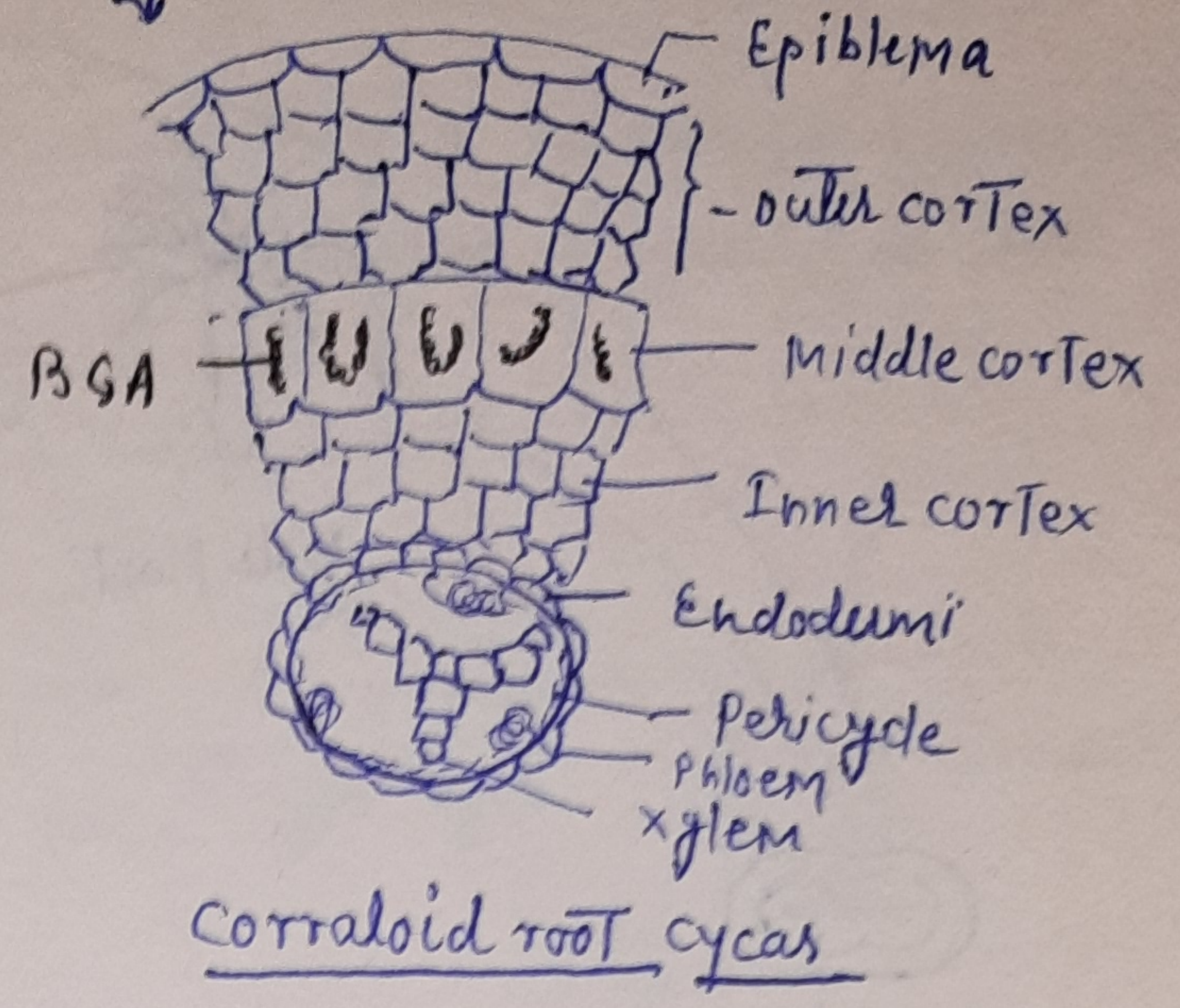
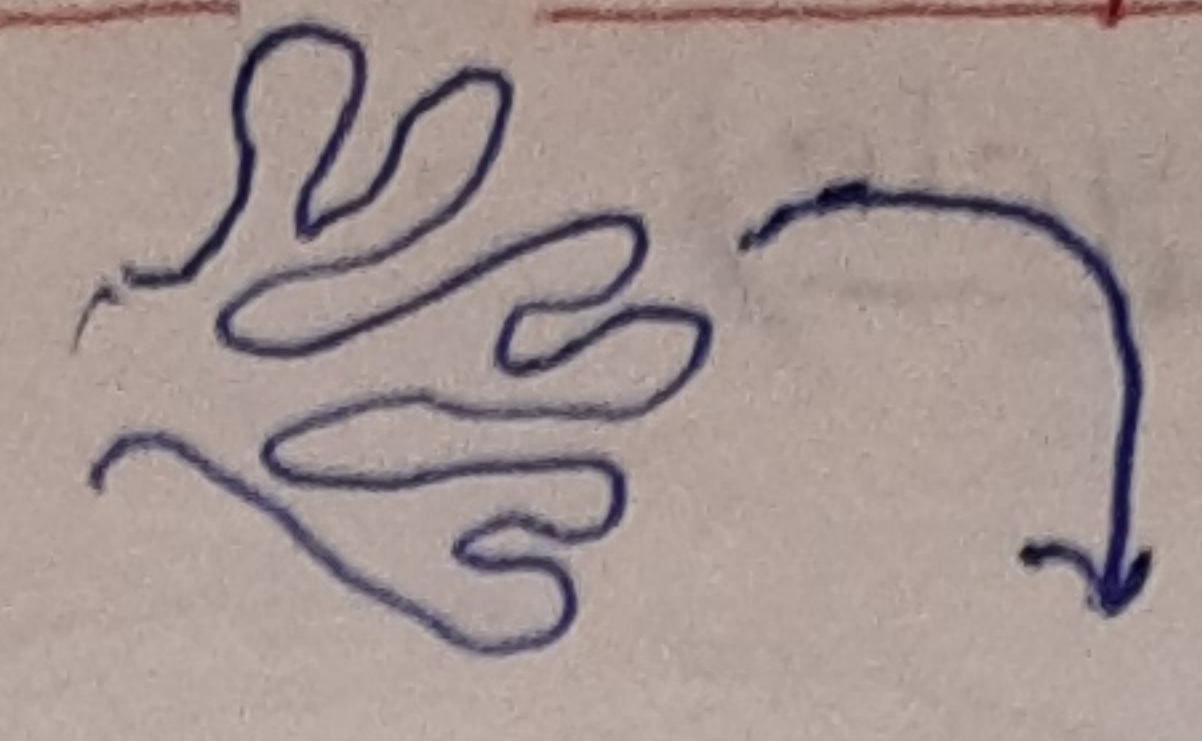
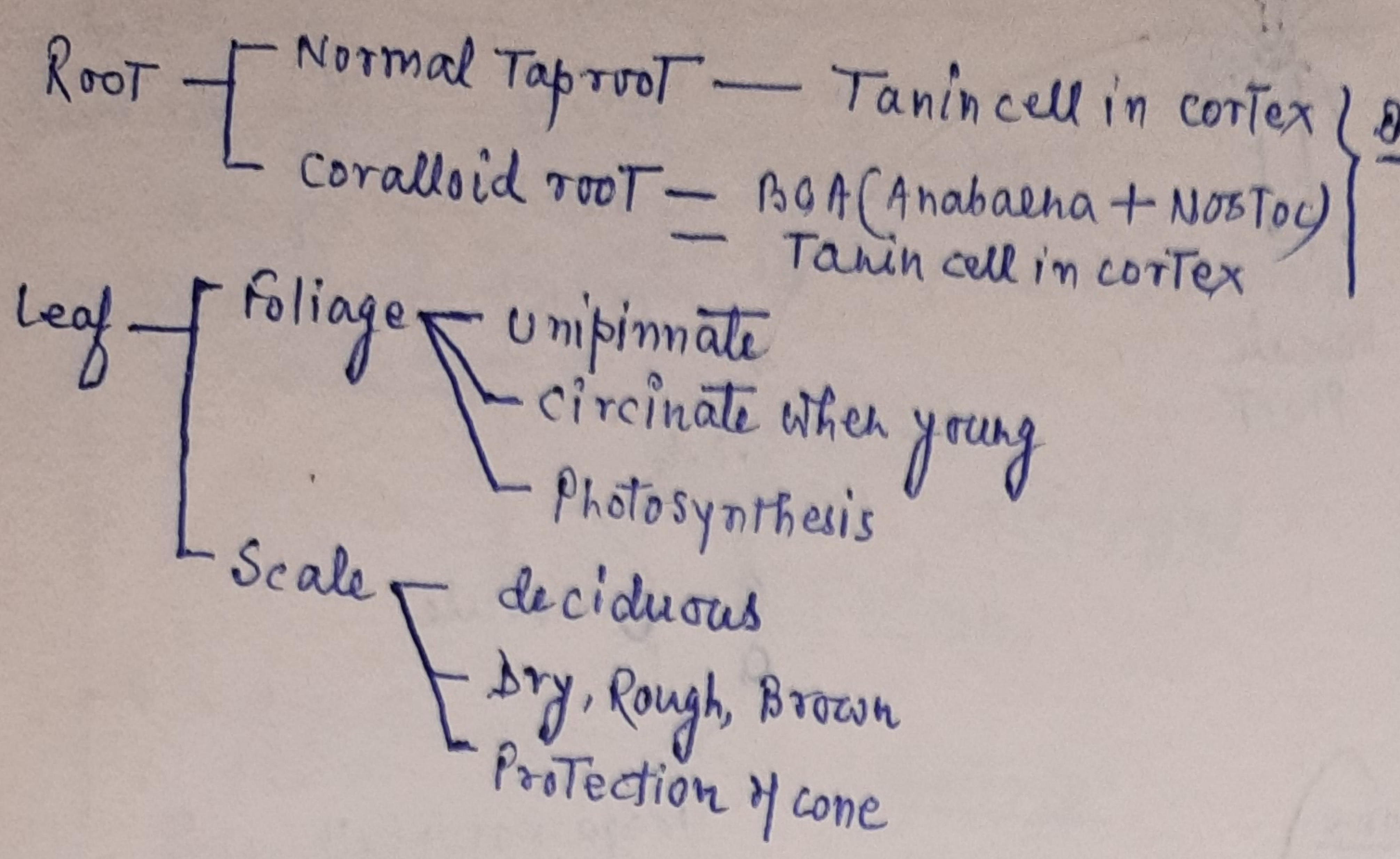


Salient features & Classification

Cycas



- Stem — cylindrical, unbranched  
 — leaf scar present  
 — Conjoint, collateral, open  
 — Sec Growth occurs.  
 — Mucilaginous duct in cortex

Leaf = Rachis + leaflet

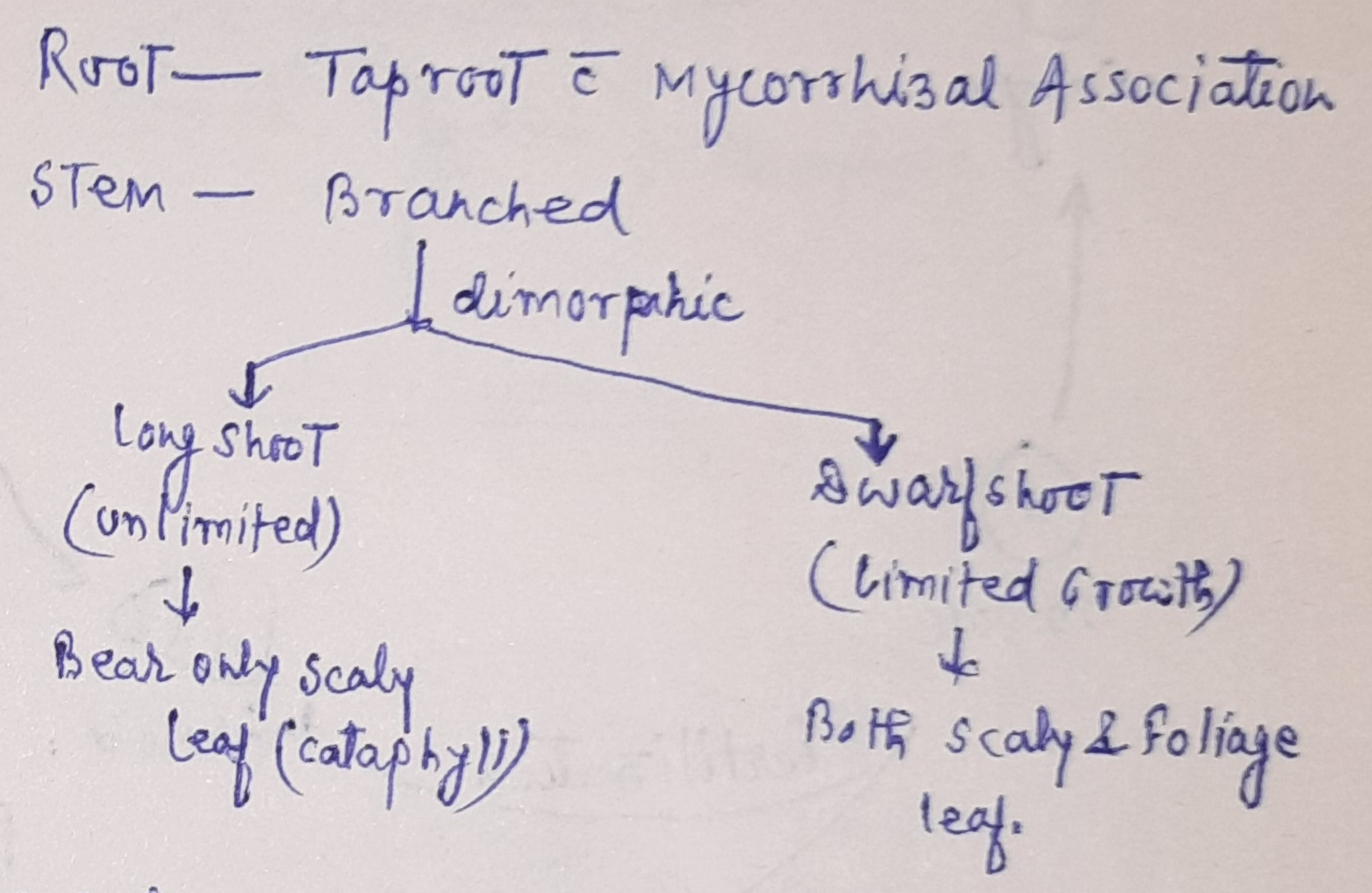
Rachis → V.B arranged in inverted omega shape  
 → Conjoint, collateral, open.

Leaflet — V.B. conjoint, collateral, open  
 — Transfusion Tissue present  
 → Horizontally arranged Tracheid  
 — + on both side of midrib  
 — Supply H<sub>2</sub>O + Mineral to mesophyll upto margin

Reproduction

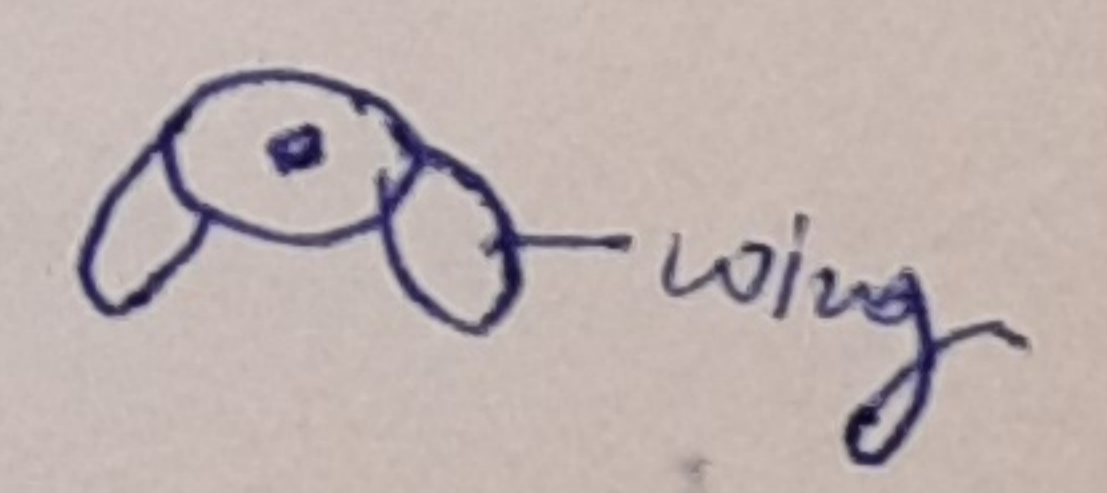
- Plant dioecious
- Pollination at 3-celled stage
- Largest
  - sperm
  - egg
  - ovule
 — orthotropous  
 — Pollination drop.
- Siphonogamy & zooidogamy fertilisation
- Embryo has two cotyledons
- Wood Manoxyletic = soft & loose due to more living Parenchyma

Pinus



- Resin ducts are present in cortex of stem
- Bars of Sario made of Pecto-cellulose are present between Pits on Tracheid wall

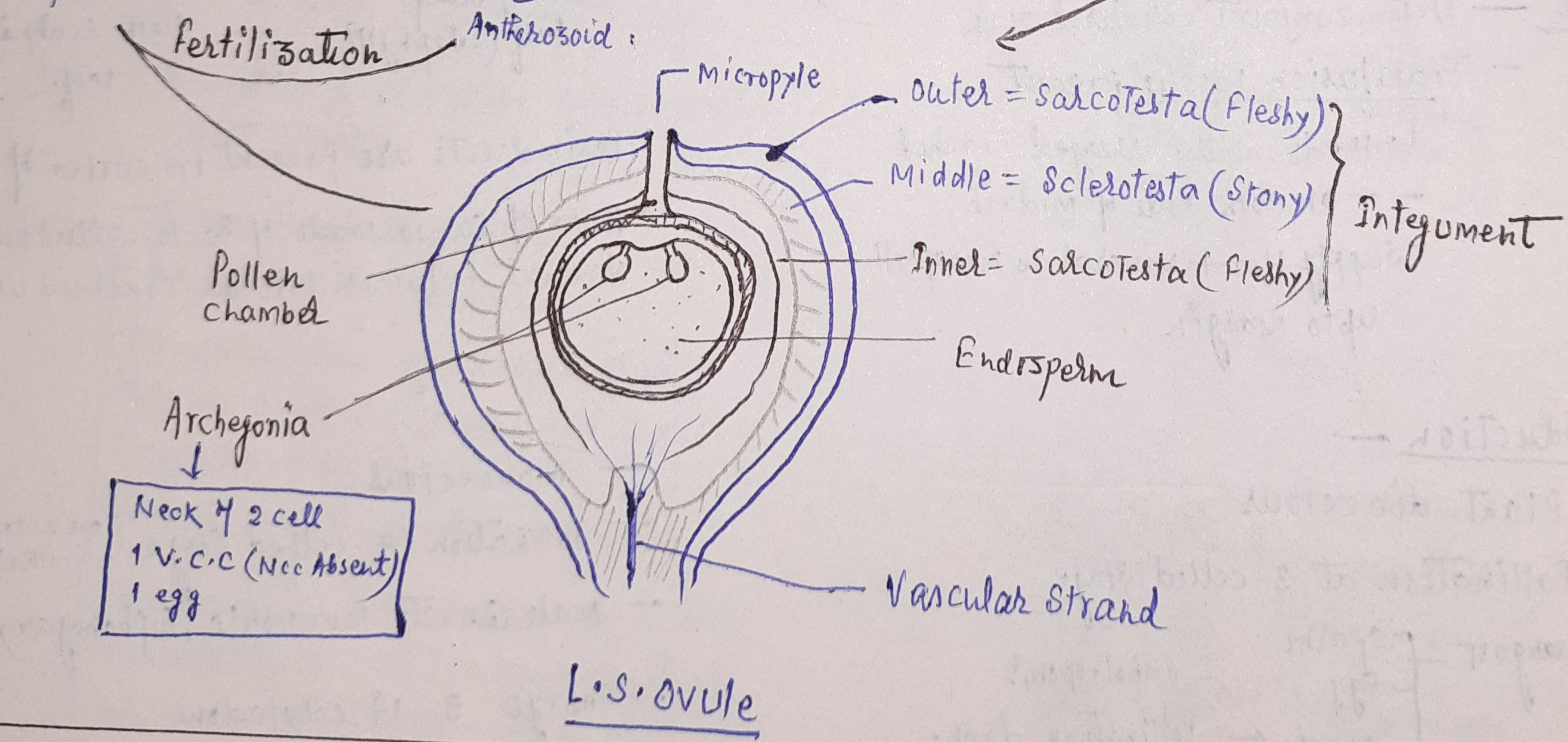
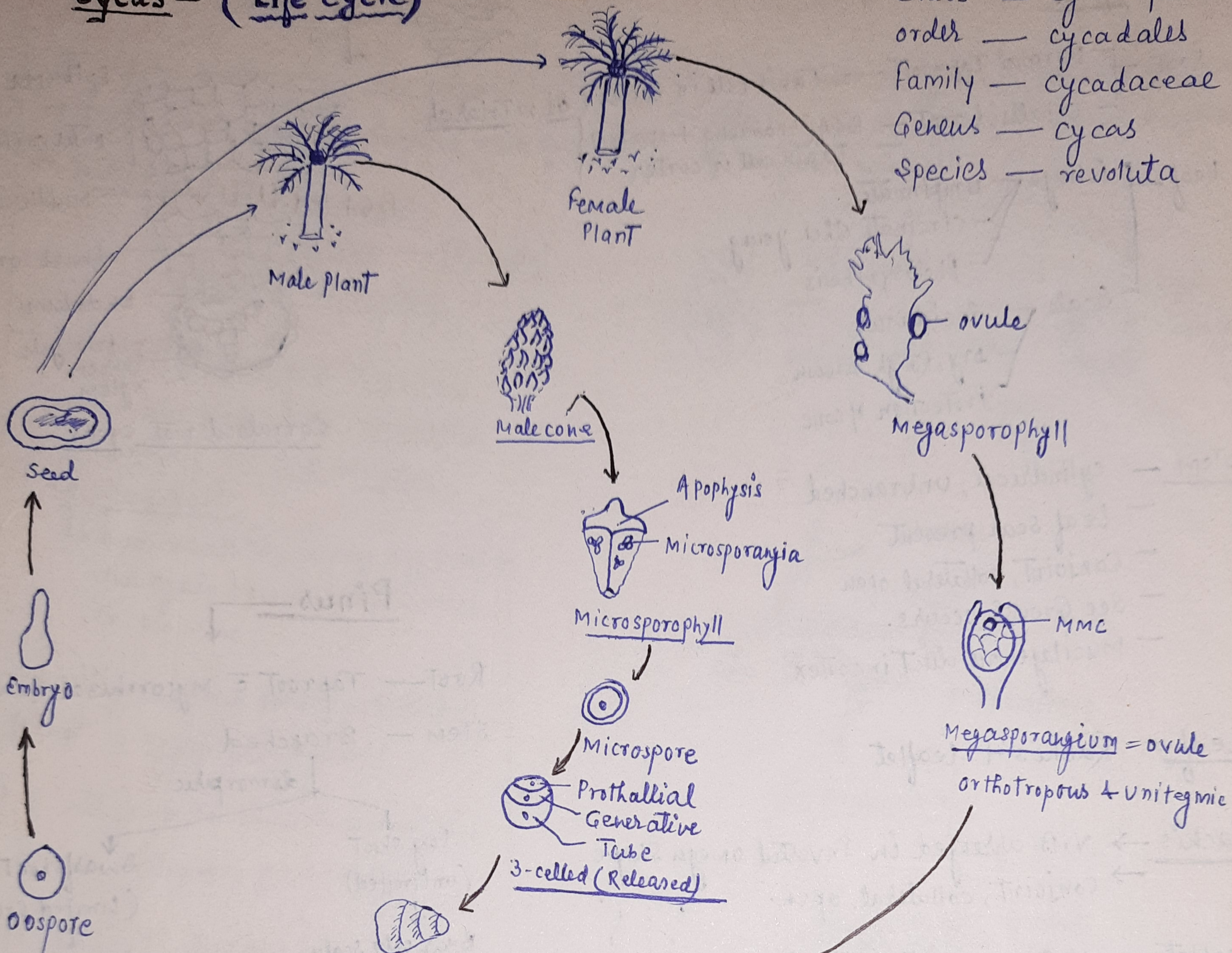
- Monoecious
- Pollination 4-celled stage (one extra 2nd Prothallial cell)
- Male Gamete non motile, Siphonogamy fertilisation
- Embryo 9-14 cotyledons
- wood → Pycnoxylic
- Winged (from exine) — Pollen grain (yellow colour)
  - ↳ S-shower
- ovule Anatropous, bitegmic
  - ↳ present on base of ovuliferous scale on dorsal surface, micropyle facing cone axis
  - ↳ Bract scale directly attac to the Cone axis situated below the ovuliferous scale. Help in seed dispersal.



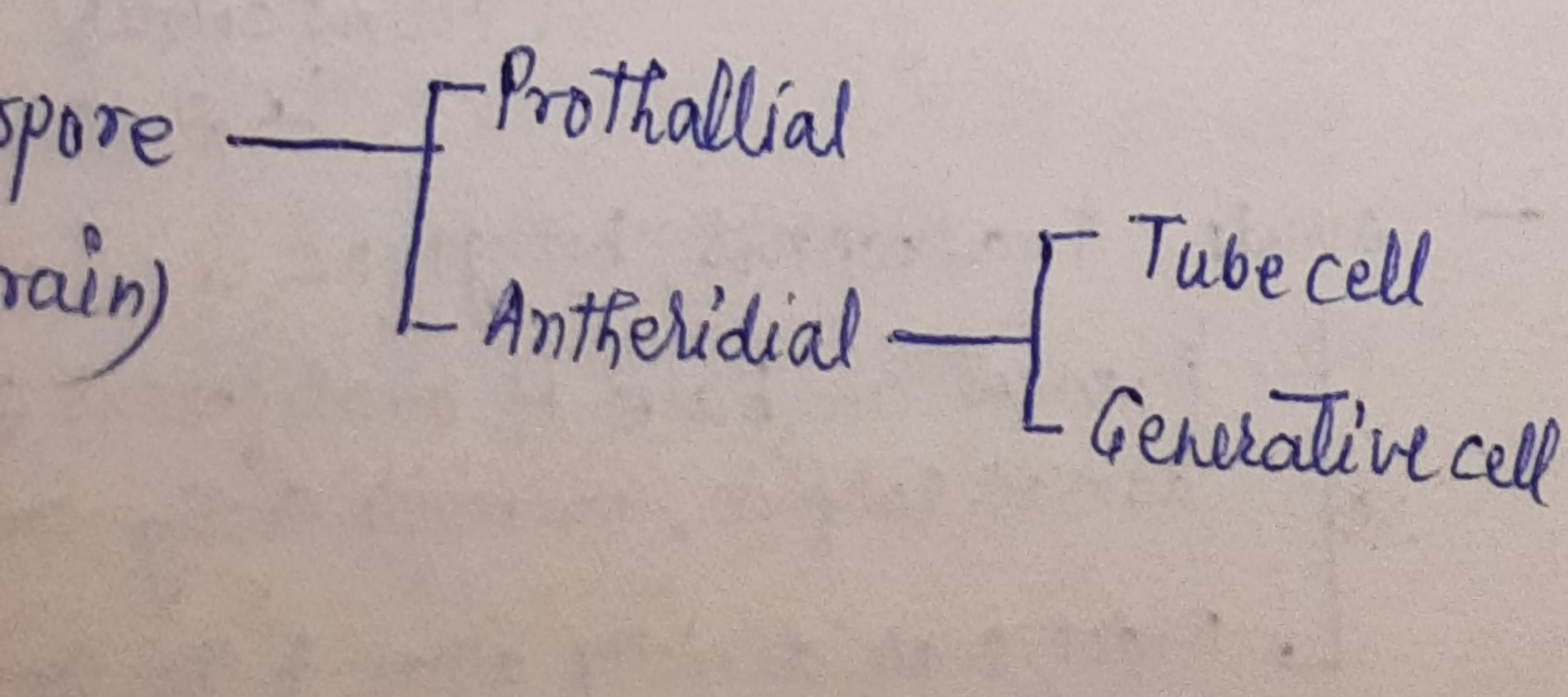
CLASSIFICATION →

Class — cycadopsida  
 order — cycadales  
 Family — cycadaceae  
 Genus — cycas  
 Species — revoluta

Cycas - (Life cycle)



Before Pollination



After Pollination

