

CLASSIFICATION OF PTERIDOPHYTES

PAPER-I

Group-B

TDC Part-I (Hons.)
(2019-22)

Introduction:

Classification of pteridophytes, the vascular land plants, has undergone successive changes over the past centuries. Based on the features of their choice and varied evidences and their interpretations, different workers adopted their own classification systems. With the passage of time, some widely agreeable classification patterns appeared. Fossil discoveries played a major role.

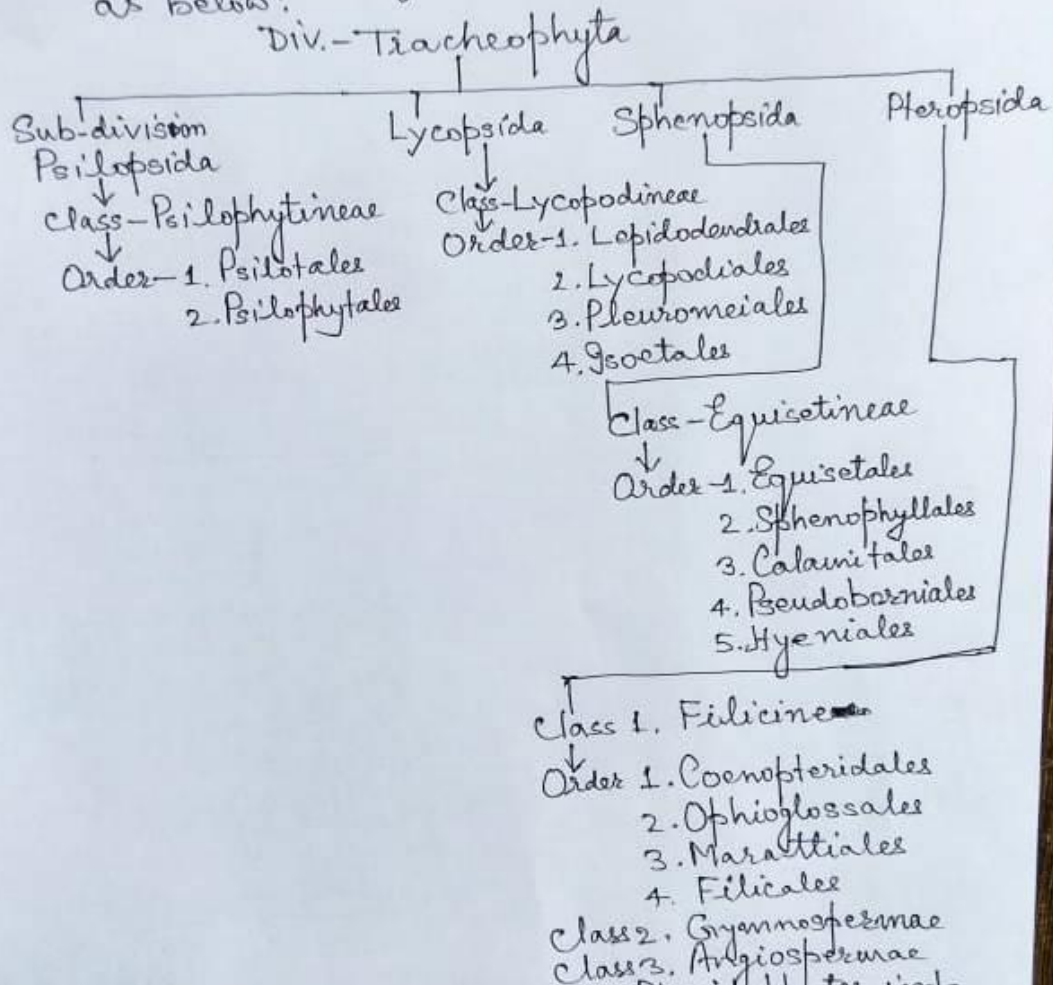
Classifications in Chronological order:

1. Eichler (1883) divided the plant kingdom into Cryptogamia and Phanerogamia.
- Cryptogamia was further divided into Thallophyta, Bryophyta and Pteridophyta.
2. Engler (1909) included the Bryophyta and Pteridophyta under Eubryophyta.
3. Classification of Pteridophytes has undergone remarkable changes in the light of fossil discoveries and their interpretations to establish evolutionary linkages.
4. Older taxonomists classified the vascular plants into two divisions: Pteridophyta (without seeds) and Spermatophyta (with seeds).
However, this distinction was invalidated in view of the discovery of seed bearing fossil plants (Cycadofilicales/Pteridospermales).
5. Simmet (1935) as such proposed a new term Tracheophyta for a division possessing sporophyte with a well developed vasculature.
6. Eames (1936) divided Tracheophyta into four groups: Psilopsida, Lycopsida, Sphenopsida and Pteropsida.
7. Tippo (1942) suggested that the 'groups' of Eames be called Sub-phylum.

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8. Wardlaw (1955) proposed that the Sub-phyla of Tippo be called Sub-divisions.

On the basis of ICBN recommendations on the naming of classificatory units, Wardlaw (1955) divided the Pteridophytes into four divisions and further into classes and orders as below:



9. Smith (1955) classified the Pteridophytes into four divisions: Psilophyta, Lepidophyta, Calamophyta and Pterophyta. These were divided into classes.

10. Fuller and Tippo (1954) included Pteridophytes in the Phylum - Tracheophyta and divided the latter into four sub-phyla: Psilopsida, Lycopsida, Sphenopsida and Pteropsida.

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11. Bold (1957) and Zimmerman (1959) classified Pteridophytes into four divisions - Psilophyta, Lycophyta, Sphenophyta and Pterophyta.
12. Spore (1975) recognized six classes in Pteridophytes: Psilophytopsida, ~~Psilotopsida~~ Psilotopsida, Lycopsiada, Sphenopsida, Pteropsida and Progymnospermopsida. These were further subdivided into sub-classes and orders.

For its logical interpretations based on palaeobotanical evidences and phylogenetic considerations, classification of Pteridophytes as proposed by Spore (1975) is widely accepted and followed.

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