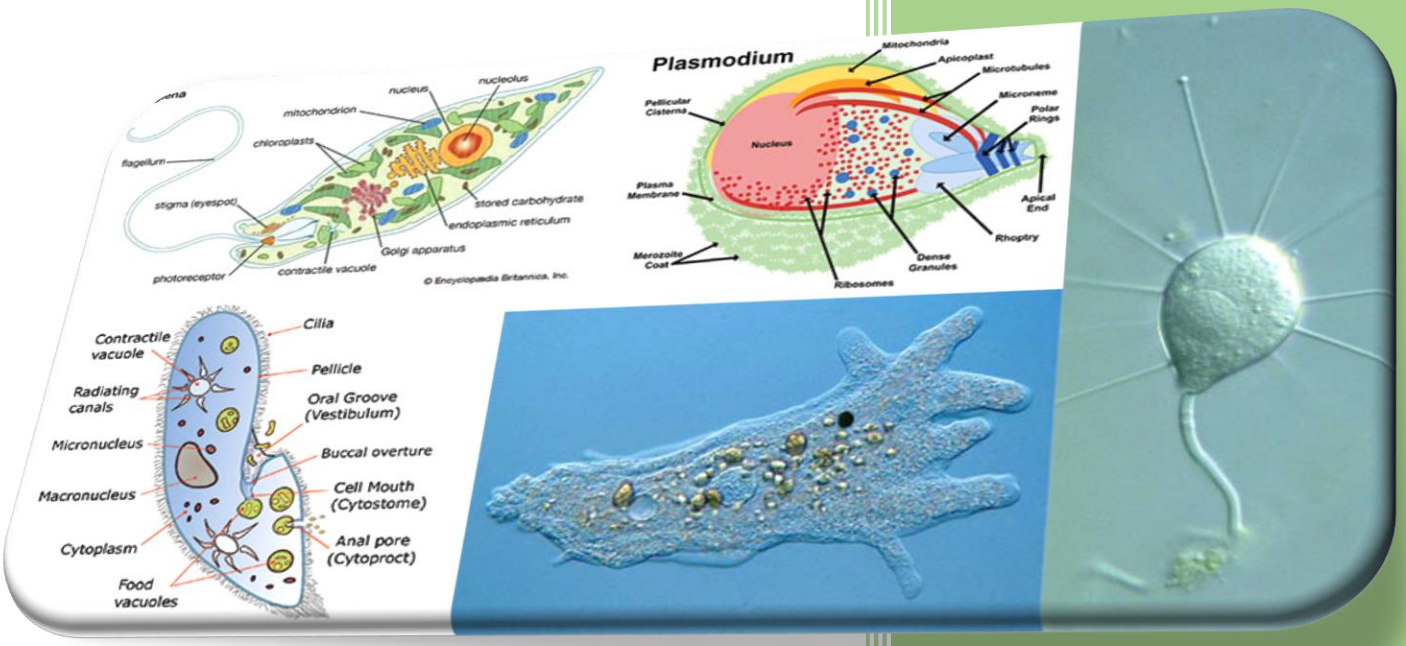
ATOMIC ENERGY CENTRAL SCHOOL

BIOLOGY

STANDARD XI

CHAPTER 2.

MODULE 3/4



UNIT 1 :

DIVERSITY IN THE LIVING WORLD

CHAPTER 2:

BIOLOGICAL CLASSIFICATION

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Kingdom Protista

(Kingdom of Unicellular eukaryotes):

It was first proposed by Ernst Haeckel (1866).

Kingdom Protista includes the following categories such as dinoflagellates, chrysophytes, euglenoids, slime moulds and protozoans.

The major groups of Protista are

(a) Protistan algae (photosynthetic protists)

(b) Slime moulds (consumer-decomposer protists).

(c) Protozoan protists.

Photosynthetic Protists

These include chrysophytes, dinoflagellates and euglenoids.

1. Chrysophytes

This group includes diatoms and golden algae (desmids).

i. Diatoms

*Diatoms occur in all aquatic and moist terrestrial habitats and are also known as chief producer in the ocean.

*They pile up at the bottom of water reservoirs and form big heaps called **diatomaceous earth.**

note: Diatoms do not have any organelles for locomotion.

Examples Navicula, Amphipleura , Triceratium and Cymbella.

2. Dinoflagellates

These are important phytoplanktons. Most of them are marine but some occur in freshwater.

They appear yellow, green, brown, blue or red depending on the main pigments present in their cells.

*Some dinoflagellates like Gonyaulax and Gymnodinium grow in large number in sea and make the water look red and form 'red tide'.

*Toxins released by such large numbers may even kill other aquatic animals.

*The cells usually possess two flagella which are of different types (heterokont). One flagellum is transverse arising from the anterior part. The other flagellum arises in the vertical furrow. Both these flagella beat in different directions.

e.g., Gonyaulax, Ceratium, Noctiluca, Peridinium and Gymnodinium, etc.

3. Euglenoids

(i) They are unicellular flagellate protists.

(ii) Body is covered by thin and flexible pellicle. It lacks cellulosic cell wall.

(iii) Nutrition is holophytic, saprobic or holozoic. This mode of nutrition is called mixotrophic.

Examples Euglena, Perenema, Eutreptia, Phacus, etc.

Note:

* Euglenozoa is a diverse clade that includes predatory heterotrophs, photosynthetic autotrophs and pathogenic parasites.

4. Consumer-Decomposer Protists (Slime Moulds)

They possess the characters of both animals and fungi. (protistan fungi).

*They are surrounded by plasma membrane. However, the spores have the cellulosic cell walls.

This aggregated mass is called **pseudoplasmodium.**

e.g. dictyostelium and polysphondylium.

5. Protozoan Protists

Include unicellular protists with animal like behaviour.

There are four major groups of protozoans

1. Amoeboid Protozoans

These organisms live in freshwater, seawater or moist soil.

Examples Amoeba, Entamoeba, Radiolarians, Pelomyxa, Foraminiferans and Heliozoans.

2. Flagellated Protozoans

The members of this group are either free-living or parasitic. Examples Giardia, Trypanosoma, Leishmania, Trichonympha and Trichomonas.

3. Ciliated Protozoans

These are aquatic, actively moving organisms because of the presence of thousands of cilia.

Examples Paramecium, Opalina, Vorticella, Podophyra, Balantidium, etc.

Generalfeatures of this group are following

Sporozoan Protozoans

This group includes organisms that have an infections spore-like stage in their life cycle. Examples Plasmodium, Monocystis, Eimeria.

References

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