

Topic: Reproductive Structure of Lyginodendron

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Reproductive Structure of Lyginodendron (Lyginopteris)

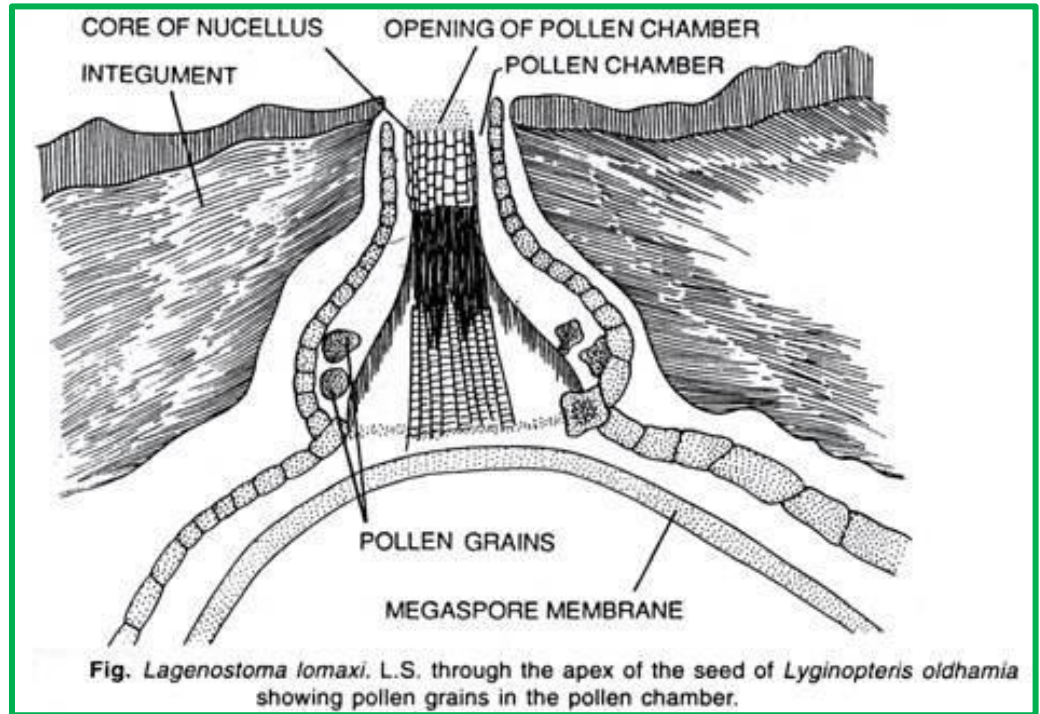
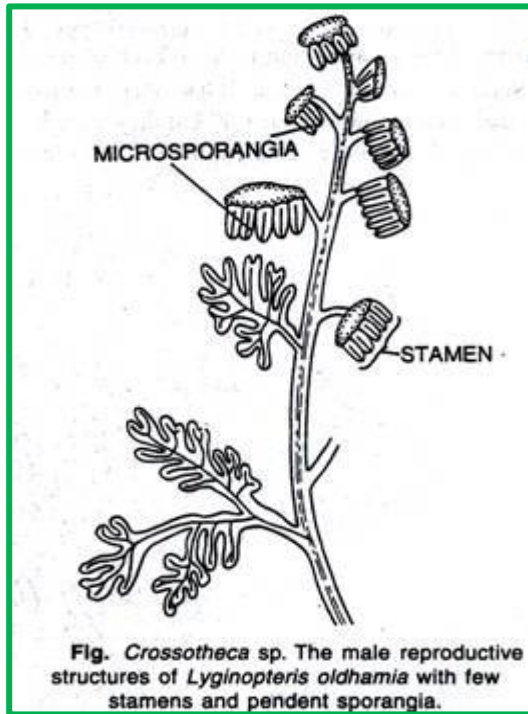
Some of these Palaeozoic leaves more microsporangia on them. The fertile pinnules were more or less peltate in form and on their underside they bore usually six sporangia. These sporangia are usually bilocular. Such a type has been described as *Crossotheca* type.

The microspores seem to have formed a male prothallus. The sperms seem to have been of like those of present-day cycads.

Seed of Lyginopteris

The best known seed has been described under the name *Lagenostoma*. These seeds were small in size, only about 1/4 but they were highly organized. It was barrel shaped and whole seed enclosed in cupule. This cupule opened out when seed was mature.

Each seed was borne at the tip of stalk. The cupule rose from the base of the seed but not fused with it. The cupule was in three main lobes. These lobes were divided in the upper parts of the seeds. The seed or ovule was orthotropous and of cycadian type. It was radially symmetrical.



The cupule was separated from the seed along its entire length. The seed itself has an integument which surrounded the nucellus. The integument and nucellus were fused except at the top. The integument formed nine projections. In each of these projections there was a vascular bundle present. These projections surrounded the nucellar beak.

The pollen grains then came to lie in pollen chamber formed by disorganization of some of nucellar tissue round the base of nucellar beak.

In some of preparations the megaspore membrane is very well seen. In the centre of the seed there was a tissue but so far neither any archegonium nor any embryo has been found in these Palaeozoic seeds.

The seeds were borne at the tips of the stalks. They were not organized to form cover. In addition to this *Lagenostoma* there are many other Palaeozoic seeds which have been described some simpler other more complex than *Lagenostoma*.

A peculiar feature of all Palaeozoic seeds which so far has not been explained is the absence of any embryo in them. Pollen grains have been found in pollen chambers. Some of them had even showed their germ tube, but so far no seed is discovered in which embryo was developed. It is possible that all the seeds described might have not preserved or they preserved before embryo formation.