

**Topic: Gnetum; Reproduction**  
**B.Sc. Botany Hons. II**  
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## **Microsporangium and Microsporogenesis:**

- Development of the microsporangium can be studied only in young anthers.
- Two archesporial cells are distinguished below the epidermal layer.
- Archesporial cells divide and re-divide to form many-celled archesporium.
- The outermost layer of the archesporium divide periclinally to form an outer layer of parietal cells and inner layers of sporogenous cells.
- The parietal cells form the wall layers and tapetal layer by periclinal divisions.
- The sporogenous cells develop into microspore mother cells by some irregular divisions.
- Tapetal cells later on become bi-nucleate.
- Microspore mother cells divide reductionally to form haploid microspores.

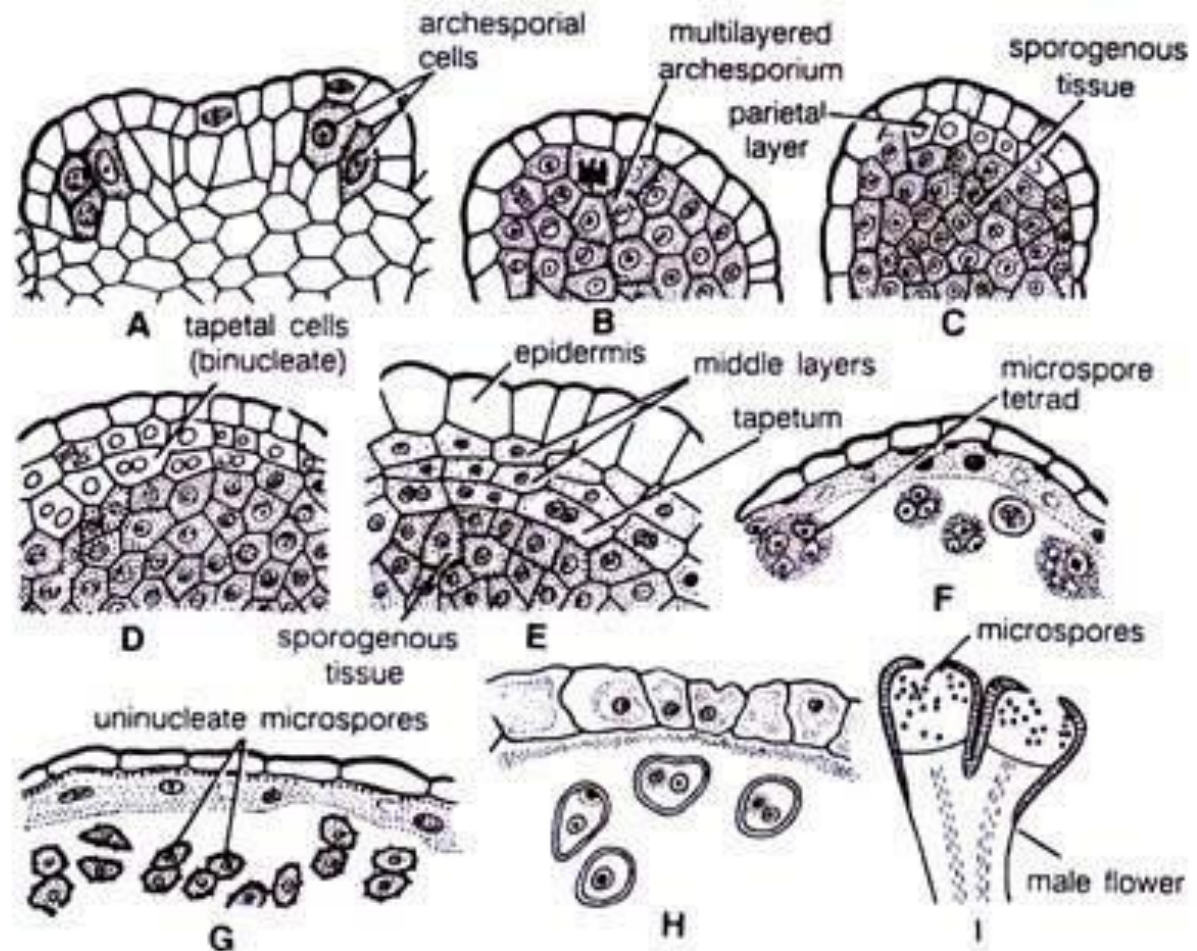


Fig. Development of microsporangium in *Gnetum*.

- The microspores may be arranged in isobilateral, decussate or tetrahedral manner in their earlier stages.
- Side by side the wall cells and the tapetal cells degenerate and ultimately disorganize.
- The epidermal cells become thick, cutinized and radially elongated.
- Many fibrous thickenings also develop in these cells.
- Small globular structures are present on the inner surface of the epidermis in *Gnetum ula* and *G. gnemon*.
- Anthers dehisce along a double row of small cells which extends from the tip towards the base.