

Selaginella →

Salient features & Classification

- Spike Moss / Little club moss
- Most sp are found in Tropical rain forest.

- Indian sp
 - S. Kraussiana
 - S. oregana → (Epiphyte)
 - S. pallidissima

- xerophytic sp or Resurrection plant
 - S. rupestris
 - S. lepidophylla
 - S. pilifera
- ↓ show
- Cespitose Habit
 - ↳ become ball like during dry season and again become Green & Fresh in Moisture.

- Mostly Evergreen perennial Herb. (except S. pygmaea = Annual)

- S. alligans is climber as contain Pad on rhizophore for climbing.

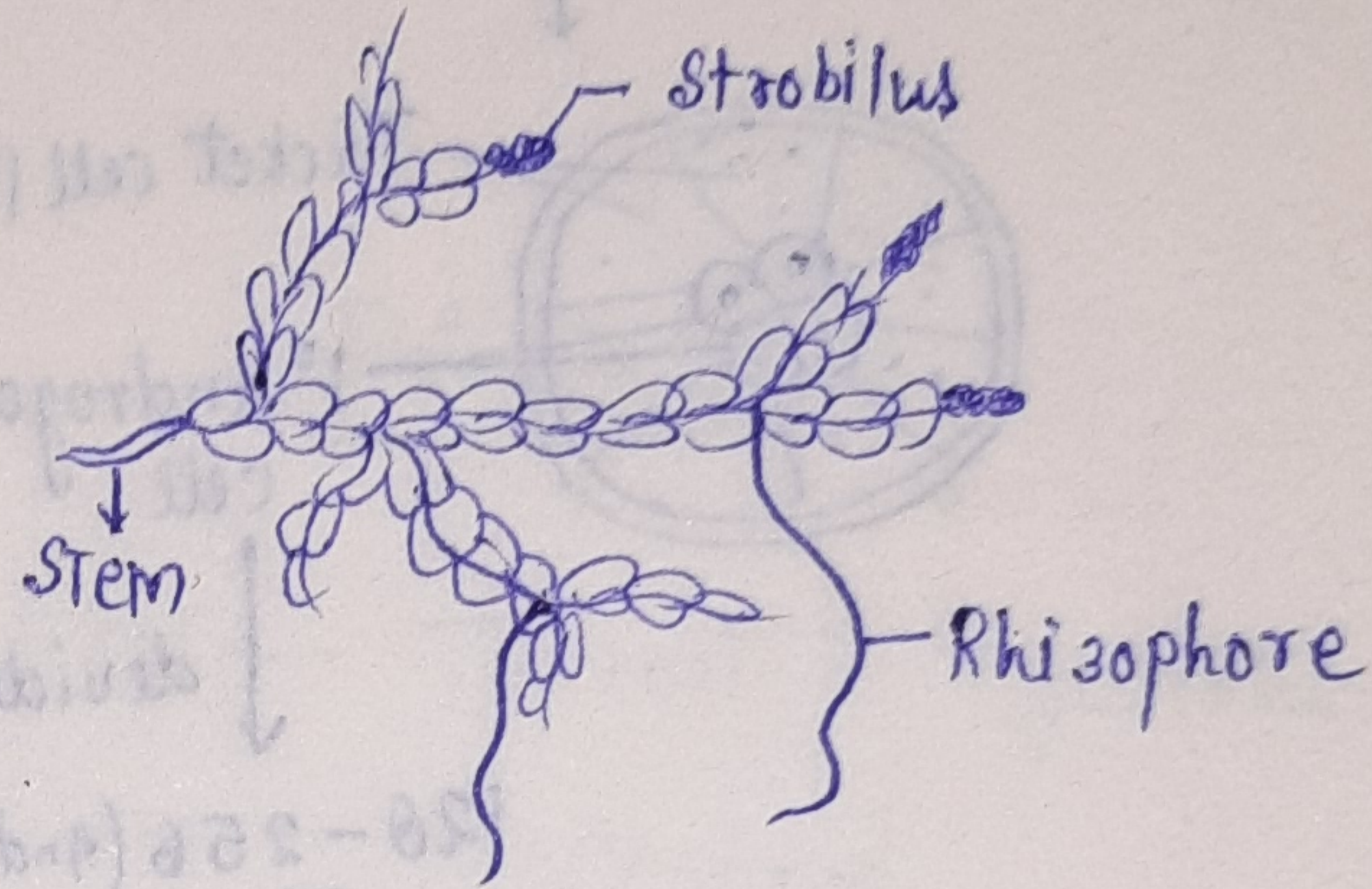
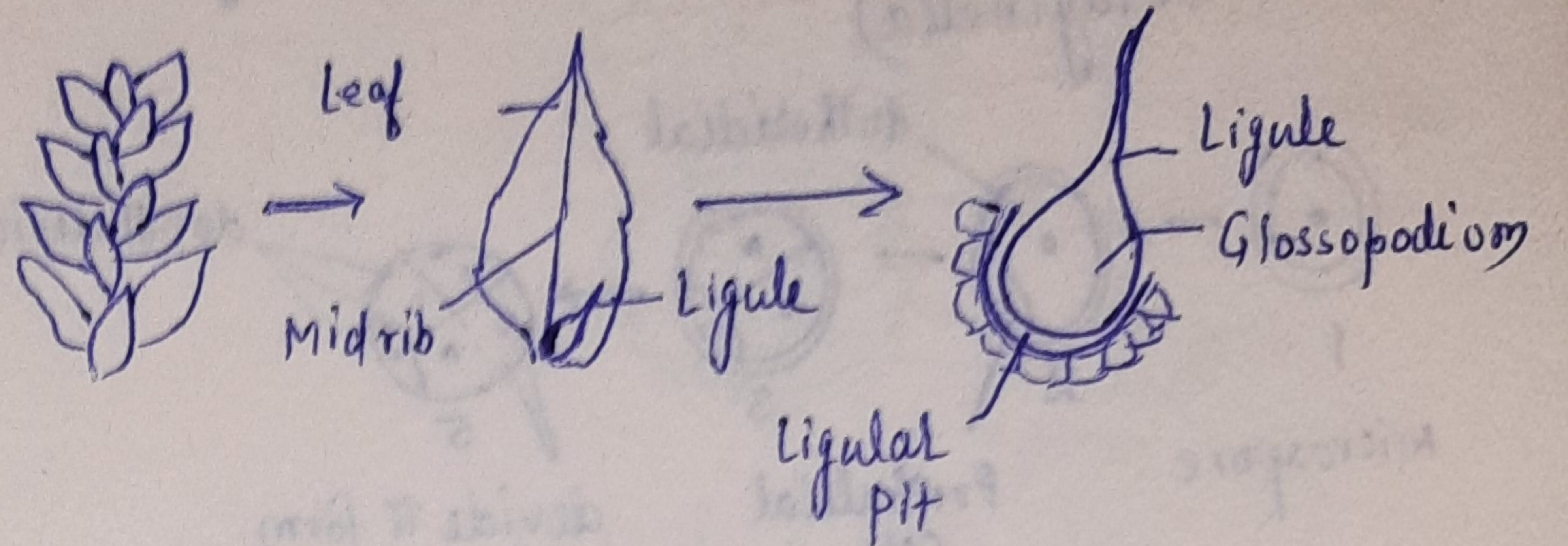
- Plant body is divided into 3-Part mainly

- (1) Root - Adventitious as 1^o roots are ephemeral (Short lived)

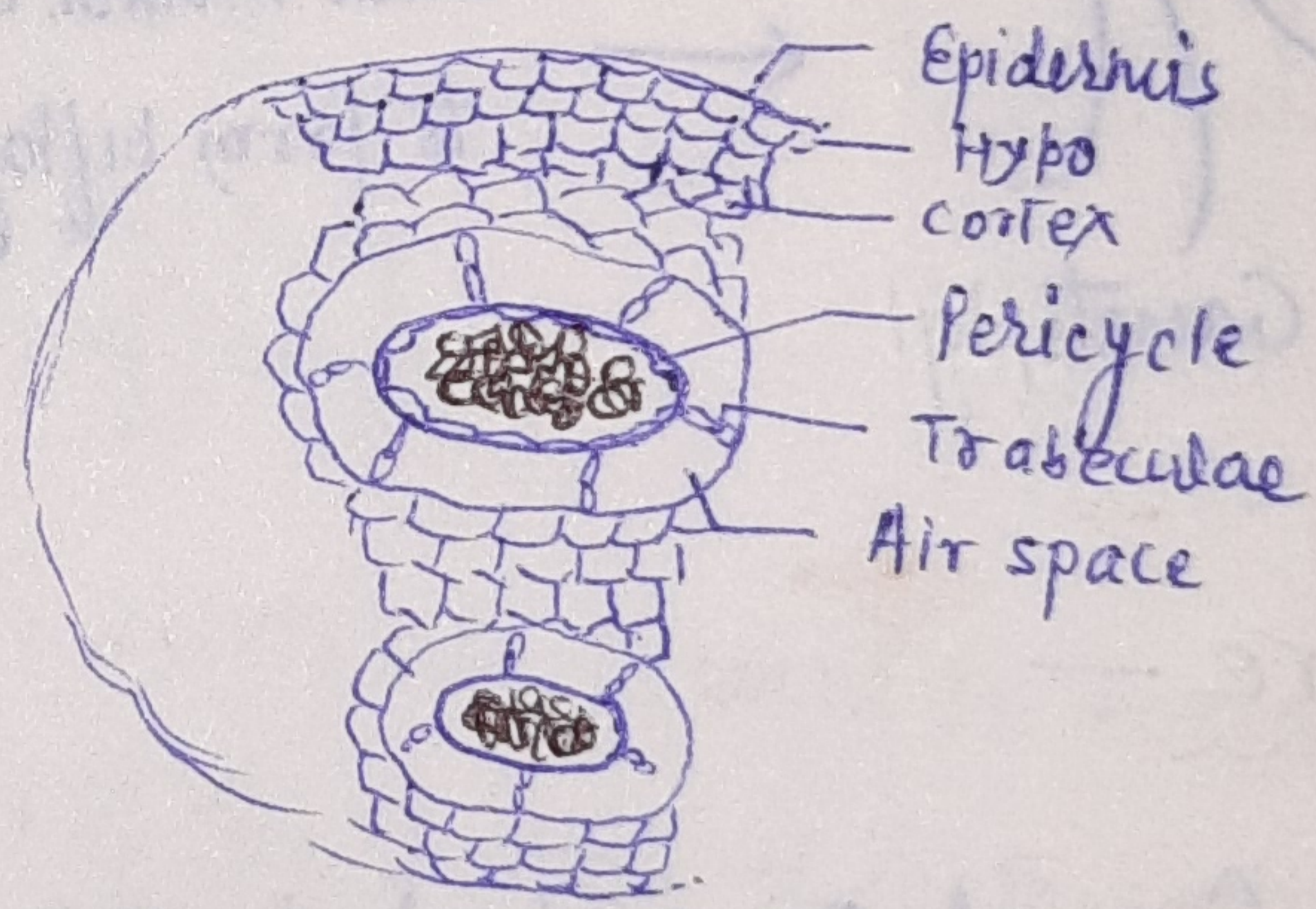
- (2) STEM
 - Green, Prostrate or erect
 - Dichotomously branched
 - Rhizophore arises from Branch point
 - They are colorless, Root cap & Hair absent
 - Exogenous, +vely Geotropic
 - Support, Help in Mineral + H₂O Absorption.
 - Trabeculate endodermis (Radially elongated) Endodermis present) contain Casparian Band on lateral wall. due to this Large air space present b/w cortex & V.B
 - Xerophytic sp Lack Trabeculae

- (3) Leaf
 - Microphyllous, sessile, simple
 - ovate to lanceolate
 - Ligule (Memb outgrowth) + at base of Adaxial (upper) surface of leaf in a ligular pit.

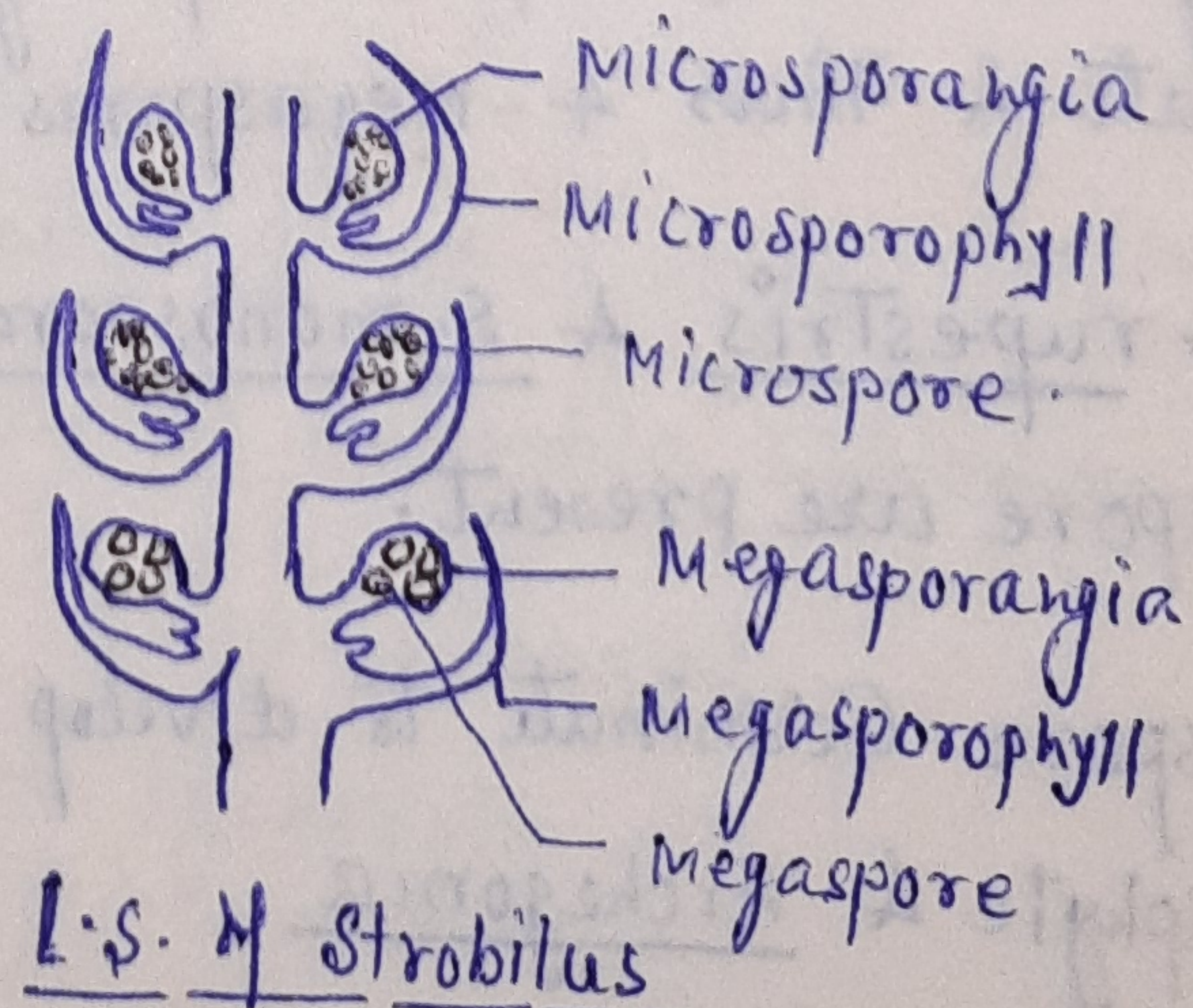
- ↳ Swollen base of Ligule is called → Glossopodium
- ↳ Help in water absorption & upward movement of Inorganic mineral.



S. Kraussiana



T.S. STEM



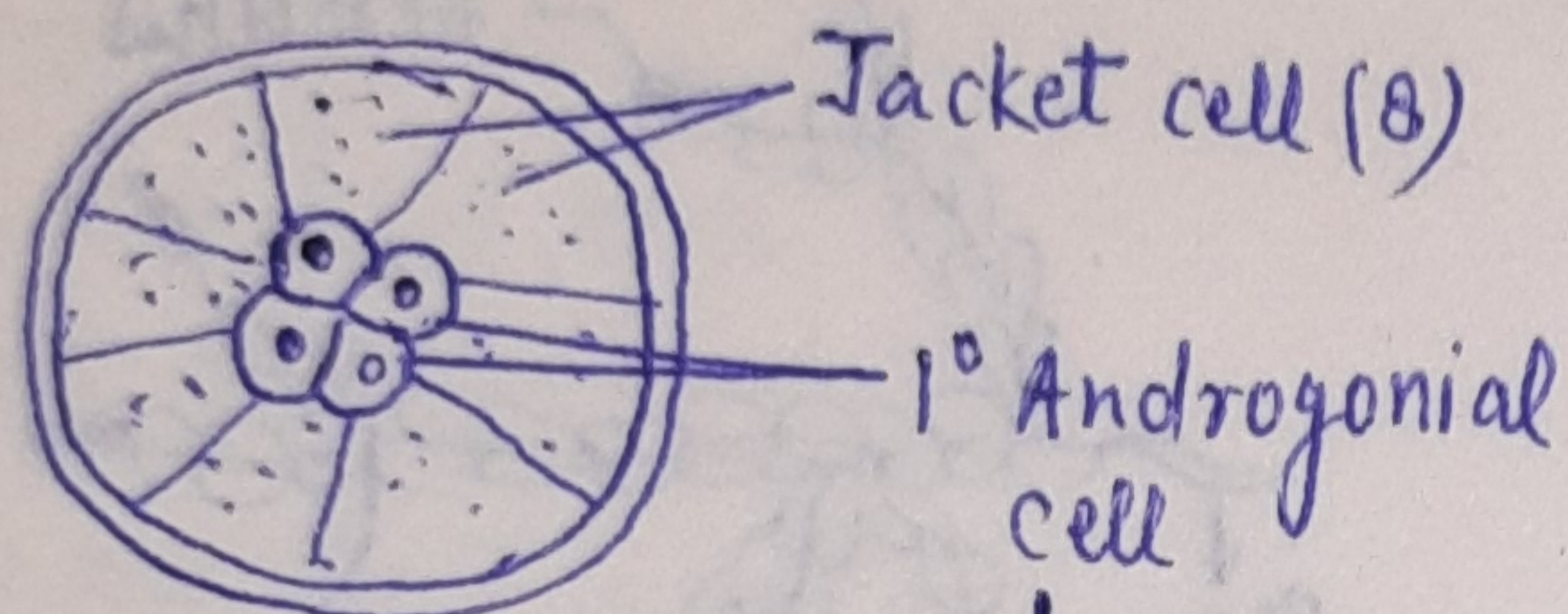
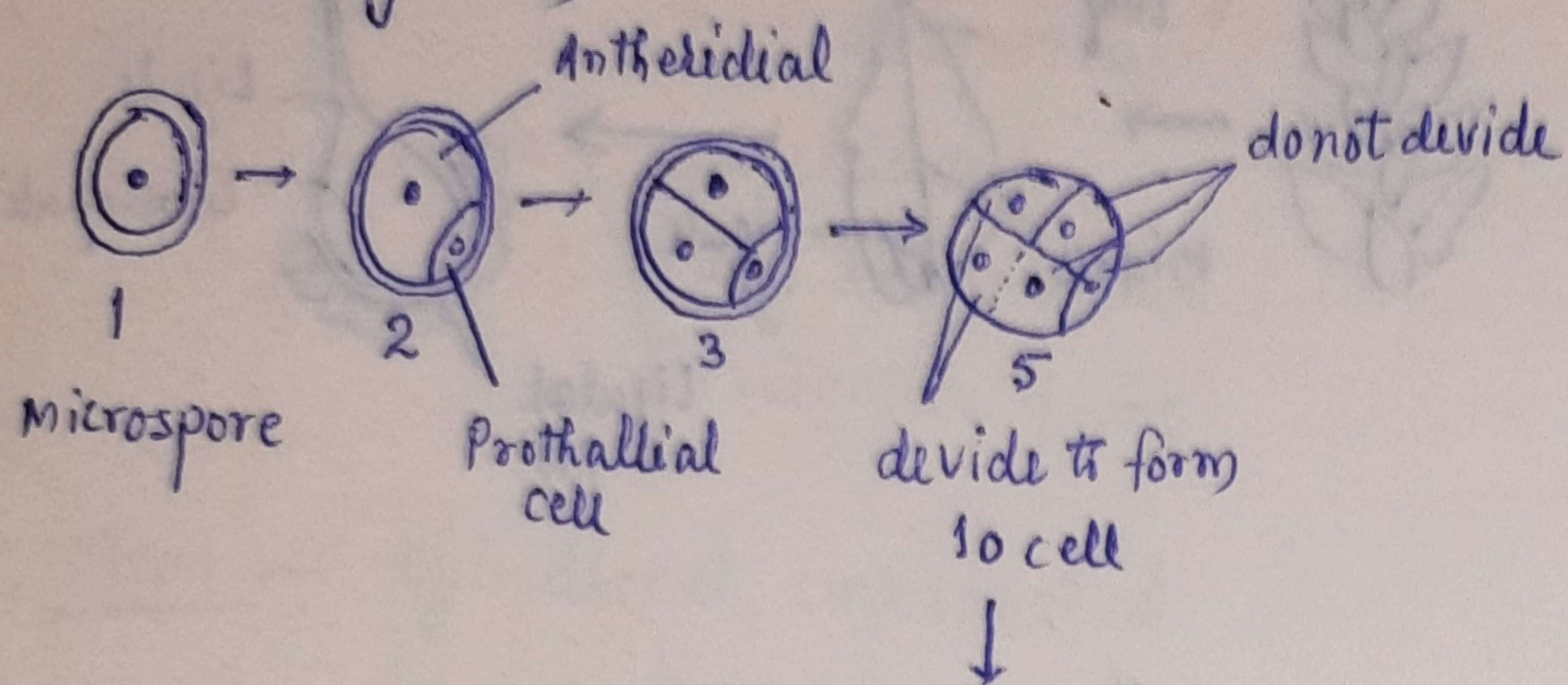
L.S. of Strobilus

Microspore —

→ Microspores are formed in Microsporangia
By Meiosis of Microspore Mother cells.

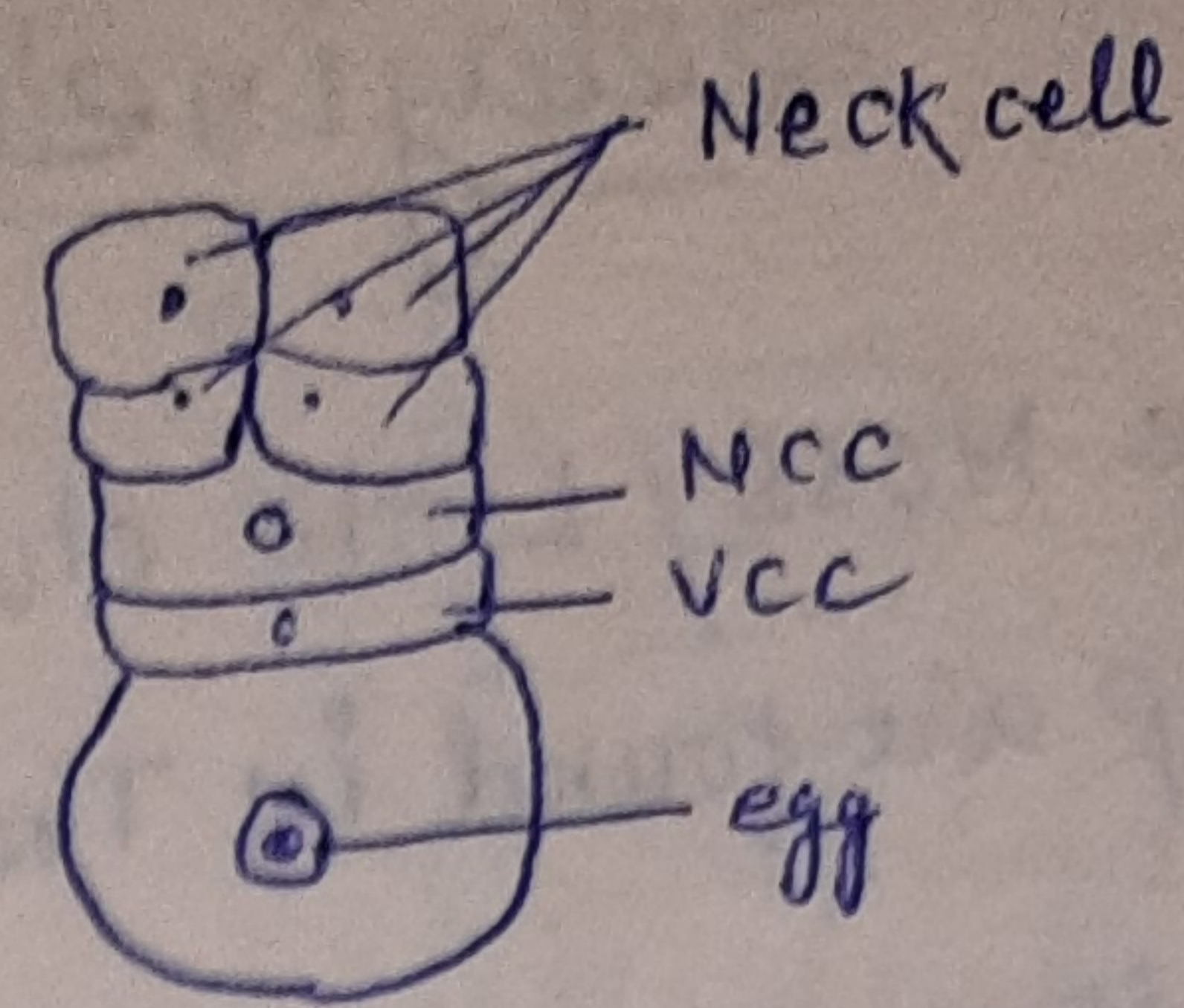
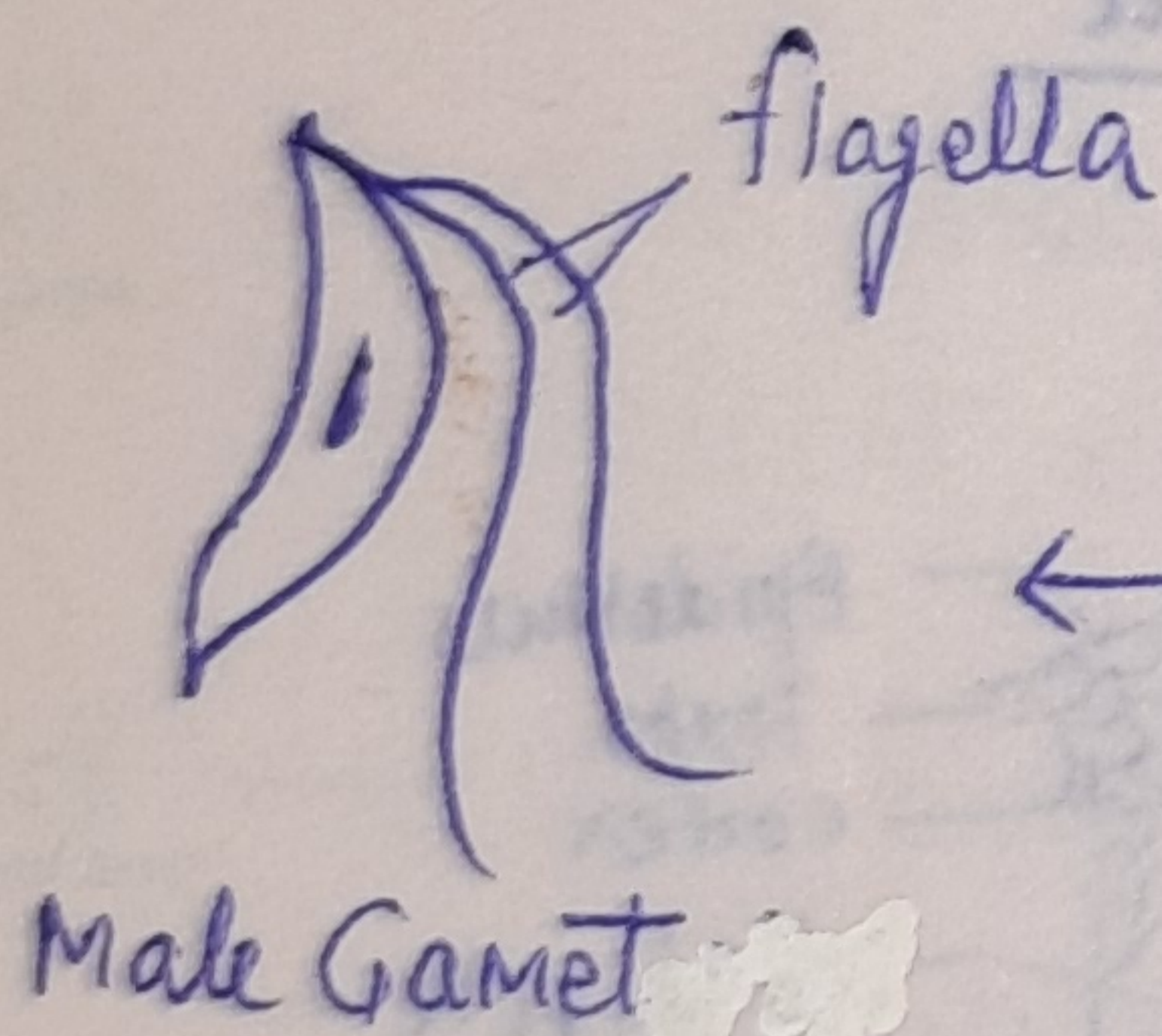
→ Microspore Released in 13-celled stage.
i.e. (P, A₁₂ = 1 Prothallial + 12 Antheridial cell)

(Unlike other Pterido No prothallus is formed
in Selaginella)



↓ divide
128-256 (Androcyte)
or
Antherozoid Mother cell

Each Mother cell Metamorphose
to form biflagellated Antherozoids



Archegonia

Fertilization —

- Water is essential
- Chemotaxis movement of Antherozoids
- Zygote (2n) is formed
- Embryo containing 2 cotyledon develops
- New Plant develops

Vegetative Reproduction —

In Selaginella Take place By —

- (1) Fragmentation
- (2) Tuber
- (3) Bulbils
- (4) Dormant Bud.

Megaspore —

— They are formed By Meiosis in Megasporangia
By Megaspore Mother cell.

— Generally all cell (except one sporocyte = MMC)
degenerate & Thus 4-megaspores are formed.

→ In S. rupestris & S. monospora only one
Megaspore are present.

→ Megaspore Germinate to develop Female
Gametophyte & Archegonia

→ Archegonia has Neck containing 8 cell
in two Tier, 1NCC, 1VCC and 1egg

CLASSIFICATION —

Kingdom	Plantae
Division	Lycopodiophyta
Class	Lycopodiopsida
Order	Selaginellales
Family	Selaginellaceae
Genus	<u>Selaginella</u>
Species	<u>selaginoides</u>