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PHARMACY

BIO 102

1) CLASSIFICATION OF PLANTS ACCORDING TO EICHLER'S GROUPING OF 1883

In 1883, A.W. Eichler gave a system of classification for the whole plant kingdom. It is a traditional system as well as a phylogenetic system of classification of plants. Eichler classified the plant kingdom into two sub kingdoms. They are CRYPTOGAMAE AND PHANEROGAMAE.

a. *CRYPTOGAMAE* (Gk. Kryptos= concealed; gamos =marriage)

The cryptogams are flowerless and seedless plants. They are simple plants like algae, mosses and ferns which do not produce flowers, fruits, seeds. Cryptogams are considered as lower plants.

b. *PHANEROGAMAE*

Phanaerogamae are seed bearing plants. So they are also known as spermatophytes. They are higher class plants. The plant body is differentiated into roots, stems, and leaves with well developed vascular system. They comprise of Gymnosperms and Angiosperms

2) IMPORTANCE OF ALGAE TO MAN

- They serve as food for people
- They serve as a source of agar in the production of ice cream, jellies, desserts
- medicines and minerals
- manufacture of iodine
- manufacture of soap and alums
- used as fertilizers

3) UNICELLULAR FORM OF ALGAE

- Chlamydomonas represents the unicellular and motile forms of green algae.
- Found in stagnant water usually along with other forms.
- Flagella are the structure for mobility
- The cell is bounded by a cellulose cell wall
- The nucleus carries the genetic programme of the cell
- The stigma is for photoreception

- The mitochondria mediate the elaboration of energy molecules
- Manufactured sugar is processed into starch on the pyrenoid.

4) Reproduction in chlamydomonas can be either vegetative(asexual) or sexual

VEGETATIVE REPRODUCTION

This is achieved through 4 successive mitotic division of each of the 16 cells in the colony therefore producing 16 daughter colonies.

SEXUAL REPRODUCTION

This is achieved by anisogamous pairing. When conditions are favourable, the single cells in the colonies assume gametic functions and pair by their flagella ends.

5) DIFFERENCES BETWEEN PANDORIA AND VOLVOX

PANDORIA	VOLVOX
Sexual reproduction is anisogamous	Sexual reproduction is oogamous
It is a genus of green algae	It is the complex form of pandoria
Unicellular motile thallus	Multicellular motile thallus

6) COMPLEX FORM IN THE ALGAE

FUCUS

This is a genus of brown algae whose species are often found on rocks in the intertidal zones of the sea shores.

The plant body is flattened, dichotomously branched thallus with a mid rib, a vegetative apex and a multicellular disk with which plant is attached to rock surface. The plant body also has air bladders which are believed to aid the plant to float on the water.

Sexual reproduction is oogamous; sex cells are produced in conceptacles which have openings on the surface of the thallus.