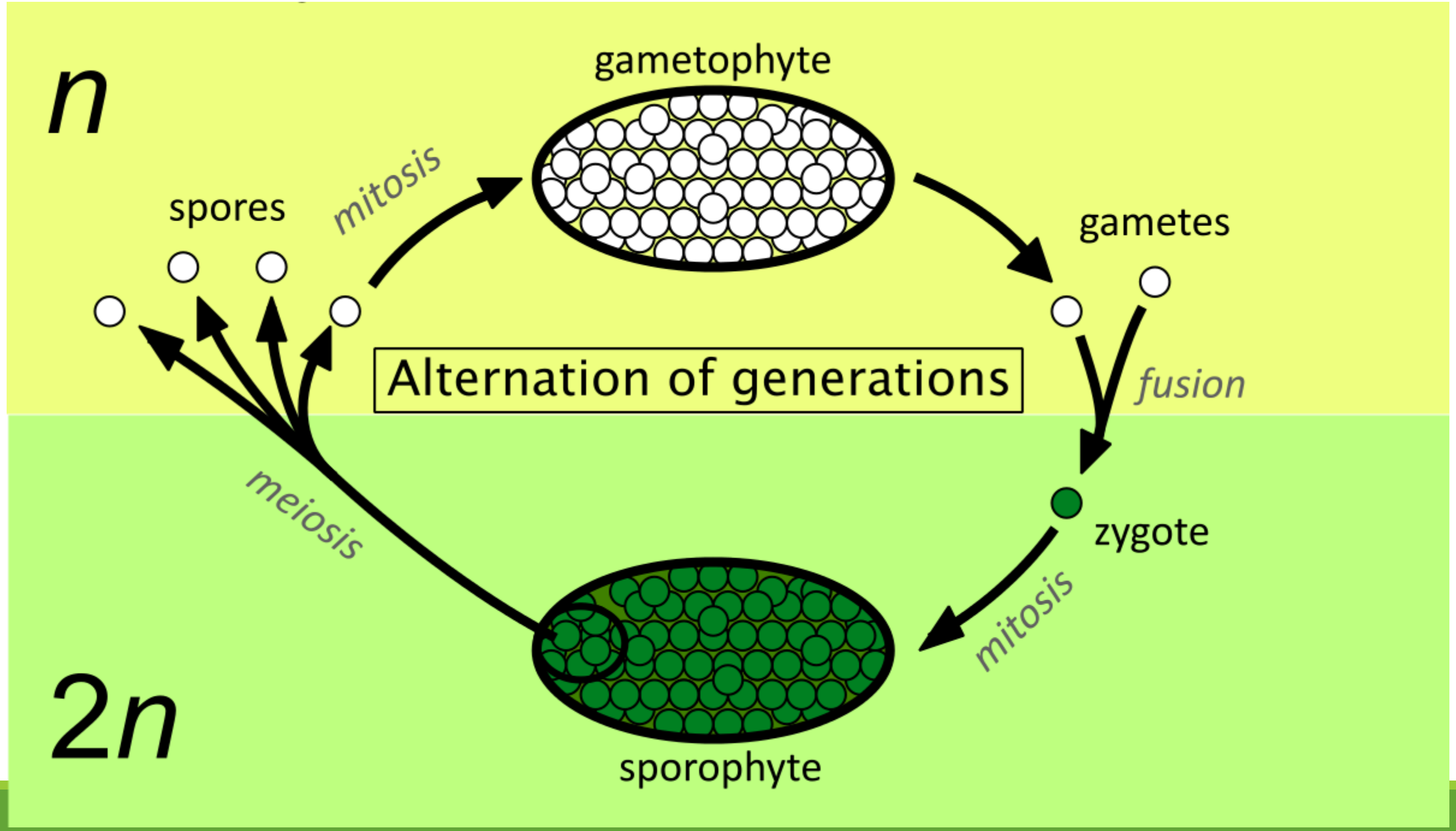
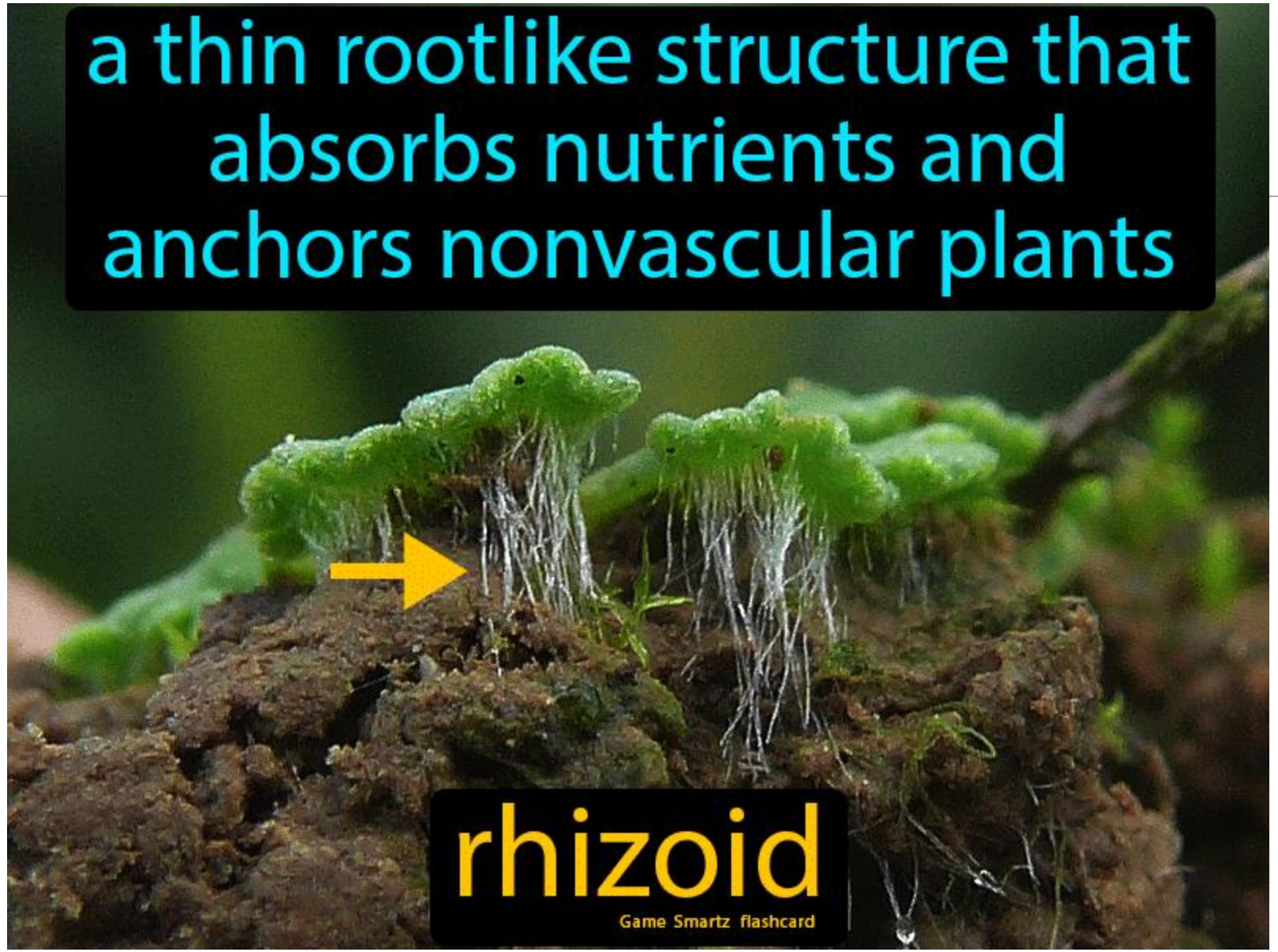
Bryology

-ARCHANA ER

General Characters

- Amphibians of Plant Kingdom
- Intermediate between algae and pteridophytes
- Moist places
- Aquatic : Riccia fliutans, R. natans


n
gametophyte
spores
mitosis
gametes
Alternation of generations
fusion
meiosis
zygote
mitosis
2n
sporophyte


a thin rootlike structure that absorbs nutrients and anchors nonvascular plants
rhizoid
Game Smartz flashcard

Gen. char. (Continued)

- Presence of Scales
- PARENCHYMA ONLY (NO Vascular tissue)
- Vegetative & Sexual Reproduction
- Male Anthredia, Female Archegonia
- Lower members: Sporophyte dependent on Gametophyte
- Advanced forms: Independent Sporophytes
- Spores produced in Capsule – Non-Motile and disseminated by wind

Apogamy & Apospory

- **APOGAMY: Sporophyte develops from Gametophyte without gametic fusion (Eg. Funaria hygrometrica)**

- **APOSPORY: Gametophytes develops into sporophyte from the vegetative cells and not spores (DIPLOID GAMETOPHYTES OBTAINED)- Eg. Anthoceros**

Classification

Class I: Hepatocopsida (Liverworts)

Class II: Anthocerotopsida (Hornworts)

Class III: Bryopsida (Mosses)

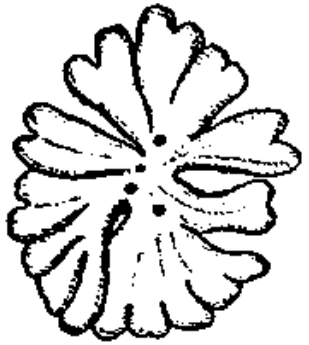
Class I: Hepatocopsida (Liverworts)

Class II: Anthocerotopsida (Hornworts)

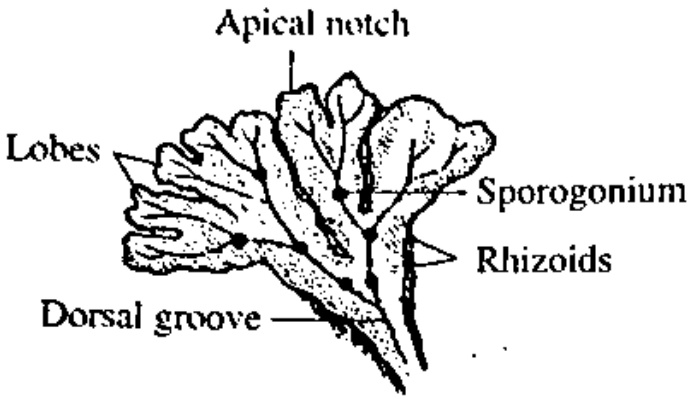
Class III: Bryopsida (Mosses)

RICCIA

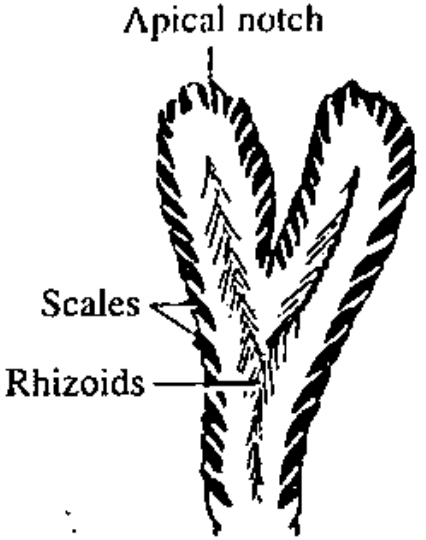
- Class: Hepatocopsida
- Order: Marchantiales
- Family: Ricciaceae



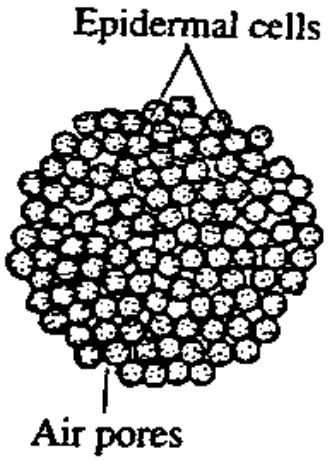
Rosette habit



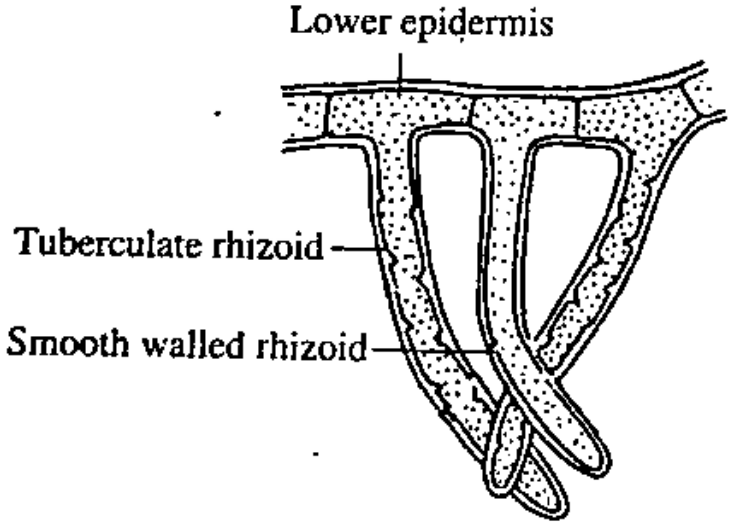
Dorsal surface



Ventral surface

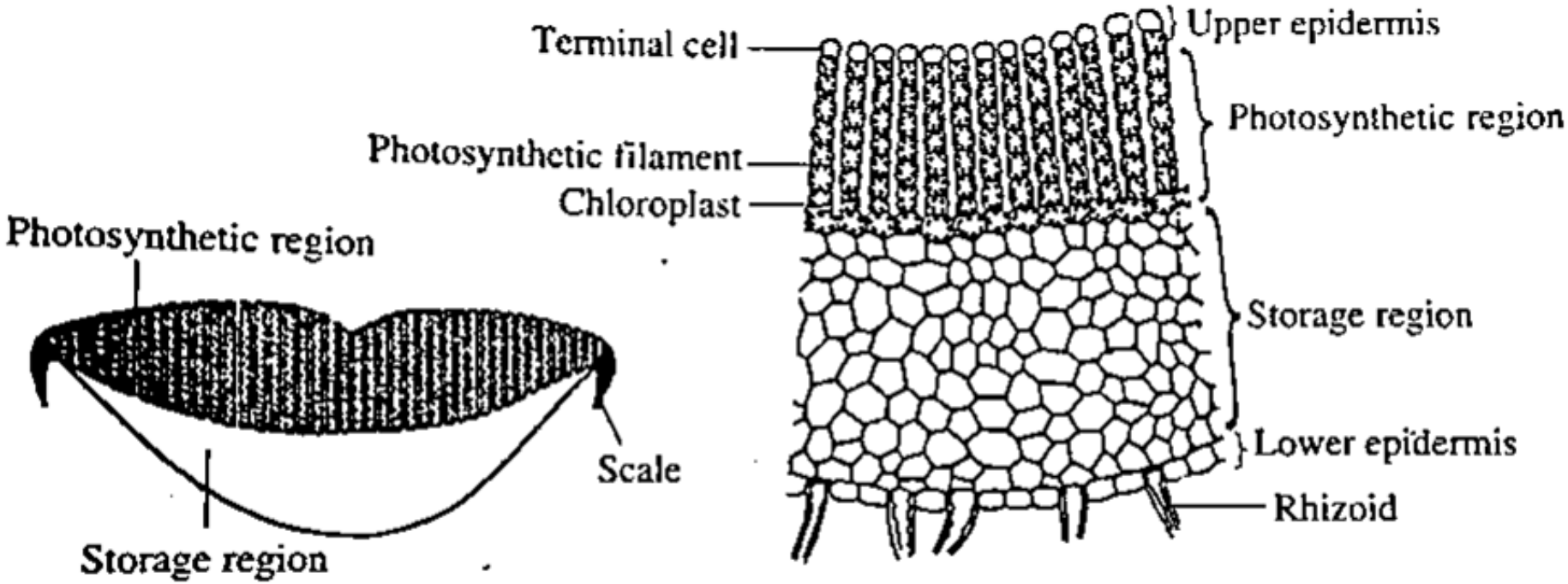


Dorsal surface of thallus - surface view



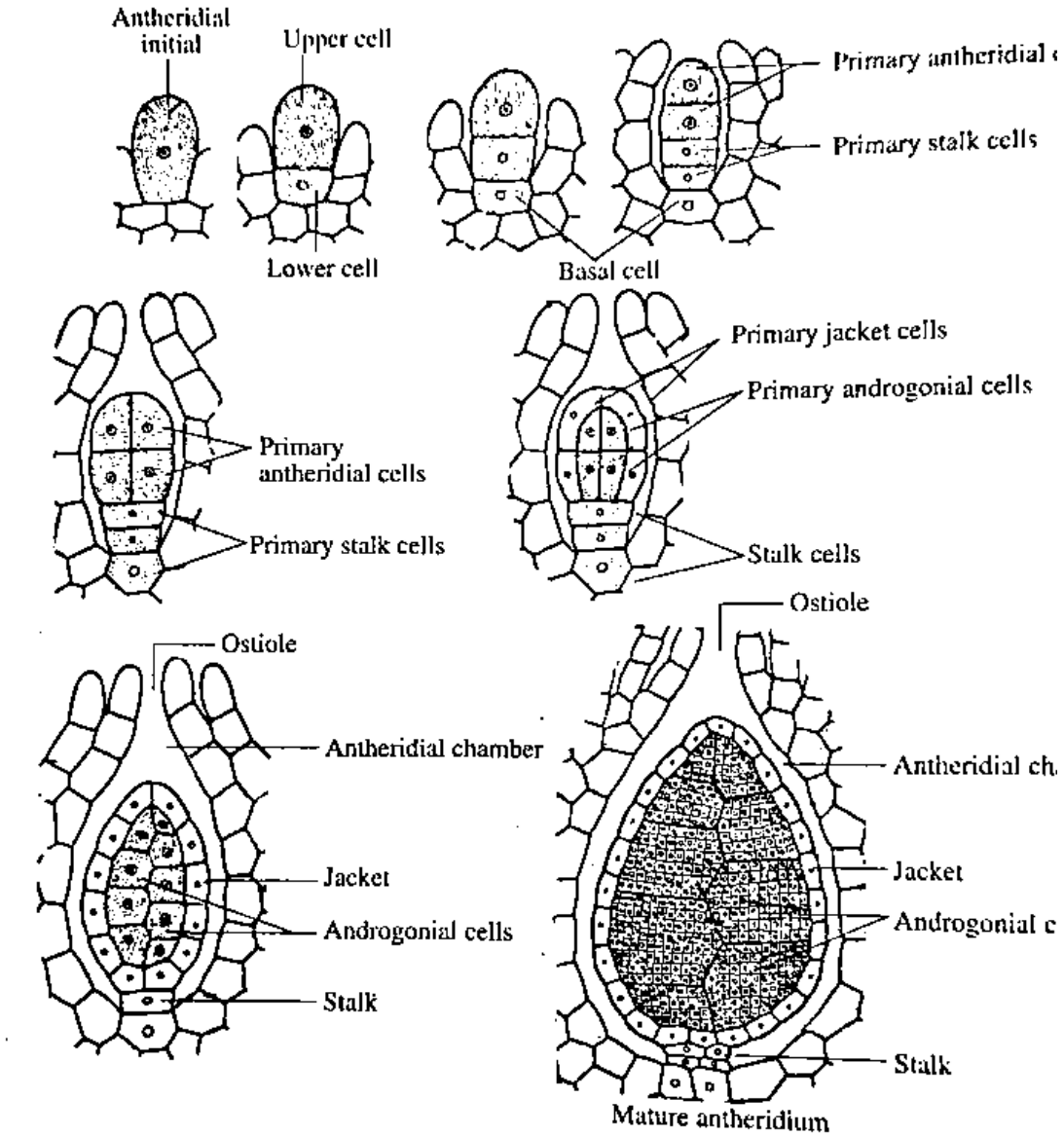
Scale

Smooth-walled and tuberculate rhizoids

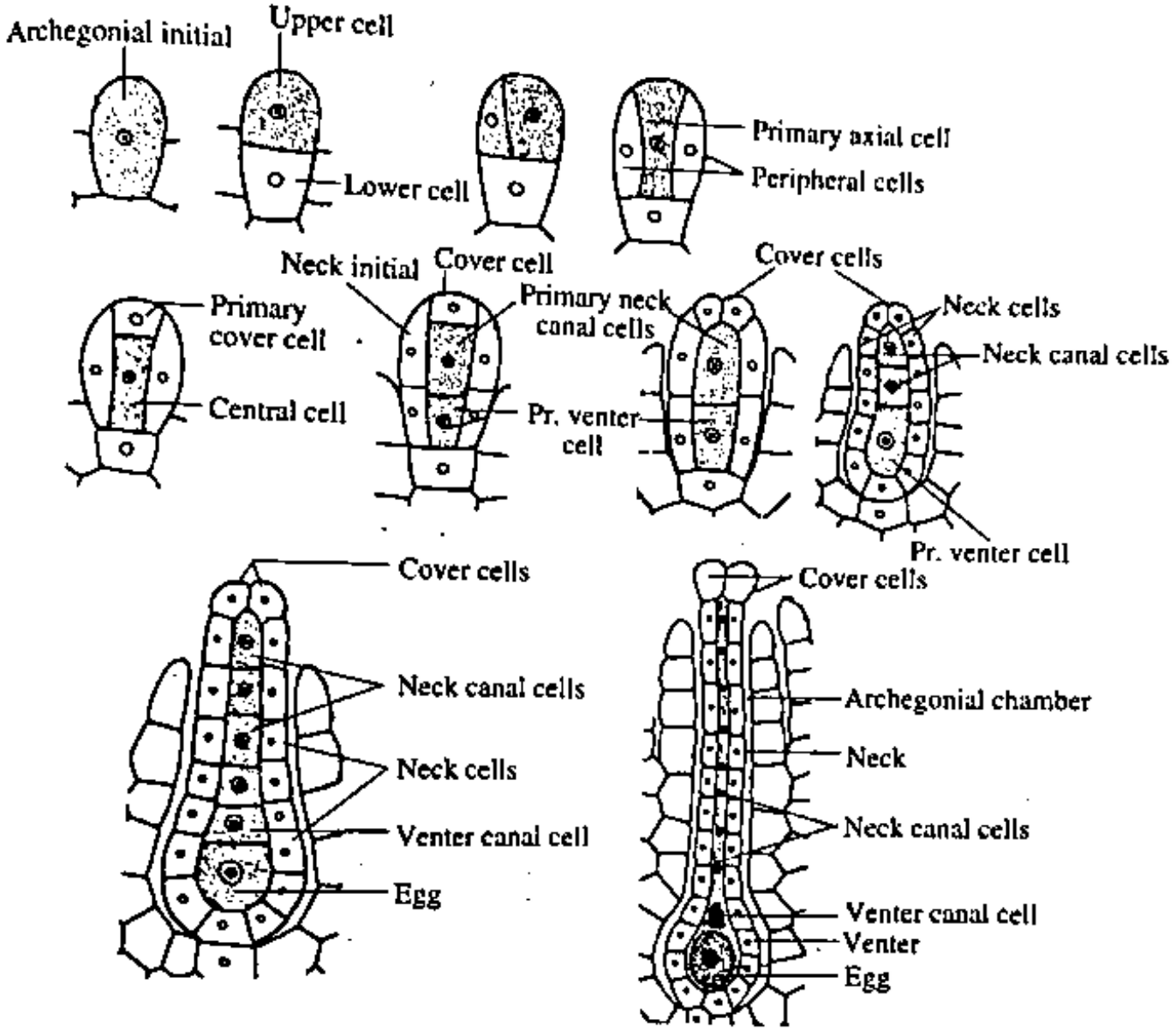


V.S. of thallus (diagrammatic) **V.S. of thallus showing cellular details**

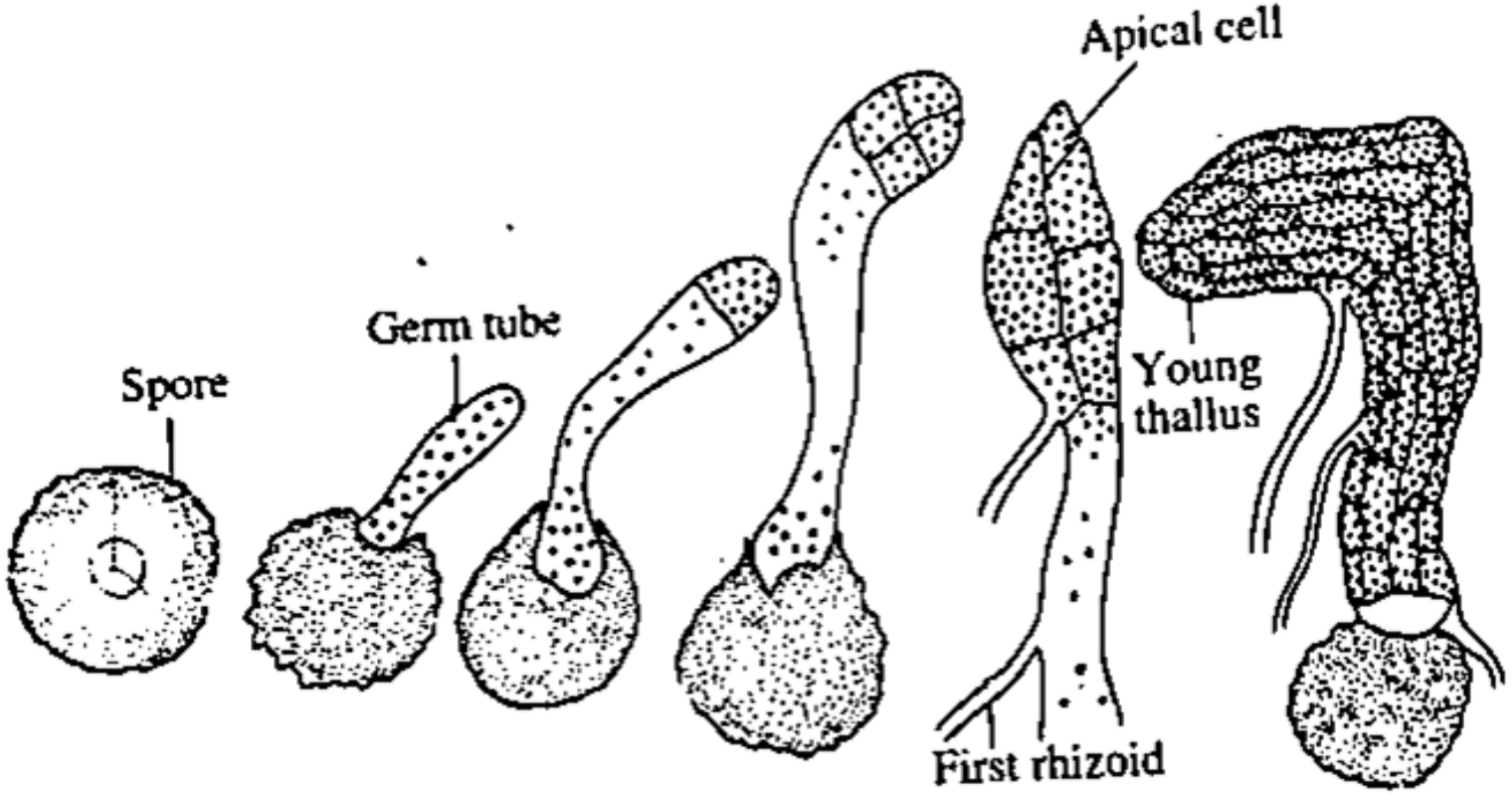
***Riccia* : Thallus**



***Riccia* : Development of antheridium**



***Riccia* : Development of archegonium**



***Riccia* : Successive stages in the germination of spore**

Economic Importance of Bryophytes

- **Ecological Succession of rocks**
- **Bog succession**
- **Soil formation**
- **Soil conservation**
- **Pollution Indicators**
- **Direct Uses:**
  - Peat used as fuel
  - Peat to alcohol
  - Paper, fabrics, artificial wood
  - Sphagnum – Horticulture
  - Production of acetic acid, methanol, paraffin, naphtha etc

- Medicinal purposes – Cite examples
- Experimental Botany
- Packing material
- Uses as absorbent bandages

Thank You!