

NAME: BADMUS TOLUWANI AMINAT

MATRIC NO: 19/MHS01/116

DEPARTMENT: MBBS

COURSE: BIO 102

1. A system of plant taxonomy, the Eichler system was the first phylogenetic (phyletic) or evolutionary system. He gave system of classification for the whole plant kingdom. Eichler classified the plant kingdom into two sub-kingdom. They are Cryptogamae and Phanerogamae.

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

Phanerogamae are seed bearing plants. So they are also known as Spermatophytes. They are higher plants. The plant body is differentiated into roots, stem and leaves with well developed vascular system. Examples are angiosperms and gymnosperms.

2. IMPORTANCE OF ALGAE

- i. They serve as food for man.
- ii. They prevent goiter because of their high iodine content.
- iii. It is used as fertilizer.
- iv. Alginic acid, algin and mannitol which are produced by algae are used in the production of dyes, buttons and Combs.
- v. Used to manufacture medicine and drugs.
- vi. It is also used for ornamental purposes.

vii. Used in the manufacture of soaps and alums.

3. Unicellular form of algae are also called acellular algae. They function as complete living organisms. Unicellular forms are common in all the groups of algae except Rhodophyceae, Phaeophyceae and Charophyceae. The unicellular algae may be motile or non-motile.

Example of a unicellular form of algae is **Chlamydomonas**. They are found in stagnant water usually along with other forms. Flagella are the structure for mobility and bounded by a cellulose cell wall. They contain organelles like nucleus, mitochondria, stigma(eyespot), cup-shaped chloroplast, pyrenoid, etc. The nucleus carries the genetic program of the cell, stigma is for photoreception, mitochondria for the elaboration of energy molecules, manufacture of sugar processed into starch on the pyrenoid.

4. Cell division or fission is the simplest method of reproduction for the unicellular forms of algae it is often called binary fission as found in Chlamydomonas. Reproduction in Chlamydomonas is by sexual or asexual (vegetative) reproduction.

5. COLONIAL FORMS OF ALGAE; VOLVOX AND PANDORINA

Differences: Pandorina colony consist of 16 cells attached to one another while Volvox possess up to thousands of cells connected with cytoplasmic strands that run through the cells.

6. Spirogyra is a filamentous charophyte green algae of the order of Zygnematales, named for the helical or spiral arrangement of the chloroplasts that is characteristic of the genus. It is commonly found in fresh water habitats, and there are more than 400 species of Spirogyra in

the world.