

Sexual Reproduction in Algae.

These are advanced method of reproduction. These involve two individuals of different strains. The moving one is considered as male and the stagnant one is considered as female. They may or may not be different in shape and size, but varies in their function. For Sexual reproduction there are certain conditions to be prevailed -

- i) Climax of vegetative activities.
- ii) Suitable pH of environment.
- iii) Optimum temperature of environment.
- iv) Bright light.
- v) Accumulation of sufficient food materials.

In these conditions sexual reproduction take place. It is of following types:-

(I) Isoamy:- The gametes are produced from parents which are alike in shape and size, but may be from same or different individuals. In any case cells or gametes or fork filaments are considered (+) & (-) strains. e.g. Chlamydomonas sps.; Spirogyra sps. Ulothrix sps.; Zygnema sps.

II) Heterogamy: In such conditions ~~from~~ there is fusion of dissimilar gametes. It may be as follows:

i) Anisogamy :- Gametes are quite different different in size. Formed in different gametangia. The gametes are of two types.

a) Microgametes: These are small in size but more ^{known as male} in number, They are active as well, They are formed in the Gametangia known as Microgametangia.

b) Macrogametes: These are produced in macrogametangia. Larger in size, less in number, either no or less active.

ii) Oogamy: Here male gamete is known as Antherozoid or Sperm and female gamete is known as egg. The antherozoids move to egg and fertilize. The fertilization leads to formation of Zygote, ~~It~~ which later on transformed into Oospores.

iii) Autogamy: These gametes are from the same mother cell. There is lack of genetic recombination. e.g. diatoms.

iv) Hologamy: The individual cell of opposite strain behaves as gamete and ~~are~~ and fuse directly forming Zygote.
e.g. Chlamydomonas sps.

v) Aplanogamy: - The gametes are non-flagellate. Fuse and form Zygote.

vi) Conjugation: The two filaments or siphons may directly come in contact. The protoplasm of the cells in contact contracts. One there is a papillar growth in between them which later on may develop into a tube. On the basis of fusion and involvement of filaments it is these are divided into following

a) Conjugation takes place in conjugation tube formed by papilla.

b) Conjugation take place in filament. -
Here one of cells involved in fusion contracted, get transformed and move towards the opposite one. It passes through conjugation tube and get through the stagnant one.

The moving one is known as Male and the stagnant as female.

They met. Their protoplasm fuse, Later on nuclei. Thus Zygotes are formed.

c) Conjugation may take place in between adjacent cells of the same filament.