

Honours
Part - I
Lecture No. 03

ALGAE
Group - A
Chlorophyceae - II

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Date
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Oedogonium: Algae - It is the anterior pole of with the formation of zoospore the cell wall ruptures transversely the region of the apical cap. The two halves gape apart. The mature zoospore, surrounded by a delicate mucilagenous vesicle, slips out through the aperture. The vesicle soon dissolves allowing the typical Oedogonium swarming to escape and swim about. The liberated zoospore is a deep green spherical or pear-shaped structure. It has a ring of short flagella at the base of colourless, beak like forward end. This kind of flagellum is called Stephano-kont. The zoospore possesses an eye spot and a chloroplast.

Germination of zoospore: The liberated zoospore remains motile for about an hour. The development of the one-celled sessile germling depending on the species takes place in the two steps -

In most of the species the one-celled germling divides transversely by an apical ring. The upper cell by the normal method of division and redivision of its daughter cells forms the new filament.

Akinete formation: These are thick walled, red, brown resting cells which formed in form of chain in unfavorable condition.

Sexual Reproduction: This is oogamous type. On the basis of Antheridial condition Oogonium is two types -

1. Macrandrous type: In this type antheridia are formed on normal filament. ~~which is known as Nannandria or dwarf male~~ Macrandrous form of Oogonium can be hemothalic.

2. Nannandrous type: In this type antheridia forms on one celled plants which is known as Nannandria or dwarf males. Oogonia formed on normal filament. Dwarf males grows on the origin of Oogonium filament.

This is form a special type of spore - which is Androspore. Androspore develops inside the Androsporangia. Androsporangium and Oogonium can form on one filament. Otherwise it form on different two filament, Gynandrosperous to be said.

In which this is formed on two separate filament, Edioandrosperous is called.

Development of oogonium: In both two Macrandrous and Nannandrous species the structure, development and condition are equal. One new formed cap cell oogonial mother cell acts. The inclusions of oogonium forms a uninucleate egg. Before fertilization in egg forms a hyaline receptive spot.

Development of antheridia: A new formed cap cell which acts as form of Antheridial mother cell. Continuously divides by the transverse division and form a chain of 2-40 antheridia. Antheridial protoplast transversally and vertically divided and forms two daughter protoplast. Each daughter protoplast antherozoid modified. The capture of antheridium Antherozoid comes out in a vesicle. Antherozoid are oval, uninucleate and multiflagellate which has one beak at anterior end.

Fertilization: Antherozoid enters in oogonium by a pore or neck and fused with egg form a diploid zygote. The surrounding of zygote forms a thick wall.

Germination of oospore: Before germination diploid nucleus of oospore meiosis division takes place then four haploid nucleus are formed. Protoplast of oospore divided and four uninucleate daughter protoplast forms. Zoospore germinates and forms a new filament. Life cycle of oedogonium are Haplontic type.
