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DEPARTMENT: NURSING.

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COURSE CODE: BIO 102 (PLANT AND ANIMAL DIVERSITY).

ASSIGNMENT.

1. Importance of fungi to man includes:
  - i. They are important in the food industry.
  - ii. Some fungi species are eaten by many human societies e.g. Mushrooms.
  
2. A well labelled diagram of a unicellular fungus: Yeast.

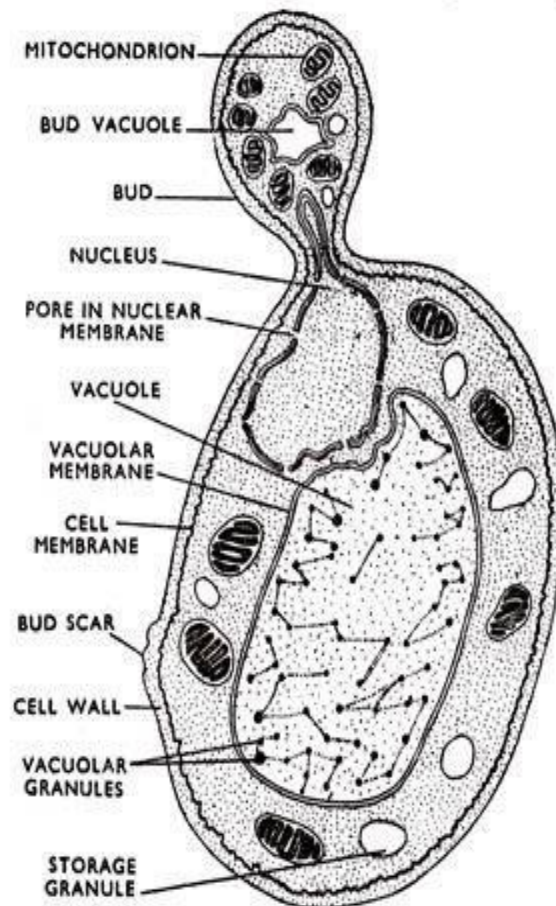


Fig. 215. *Saccharomyces cerevisiae*. Sectional view of a budding cell.

3. Sexual reproduction in a filamentous form of fungi (Rhizopus).

Sexual reproduction in rhizopus takes place by the fusion of the multinucleate gametangia (species are dioecious or heterothallic). The two gametangia fuses

(plasmogamy) and a zygote is formed, it undergoes prolonged dormancy or resting stage. The nuclei in the zygote fuses in twos and undergoes meiosis separately. The zygote thereafter germinates under favorable conditions to produce a fruiting which at maturity liberates the haploid spores.

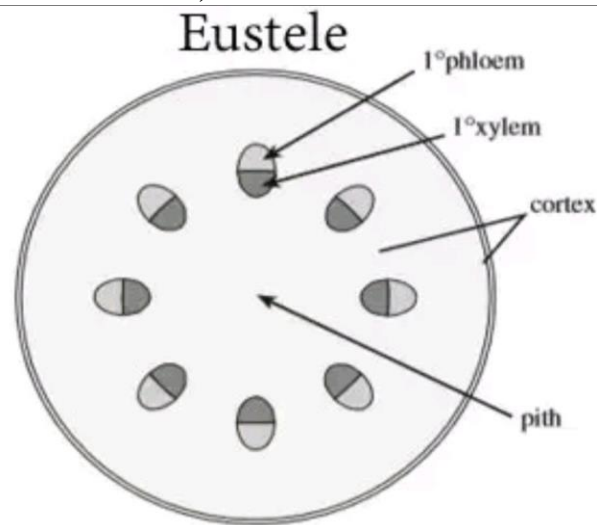
4. Adaptation of Bryophytes to their environment.

They have definite structures for water and nutrient absorption from the soil; therefore, dividing their body into two; an aerial portion and a subterranean portion (rhizoid). The aerial portion which is being exposed to the atmosphere possess some modifications that prevents excessive loss of water through the body surface. It also possesses some other modifications that helps in the removal of excess water from the body surface and not only the exchange of gases between the internal parts of the plant and the atmosphere.

5. Description of the following terminologies;

i. EUSTELES:

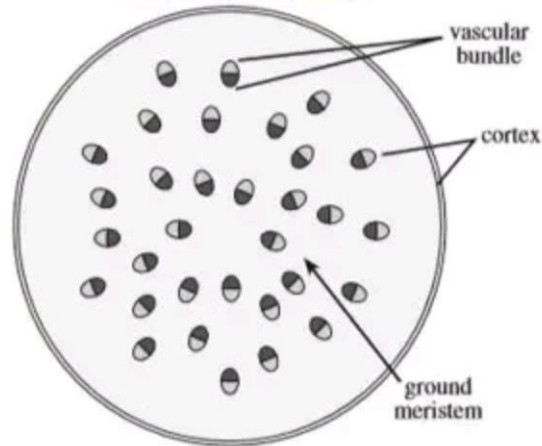
They are present in herbaceous dicotyledonous plants in which the vascular bundles are discrete, concentric collateral bundles of xylem and phloem.



ii. ATACTOSTELE:

Present in grasses and monocotyledonous plants .i.e. the vascular bundles are scattered.

### Atactostele.



- iii. **SIPHONOSTELE:**  
Present in advanced vascular systems, e.g. stems of ferns and higher vascular plants, the stele is a cylinder enclosing a parenchymatous pith.

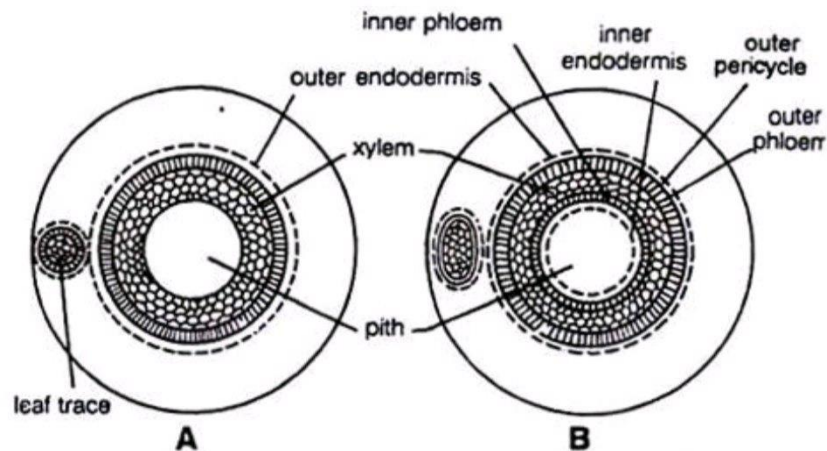
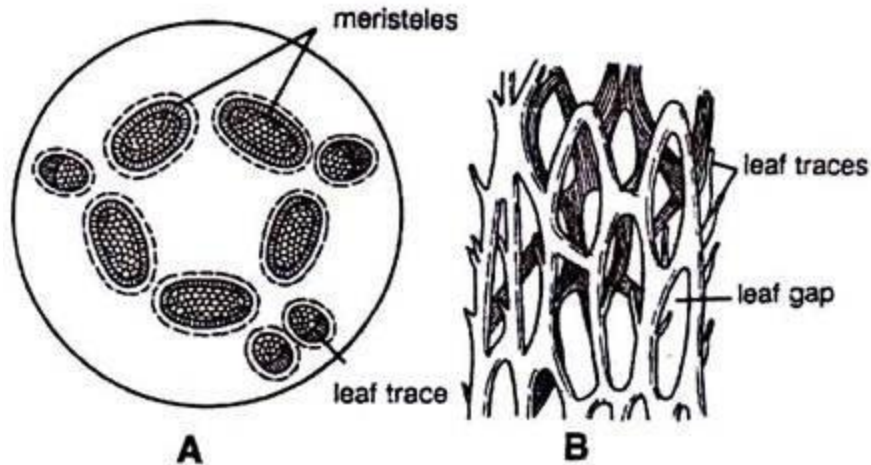


Fig. 3 (A-B). Stele System : A. Ectophloic siphonostele, B. Amphiphloic siphonostele

- iv. **DICTYOSTELE:**  
Here, the vascular supply is associated with leaf gaps and the conducting cylinder is a dissected one.



**Fig. 5 (A–B) Stelar System : A. Dictyostele, B. Vascular skeleton of a dictyostele**

**6. THE LIFE CYCLE OF A PRIMITIVE VASCULAR PLANT.**

Here, the sporophyte is the dominant generation. The sporophyte in vascular plants shows a progressive increase in size and complexity along the evolutionary ladder. The sporophyte is independent of the gametophyte generation and there is a progressive reduction of the size of the gametophyte from a conspicuous thallus of many cells in the primitive vascular plant. For example, the ferns and the fern allies, to approximately 3-8 cells in the flowering plant.

**An Illustration Of The Lifecycle Of A Primitive Vascular Plant (fern)**

