

**REPRODUCTION ORGAN** → The fruitification of Cordatales are called Cordaitanthus.

They occur among the leaves on the stem and formed loose inflorescence or compact strobili. They were unisexual.

**STRUCTURE OF MALE STROBILUS** → It is called microsporangiate short shoot. Several forms are well studied of which C. con-  
cinnus, C. venjoni and C. satorbainis are the most common.

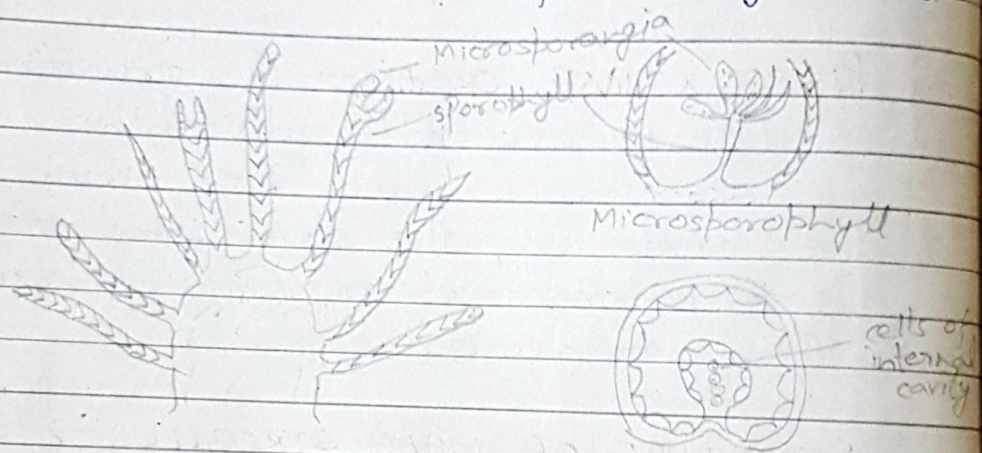
The male strobilus had a central axis with a large number of spirally arranged and uninerve scales. The basal scales were sterile where as the upper ones were fertile. They both bear 4 to 6 microsporangia or pollen sacs.



The microsporangia were elongate and finger like structure. They were separate by vascular traces. They had a single layered wall. The cavity contains numerous pollen grains or the microspores.

The microspores measured from 65 to 150  $\mu$  in diameter. Each microspore had an equatorial bladder or an air cavity.

The pollen grains were trilobate on the proximal surface (Taylor 1972).



Male reproductive organs Pollen grain of Cordialata  
Male Strobilus.

**STRUCTURE OF FEMALE STROBILUS** → The organization of megasporangiate strobilus is similar to the microsporangiate dwarf shoot. They arise as lateral out growth from the inflorescence axis and have spirally arranged appendages. The distal appendages were fertile and bear one



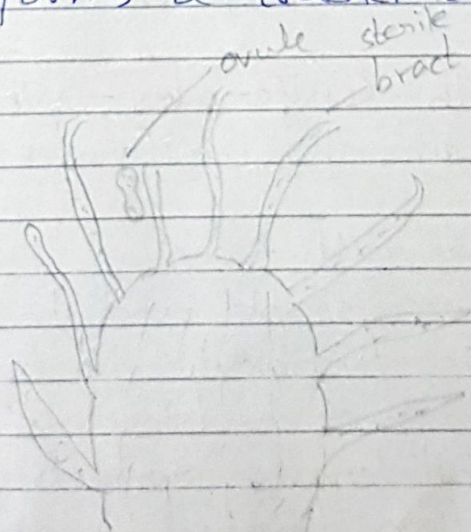
to three ovules terminally.

The ovules were bilaterally symmetrical and were imposed within a single but divided integument. It was completely free from the nucellus.

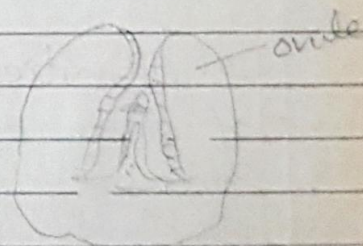
The pollen chambers contained germinated pollen grains.

The integument consist of three layers namely the outer sarcotesta, the middle sclerotesta and the inner indotesta.

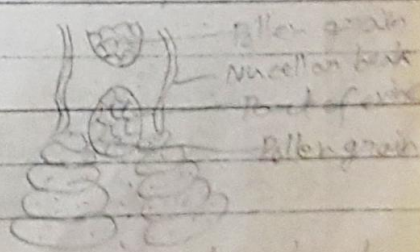
The vascular cells of the ovule has been studied in detail by Seward (1917) in European species. It consisted of a single central strand that enters the base of the ovule. It gives of two branches that pass of the inner layer of Sarcotesta. The main bundle then passes to the sarco sclerotesta and enters the base of the nucellus where it forms a tracheoidal disc or plate.



L.S of female strobilus



L.S of ovule



L.S of ovule head and Nucellus