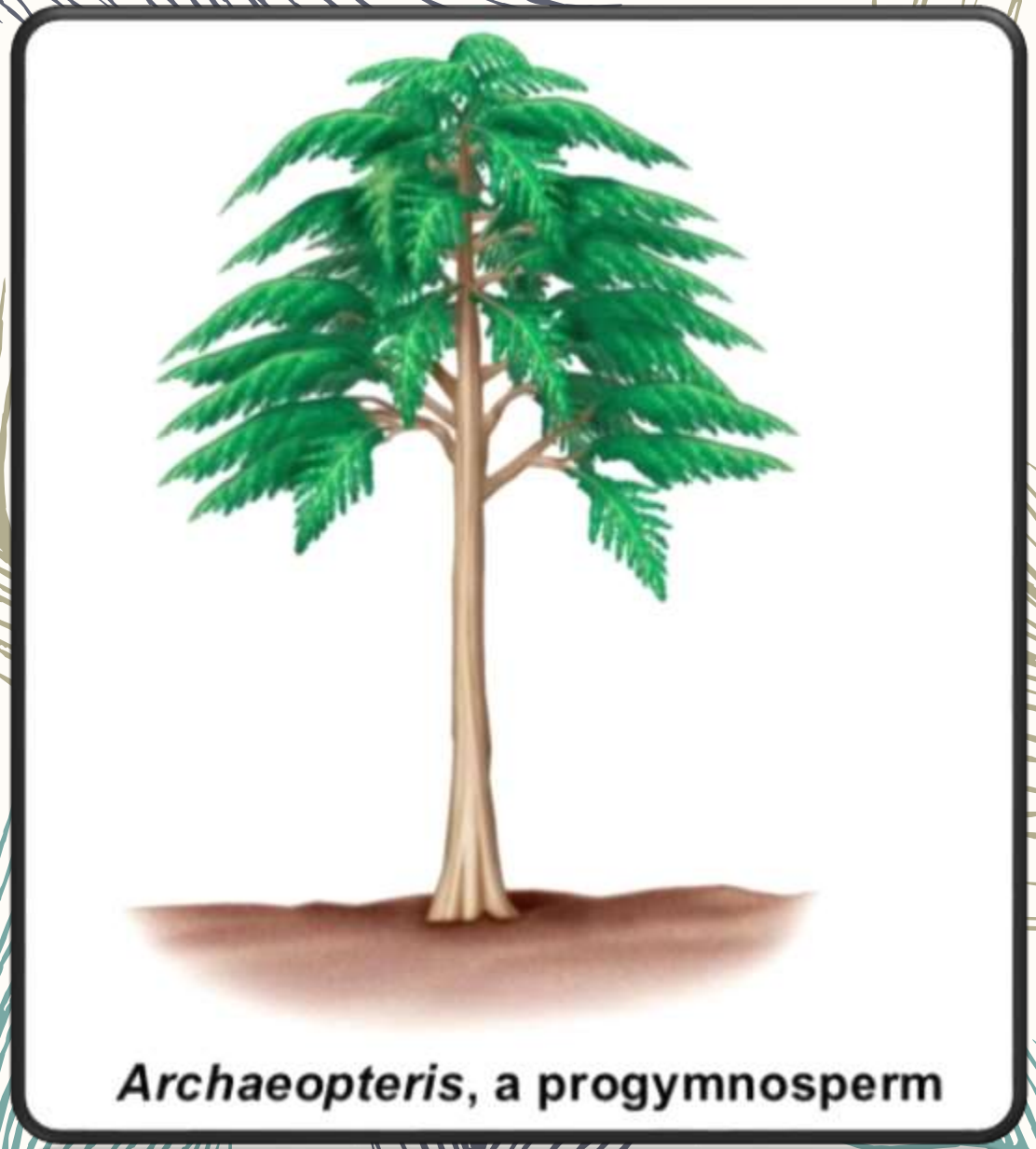

Archaeopteris: Part II

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4. Reproductive Organs of Archaeopteris:

Each fertile leaf of Archaeopteris (e.g., A. halliana) is comprised of a terete, dichotomously branched telome truss bearing one or two rows of fusiform sporangia on adaxial surface (Fig. 1.95A).

Fig. 1.95 : *Archaeopteris halliana* : A. Fertile appendages, B. Cluster of microspores, C. Cluster of megaspores

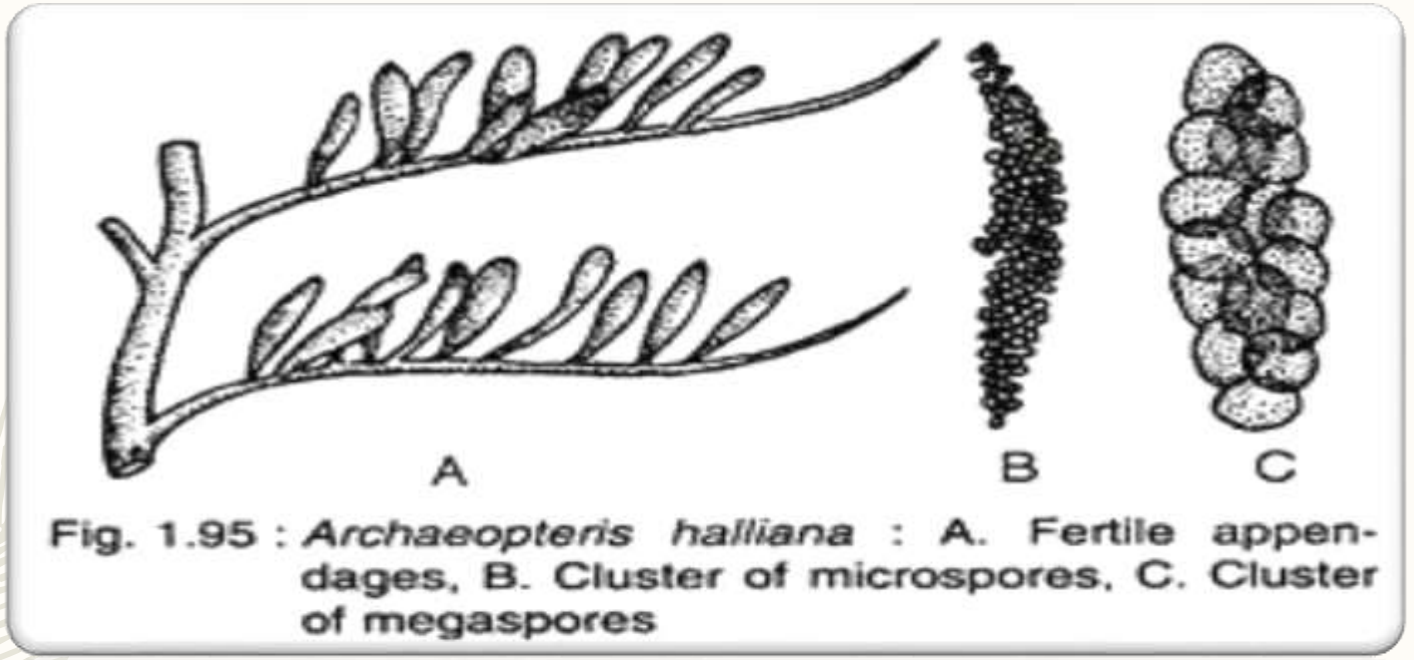

Fig. 1.95 : *Archaeopteris halliana* : A. Fertile appendages, B. Cluster of microspores, C. Cluster of megaspores

Although homosporous, heterospory has been demonstrated in several species of Archaeopteris. Arnold (1939), for the first time, reported heterospory in Archaeopteris halliana. In heterosporous species (A. halliana, A macienta, A fissilis), the micro- and megasporangia are more or less alike in terms of their sizes.

The sporangia are thick-walled with longitudinal dehiscence. Sometimes, stomata are present on the epidermal cells of the sporangia. A single microsporangium contains more than 100 microspores of 33-70 pm in diameter (Fig. 1.95B), while a single megasporangium contains 16-32 megaspores of 110-500 pm in diameter (Fig. 1.95C).

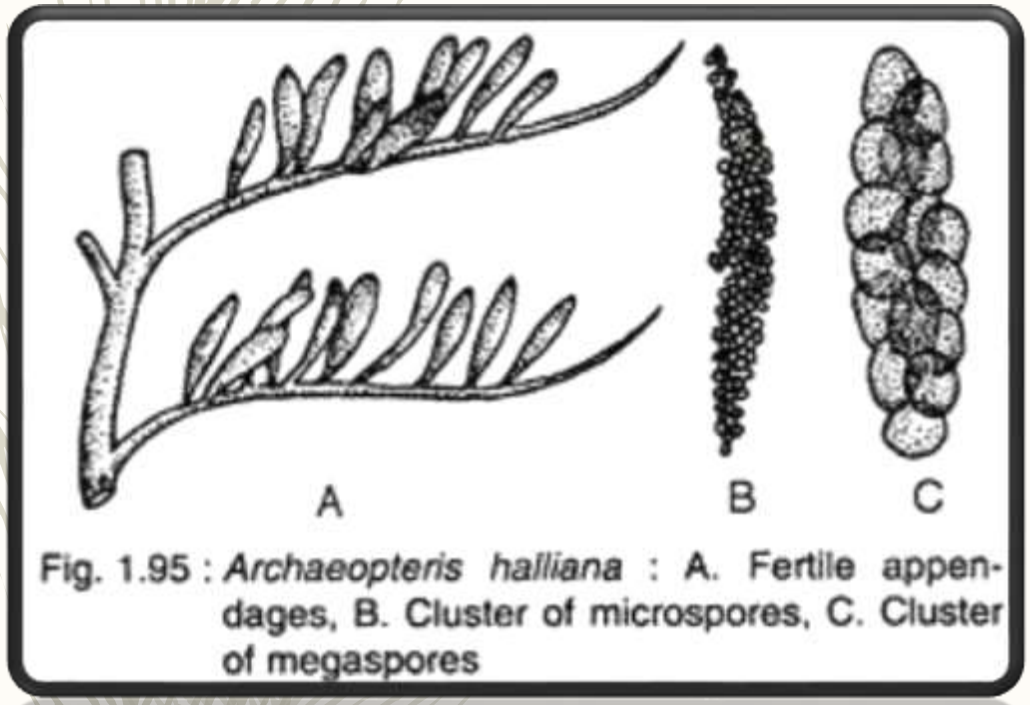

Fig. 1.95 : *Archaeopteris halliana* : A. Fertile appendages, B. Cluster of microspores, C. Cluster of megaspores

The microspore has a long trilete laesura. The proximal surface of the microspore is psilate, while the distal surface is ornamented. The microspores of Archaeopteris are similar to the dispersed form genus Cyclogranisporites. The megaspores are also trilete with elevated laesura scar. Like microspores, the proximal surface of megaspore is psilate, while the distal surface is ornamented with folds. The megaspores of Archaeopteris are included in the dispersed form genus Biharisporites.

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THANK YOU ALL