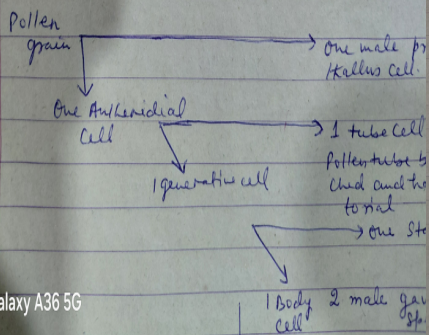


with blateroplast. The sperm of cycas are large and finally it proceeds with its fertilization process which is prodiogami



### \* Male Gametophyte of Cycas.

Microspore is the 1st cell of male gametophyte. It has two walls an outer thick exine and an inner thin intine. The microspore starts germination within the microsporangium. At first, a small vegetative cell or prothallial cell is cut off at one end, leaving large anteridial cell. The vegetative or prothallial cell represents an evolutionary vestige of its vegetative body of the male gametophyte proper, which as in *Syzygnella* is very much reduced and completely dependent. The anteridial cell after transverse division forms generative cell and large prothallial cell. At this three celled stage, the microspore is shed from the microsporangium and is pollinated. A week after pollination the microspore or pollen grain undergoes further development. The tube cell shown elongates and pierces through the exine forming a long branched pollen tube. The pollen tube in cycas penetrates slowly through the nucellus for a few months, gradually digesting and absorbing it. Thus the pollen tube acts as an historium besides a nutritive tissue. In the meantime, the generative cell becomes large and finally forms one stalked cell.