
protozoa :

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* Multicellular eukaryotic parasites

* Introduction :

- These are the first animal like organisms and these are eukaryotic protists.

- They can be differentiated from other eukaryotes, because they lack cell wall.

- Protozoa are pre-dominately microscopic in size. The majority are in between 5 to 250 μm in diameter.

- The study of these eukaryotic protists is called protozoology

- It is estimated that there are about more than 65 thousand species distributed world wide

* • Habitat :

- protozoa are mostly found in moist habitats.
- They are common in sea, soil and fresh water.
- Parasitic protozoa may be found in association in most of animal groups in which they reproduce in large number. They disturb functioning of animal organ or organ system and causes disease.
- Many protozoa survive in dry as well as other drastic condition by formation of resistant ~~exist~~ cysts of dormant stage.

* • Ecology :

- Some protozoa may be free living symbiotically associated
- Many protozoa are parasitic and may cause disease.
- some protozoa are beneficial.

* • Light :

- ~~Some proto~~ Those protozoa which bear chromatophores carry out photosynthesis. They need sun light.
- very few species show ability of photosynthesis.

* • pH

- protozoa tolerate wide range of pH i.e. pH 3 to pH 8
- Majority can have good metabolic activity between pH 6 to pH 8.

* • Nutrition :

- Some protozoa required high organic matter environment for their growth.
- Some protozoa needs high mineral environment.
- Some protozoa thrive in water rich in oxygen but low organic matter.
- Some protozoa are holozoic in nature it means that they eat other microorganisms. e.g - some species of paramecium

* • Temperature :

- protozoa are well grown in optimum temp 16°C to 25°C
- They can survive at a maximum temp. of 36°C to 40°C

* • Importance :

- protozoa serves as a important link between food chain of communities in aquatic environment.
- In water zooplanktons are present in abundant no.
- The majority of zooplanktons contributed by the protists.
- protists use phytoplanktons as their major source of food.
- Generally all the phytoplanktons synthesis their food by using light energy.
- It means that phytoplanktons acts as a huge source of food for zooplanktons (protists). and

zooplanktons act as a major source of food for carnivorous aquatic animals

Light energy \rightarrow phytoplankton \rightarrow zooplanktons \rightarrow carnivorous aquatic animals.

- In this way protists act as a major backbone of aquatic food chain.

* • Morphology :

- protists show diverse variations in morphology.
- Leishmania - a causative agent of disease kala azar - If major 1 to 4 μm in length.
- Amoeba proteus - a pre-dominantly aquatic protist - major 600 μm in diameter

* • Reproduction :

1) Asexual Reproduction :

- Asexual reproduction occurs by simple cell division. The daughter cell may be equal or unequal in size.
- If two daughter cells are found on SMC then the process is called binary fission
- In binary fission also the formed daughter cell may be or may not be of same size.

2) Sexual Reproduction :

- Sexual reproduction can be occurred by formation of gametes by two individual protists.
- The formation of male gametes and female gamete by an individual protists is depends on the environment in which they are growing.
- The chemical constitution of their living habitat responsible for the production of male and female gametes by the individual protist.