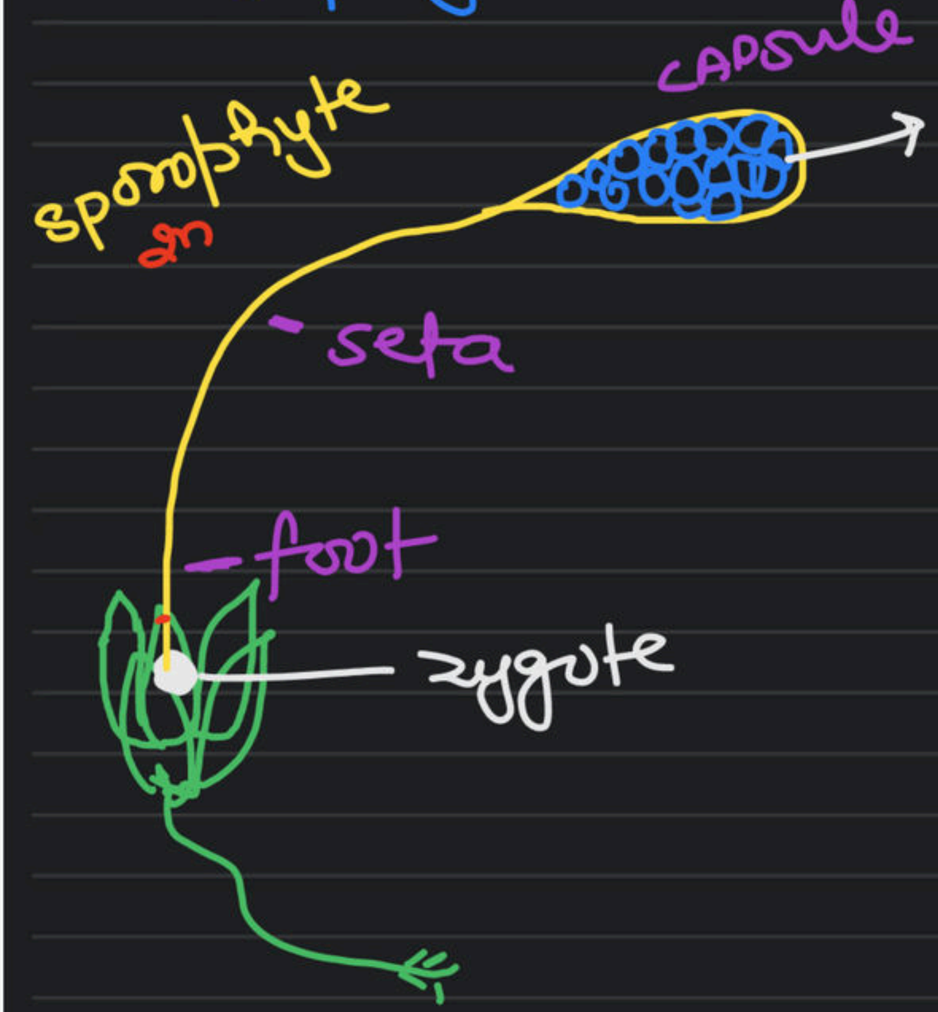
Plant Kingdom - IX

Nurture Course on Plant Kingdom

Sandeep nodiyal • Lesson 8 • Sept 18, 2021

* **Bryophytes**



spore Mother cell (2n)

Meiosis

Produce - same type of spore

Homosporous

(n) → AIR-

↓

suitable medium

Germinate

→ Direct germination

→ Indirect Germination

sporophyte

* Diploid.
* dependend on gametophyte for Nutrition
* non-photosynthetic
* produce spore

* It produce spore by performing Sporic Meiosis

spore germination

DIRECT - Germination

↓

Liverworts

↓

spore - germinate

↓

Gametophyte

Indirect germination

↓

MOSSES.

↓

spore germination

↓

Juvenile stage - PROTONEMA

↓ dev.

Gametophyte

Vegetative Repr ⟶ fragmentation. Budding
Gammae

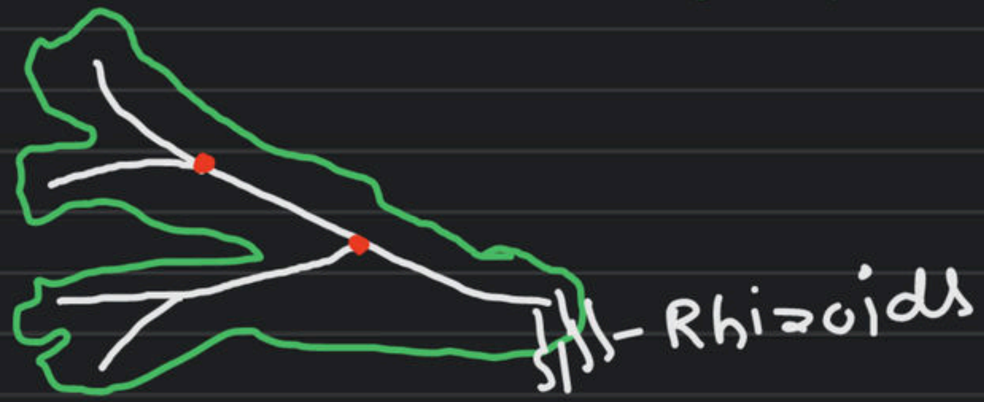
Bryophytes

3- classes

1. Hepatocopsida - member - Liverwort
2. Anthocerospsida - Hornwort
3. Bryopsida / Musci - Mosses

class- Hepatocopsida - Liverwort

1. Moist, shady, deep inside wood . damp soil.
2. Member · Thalloid - Marchantia
   Closely Appressed to substrate, Dorsiventrally

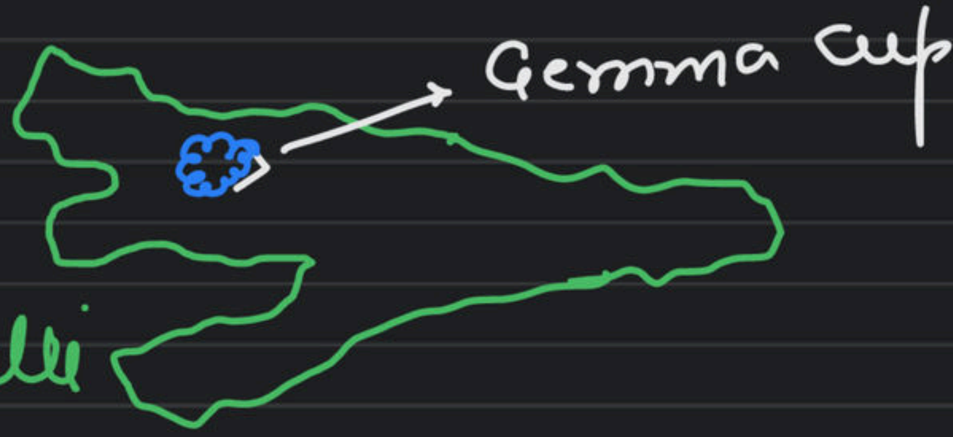


(Stem) Leaf Like Appendage - Eg Porella
arranged Spirally on axis

3. Liverwort are Dichotomously Branched
(Growing tip divided into two parts)

4. Asexual Reproduction - fragmentation
& also by Gammae

Green, Multicellular
Bud (Immature Shoot)
↓
detached ⟶ form 2 thalli



5. Rhizoids - Unicellular, Unbranched

6. Both sex-organ on same thalli - Riccia (Monoecious)

diff thalli - Marchantia (Dioecious)

7. Sex-organs are present over a stalk

8. Male - Antherozoid + Egg → zygote

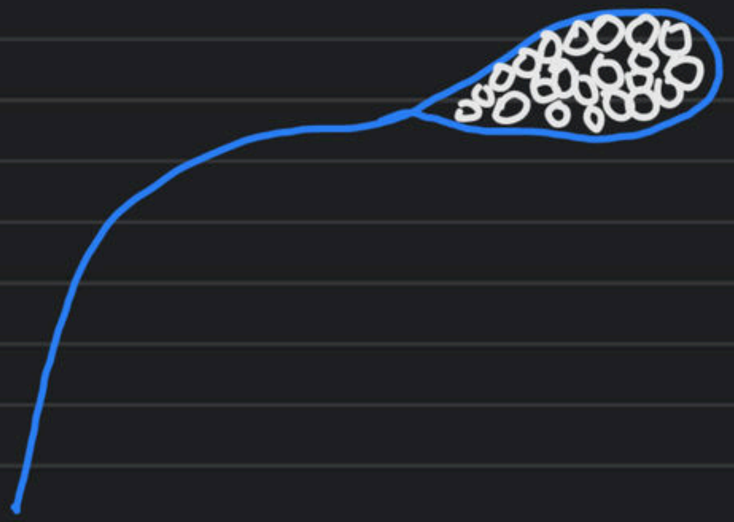
↓ mitosis

Embryo

↓

Sporophyte

(Riccia only CAPSULE)



In Liverwort . Elaters are present for spore dispersal

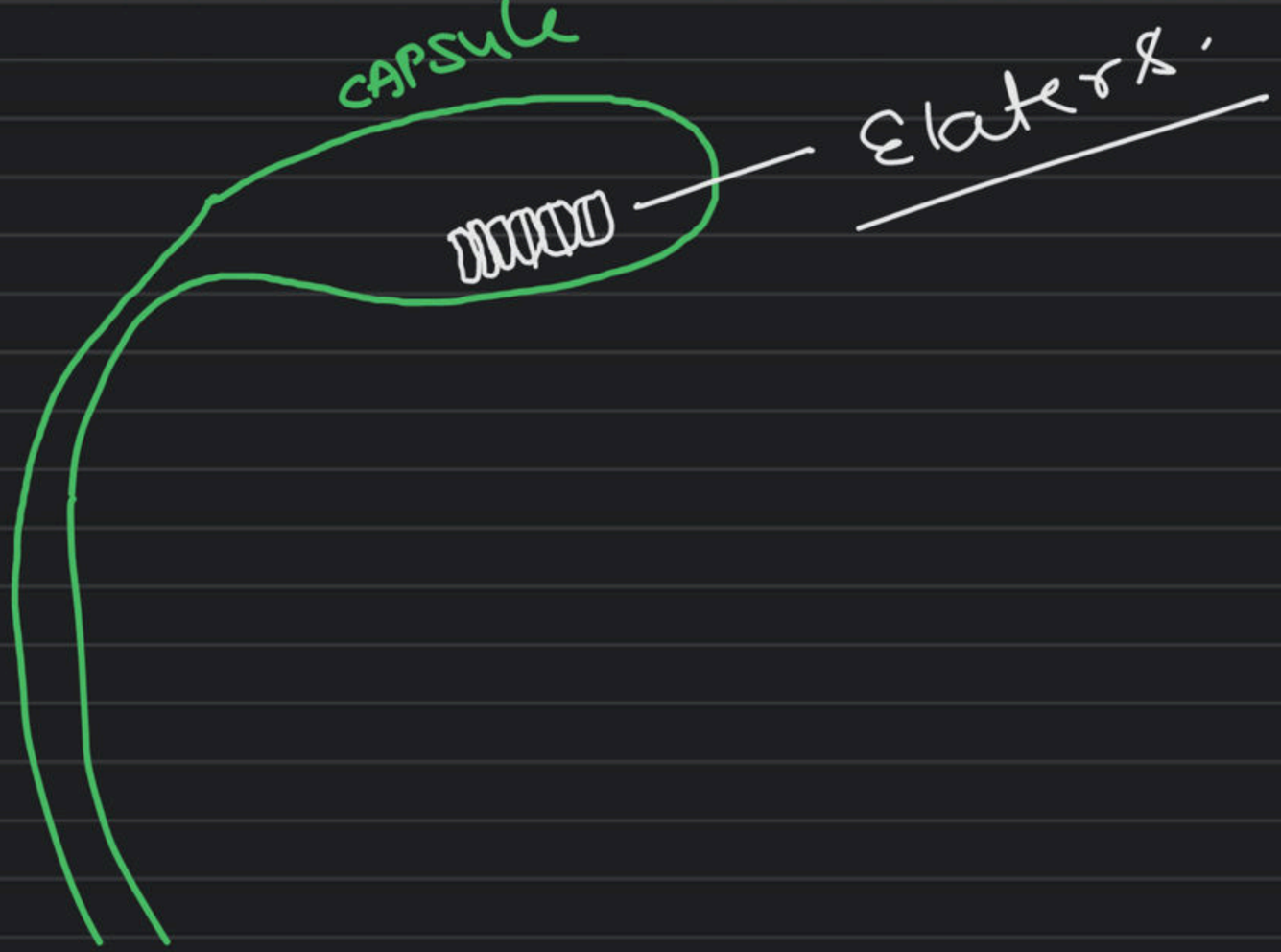
↑

Specialised cells

Menthos Jindagi

Plant Body
- Male + female flr → Monoecious
- Male or female (only one) → Dioecious

Flower
- Both Androecium/Gynoecium → Bisexual flower
- male - Androecium (staminate flr) / female flr (pistilate flr) - Unisexual flower


CAPSULE
Elaters.

class- Bryopsida - Mosses.

1. Gametophyte - dominant 1. Leaf Gametophyte
   2 Protonema
2 sex-organs present on Leafy gametophyte
3. Rhizoids - Multicellular - Branched

→ Antheroozoid + Egg → zygote —mitosis→ Embryo → sporophytes

- Green Photosynthetic

* Liverwort - sporophyte - fully - parasite

Mosses - sporophyte - semi - parasite

* Spore dispersal - specialised cells - Peristome teeth.

MOSSES:

SMC 2n
↳ Meiosis → spore → n → Germinate

SPORE MOTHER CELL

leafy Gametophyte

- Gametophyte grow as Lateral Bud

Indirect Germination

Juvenile Stage - PROTONEMA

Primary

* filamentous
* Multicellular, Branched
* Green . Photosynthetic
* creeping

* Secondary Protonema

Reproduced by - fragmentation, Budding

Mosses Eg ⟶ funaria, Polytrichum, sphagnum.