

FYBSC Semester-I: Paper-I
Bo-111: Plant Life And Utilization I

INTRODUCTION

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Higher Cryptogames: It includes a single group known as Pteridophyta.

Pteridophytes:

1. The pteridophytes are vascular land plants that dominate the terrestrial environment of the earth. There are about 15000 sp. of pteridophytes. Most of them are native to moist tropical forest.

The **Psilophytales** consist of two living genera

Lycophytales with 5 living genera ,

Sphenophytales represented by single genus *Equisetum*

The ferns are a very diverse group and exhibit a great range of forms with very tiny to very tall tree ferns. Ferns are cosmopolitan in distribution dominant in moist tropics.

1. These are vascular cryptogamic plants with well developed plant body possessing roots, stem and leaves.
2. Plant body is sporophytic but without flower.
3. Sporophyte produces asexual reproductive bodies known as spores. Spores are produced in sporangium. Sporangia develop on sporophylls. In many members sporangia bearing structures are grouped in a cone.
4. Plants may be **Homosporous**-Same spore, or **Heterosporous**-Different spore.= Microspore and megaspore.
5. Spores after germination produce gametophytes. **Megaspore** develops into female gametophytes and **microspore** develops into male gametophyte.

6. Gametophytic thallus is with rhizoids and chlorophyllous tissue so it is independent.

7. Gametophytes develops antheridia and archegonia.

8. Antherozoids are multiflagellate.

9. Water is necessary for fertilization.

10. Zygote remains in gametophytes which further develops into simple embryo.

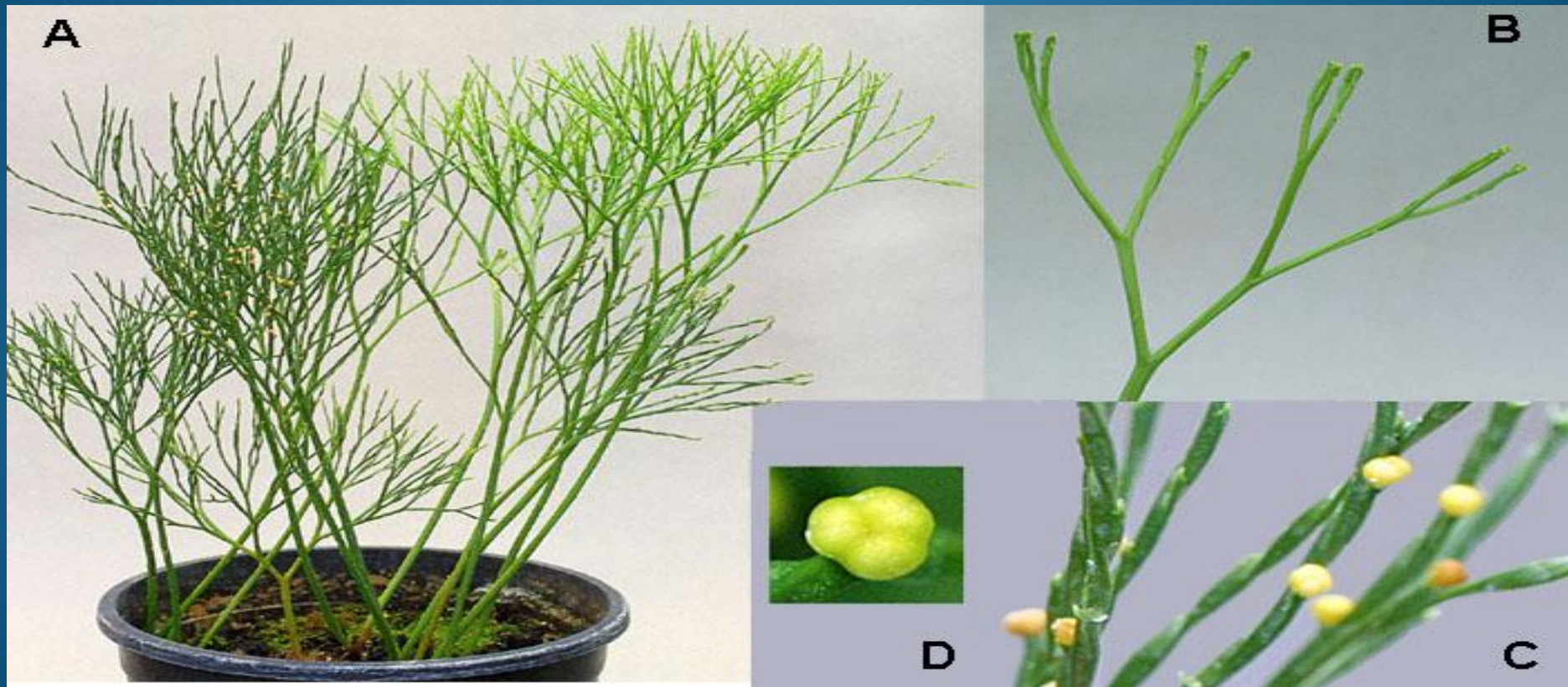
11. Sporophytes possess vascular tissues Xylem is without vessels and phloem is without companion cells.

12. Plants show distinct alternation of generations.

13. Sporophytic phase is dominant while gametophytic phase is independent short living phase.

13. Sporophytic plant and gametophytic plant have different morphological character so life cycle is known as diplontic and heteromorphic.

E.g. *Psilotum*, *Lycopodium*, *Selaginella*, *Equisetum*, *Marsilea*.



Lycopodium,



Equisetum,



Selaginella,



Marsilea

