

# Topic: **Role of Palynology in Taxonomy**

**B.Sc. Botany Hons. II**

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## Role of Palynology in Taxonomy

### Palynology in taxonomy :Role 5.

#### Phylogenetic Considerations:

Palynological studies have also been helpful in the elucidation of phylogenetic relationships. The following are a few examples-

Pollen morphology does not support sharp demarcation between the dicotyledons and the monocotyledons as suggested by most systems of classification, because dicotyledonous pollen characters occur in some monocotyledons and vice versa.

- Palynological data suggest two distinct phylogenetic stocks in the dicotyledons – monocolpate, represented by the Magnoliaceae and tricolpate represented by the Ranunculaceae.

- Due to the presence of monocolpate element, the monocotyledons, are considered to be more closely related to the magnolian stock.

Furthermore, both the monocotyledons and the magnolian dicots have monocolpate elements characteristic of the preangiospermous archegoniates and are considered more ancient palynologically than the ranalian dicots where monocolpate elements are completely absent and new apertural forms are present.

- Based on pollen morphological studies in the monocotyledons, Kuprianova (1948), proposed that the Helobiae are not related to the other monocotyledons but are specialized Polycarpiceae with ranalian affinities. Kuprianova is also of the view that most monocotyledonous families could be considered to have evolved from Arecaceae or Liliaceae.