from Greek word
Pteron = feather, phyton = plant. constitute the
primitive seedless vascular plants that repre-
-sent by means of spores and have neither
fruit nor seeds. Haeckel ^{gave} termed as pterido-
-phytes because of pinnate or feather like
fronds.

like reptiles which evolved after amph

and first true land animals like that after bryophytes (which is termed as amphibians of plant kingdom) pteridophytes evolved as a truly land plant. So pteridophytes are often known as 'snakes of plant kingdom'. and sometimes they are also referred as Amphibians of plant kingdom as they depend on external source of water for fertilization just like bryophytes. Pteridophytes ranging from small aquatic plants to giant tree fern in tropical forest. In Silurian period of late paleozoic era they are probably have evolved. Hence late paleozoic can be regarded as 'Age of Pteridophytes'.

Early Land Plants :

The early non-vascular land plants probably hornwort, liverwort and mosses. They probably originated in the Silurian. Simple vascular land plants are known

Diphlostele (Soleno-stele and diacty-stele)

→ Leaves may be simple, minute and sessile as in Lycopodium or petiolate and megaphyllous as in members of Filicinae.

→ Reproduction is through spores which are formed in sporangia. Sporangia develop either on the ventral surface or axis of leaves.

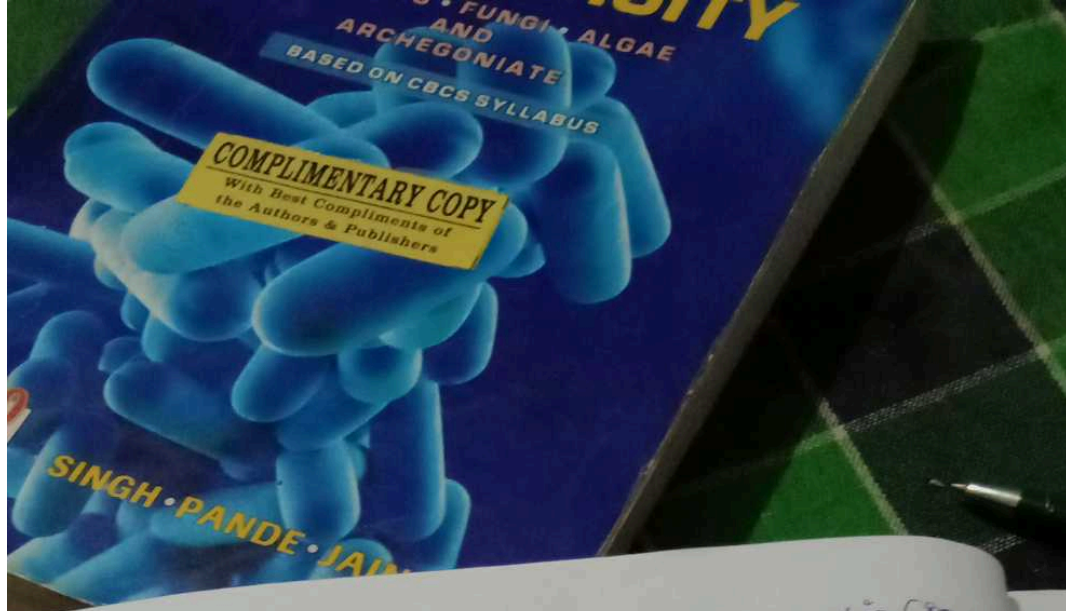
→ Plants may be homosporous (all spores are same size and structure) or heterosporous (spores may be microspore or megaspore).

→ Sporangial development take place either form from :

i) Group of superficial cells (initials) as in Salaginella, as it is known as eusporangiate type.

ii) A single cell (initial) as in Marsilea as it is known as leptosporangiate type.

→ Gametophytic body is known as prothallus which is developed from haploid spore.



- Prothallus is multicellular, autotrophic (suspension) structure and may bear both sex organs: archegonia and antheridia.
- Water is essential for fertilization. Diploid zygote is formed following fertilization.
- Zygote develops into sporophytic plant body.
- Alternation of generation is an essential part of life cycle is heterologous.

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