

NAME: SHERIFF FATIMA.

MATRIC NO. : 19 /MHS01 /398

DEPARTMENT :MEDICINE AND SURGERY

- EICHLER'S GROUPING OF 1883:

DIVISION	CLASS
Thallophyta	Phycotinae(algae) Mycotinae(fungi)
Bryophyta	Hepaticae(liverworts) Musci(mosses)
Pteridophyta	Psilotinae(psilotum) Lycopodinae(lycopodium) Equisetinae(horsetails) Filicinae(ferns)
Spermatophyta	Gymnospermae(gymnosperms) Angiospermae(angiosperm)

IMPORTANCE OF ALGAE TO MAN

- It serves as food for people
- The red algae provide agar and carrageen used for the preparation of various gels used for scientific research
- It's contains high iodine content which prevents goitre
It serves as thickening agents in ice cream and shampoo
- Alginic acid from the brown algae is used to stabilize emulsions and suspensions.

A UNICELLULAR FORM OF ALGAE

Chlamydomonas represents the unicellular and module forms of Green algae. It's found in stagnant water. It has the flagella which enables movement. The cell is bounded by a cellulose cell wall. The stigma is for photoreceptor. The nucleus carries the genetic programme of the cell. The Mitochondria mediate the elaboration of energy molecules. Manufactured sugar is processed into starch on the pyrenoid.

REPRODUCTION

In Chlamydomonas, reproduction can either be vegetative or sexual.

Vegetative reproduction: results in the production of daughter cells in which the amount and quality of genetic material in the nucleus of the mother cell is maintained in the daughter cells. In Chlamydomonas, a cell about to divide loses it flagella. The cell undergo mitotic division leading to the formation of two nuclei, Cell walls are elaborated which delimit cytoplasm around each nucleus i.e two daughter cells(zoospores) are produced. Increase in the population of cells in the colony is achieved by continuous mitosis.

Sexual reproduction: sexual reproduction involves union of sex cells(gametes). In Chlamydomonas, aggregation of cell(clumping) in a colony occurs under favorable conditions. The cells pair by their posterior ends. This pairing is said to be isogamous because the pairing cells fuse(plasmogamy) and the flagella are lost. The two nuclei fuse (karyogamy) ;this situation is essentially a fertilization process so that a zygote is formed. The zygote secretes a thick cell wall called a zoospore and may remain dormant in that state for sometime.

After karyogamy sometimes, the zygote undergoes two successive cell division the first division restored the haploid condition by halving the nuclear material in the two resulting nuclei while in the second division each haploid nucleus undergoes a normal mitosis. The four products of meiosis are released as haploid zoospores.

Difference between the two types of colonial form of alga

Pandorina	Volvox
Colony consist of 16 cells	Colony consist of many cells which run into thousands
Cells are attached to one another	Cells are connected with cytoplasmic strands
Sexual reproduction is anisogamous	Sexual reproduction is oogamous
All 16 cells are involved in vegetative reproduction	Only the gonidia are involved

COMPLEX FORM OF ALGA

FUCUS: 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 bladder which aids floating on the water.

Various species of fucus exist ; vary in size from a few centimeters to about 2meters in length. They also vary in terms of whether the sex cells are found in the same sexual chamber or in different sexual Chambers on different plant bodies. Sexual reproduction is oogamous, sex cells are produced in conceptacles which have openings on the surface of the thallus. In the male conceptacles, one of the diploid cells from outgrown of the wall of conceptacles undergoes meiosis, the meiotic product undergo many mitotic divisions to produce antheridium having 64 cells of which each cell develops into a biflagellate sperm that swims out of the conceptacles through the ostiole.

In the female conceptacles, similar to the situation in the male conceptacle,leads to the production of an 8 called oogonium- each becomes an egg which is the female sex cell. Morile sperm cell from the antheridium move through the ostiole into the female conceptacles where the eggs are fertizied and

diploid zygote are produced. The diploid zygote germinates into a new diploid fucus plant making the diploid the dominant generation.