

" Kingdom Protista "

The world of Protists

What is a Protist?

1. The animal – like Protist ((protozoans)).

- 1- Amoebas .**
- 2- Flagellates .**
- 3- Ciliates.**
- 4- Sporozoans.**

What is a protist?

A protist is the third kingdom of organisms that which are included an amazingly diverse group, many of which move like an animal, Photosynthesize, like a plant or produce spores like a fungus. Protists are:

- 1- Unicellular or multicellular.
- 2- Microscopic or very large.
- 3- Heterotrophic or autotrophic.
- 4- Eukaryotes.
- 5- Animal – like protists are called protozoans.
- 6- Plant like protists are called Algae.
- 7- Fungus like protists are called Molds.

What is a protozoan?

Protozoans are animal – like protists. They are:

1- The animal – like protist ((protozoans)).

1. Unicellular organisms.
2. Heterotrophs, that feed on other organisms or organic matter.
3. They usually reproduce asexually, but some also reproduce asexually.
4. Protozoans are grouped according to the way they move.
5. Protozoans use cilia or flagella to move, others move by extensions of plasma membranes and cell cytoplasm – containing, are called pseudopodia.
6. Protozoans are grouped together because they are parasites.
7. There are four groups of protozoans;

- 1- Amoebas 2- flagellates 3- Ciliates; and the 4- Sporozoans.

I. Amoebas:

Are protozoans and amoebalik organisms called shapeless protists.

They are included:

- 1- Phylum Rhizopoda 2- Amoebas have no cell walls
- 3- Amoebas move and Feed by Pseudopodia.
- 4- The shape of the cell changes and the amoeba moves.
- 5- Most amoebas live in salt water, fresh water, and in moist soil.
- 6- Amoebas contractile vacuoles collect and pump out Excess water.
- 7- Amoebas divided into two groups;

A. Foraminiferan	B. Radiolarian
1. Foraminiferans have hard shells made of calcium carbonate	1. Radiolarians have shells made of silica
2. The fossil forms of these protists help geologist to determine the ages of some Rocks.	2. They are important part of marine plankton, that float in the Ocean's photic zone and form the base of marine food chains
3. They are abundant on the sea floor	3. They are abundant on base of ocean's photic zone.

- 8- Most Amoebas reproduce by asexual reproduction [a single parent Produces one or more Identical off spring by dividing into two cell]. When environmental conditions become unfavorable, some types of Amoebas form cysts than can survive extreme conditions.

II. Flagellates

They are sporozoans with flagella consists of;

- 1- Zoomastigina of protist called flagellates.
- 2- This phylum have one or more flagella.
- 3- Some flagellates are Parasites that cause diseases in animals, such African sleeping sickness in humans.
- 4- Other flagellates are helpful for Example, termites survive on a diet of wood. Without the help of these species that lives in the gut of termites in a mutualistic relationship, Flagellates convert cellulose from wood into acarbohydrate that both they and their termite hosts can use.

III. Ciliates:

They are protozoans with cilia:

1. Ciliate phylum is called Ciliophora.
2. Ciliates live in every kind of aquatic habitat – from ponds and streams to oceans and sulfur springs.
3. They have cilia that cover their bodies use to move. For example a paramecium uses its cilia, oral groove, gullet, and food vacuoles in the process of digestion.
4. Paramecium reproduces asexually by dividing cross wise and separating into two daughter cells.

Whenever their food supplied dwindle or their environmental conditions change, Paramecia undergo a form of conjugation. In this complex process, two paramecia join and exchange genetic material.

Then they separate, and each divides asexually, passing on its new genetic composition.

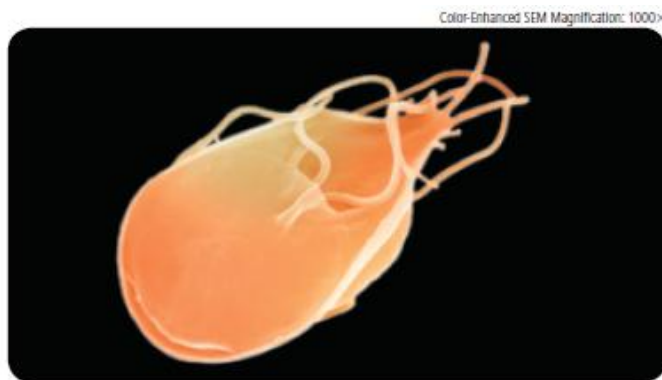
VI. Sporozoans:

They are parasitic protozoans.

1. Protists in the Phylum sporozoa are called " Sporozoans " because most produce spores,
2. A spore is a reproductive cell that forms without fertilization and produces a new organism.
3. All sporozoans are parasites in one or more hosts.
4. They live as internal parasites.
5. Plasmodium, members of protozoans genus, are organisms that cause the disease malaria in humans and other mammals and in birds.

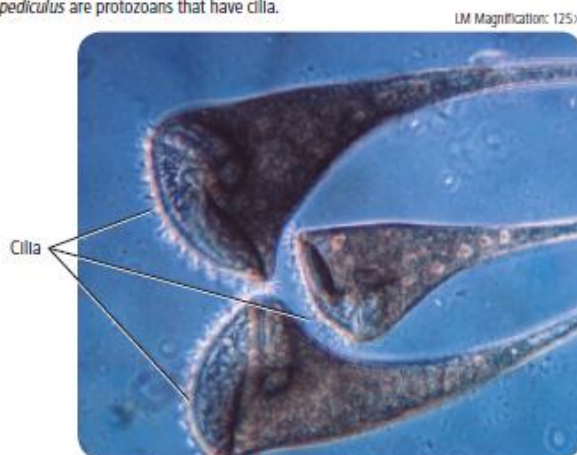
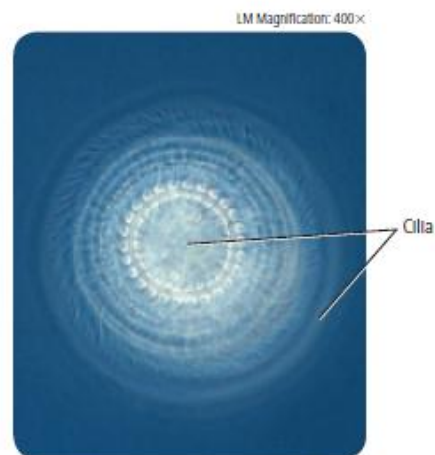
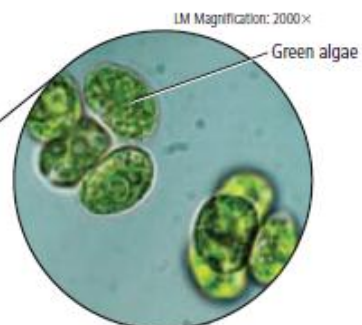
Sporozoans and malaria:

1. Malaria is a disease caused by a sporozoan called plasmodium.
2. This disease usually occurs in places that have tropical climates.
3. Plasmodium is transmitted by mosquitoes.
4. Some species of plasmodium have begun to resist the drugs. And new drugs are being developed to treat malaria.

*Giardia lamblia*

This animal-like protist is a parasite that might be found in the intestinal tract of a person who has consumed contaminated water.
Infer how this protist obtains its nutrients.

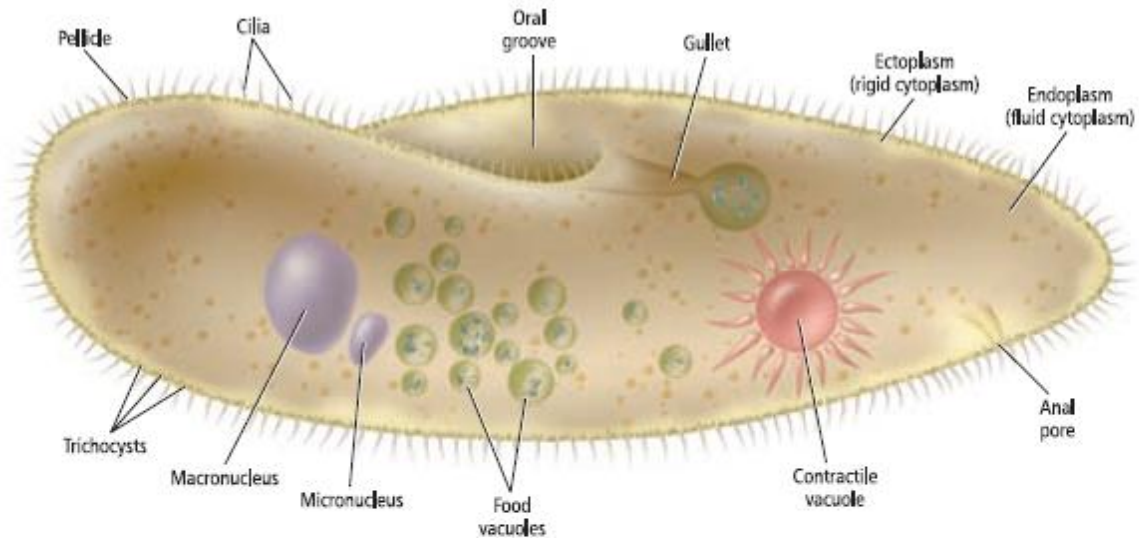
Stentor and *Trichodina pediculus* are protozoans that have cilia.

*Stentor*—use cilia for feeding*Trichodina pediculus*—use cilia for feeding and movement*Paramecium bursaria*

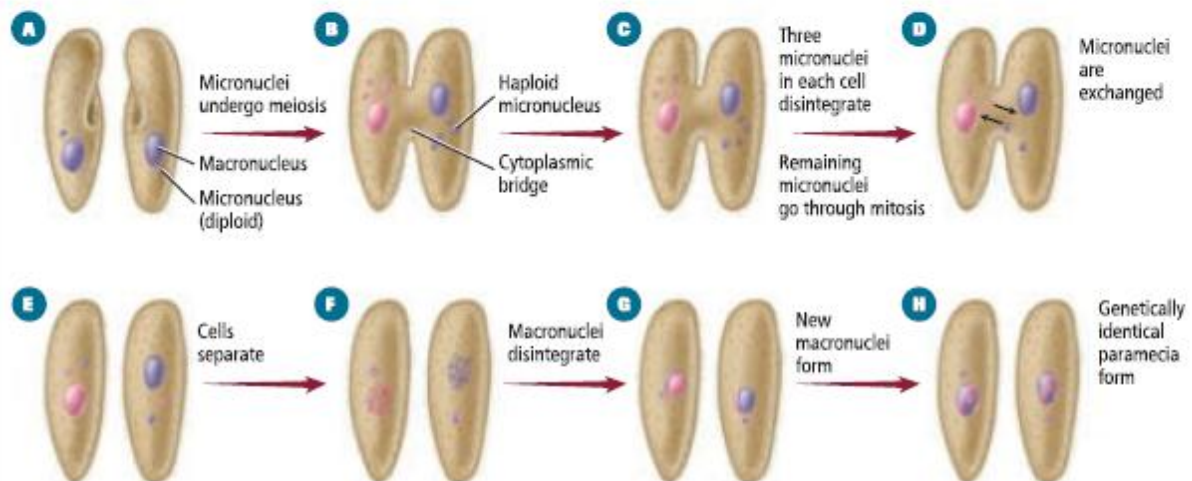
Paramecium bursaria provides a home for green algae that enter the paramecium during the feeding process, but the green algae are not digested.

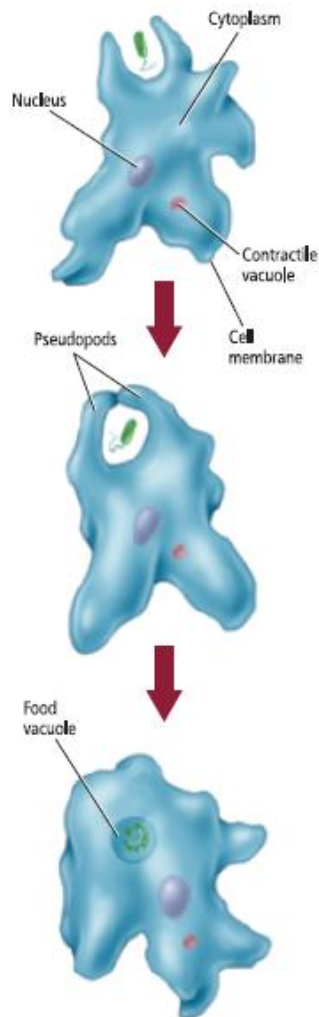
Infer What type of symbiotic relationship does this represent?

Paramecia are unicellular organisms with membrane-bound organelles. They undergo a process called conjugation in which a pair of paramecia will exchange genetic information as shown in the diagram at the bottom of the page. This is not considered sexual reproduction because new individuals are not formed.

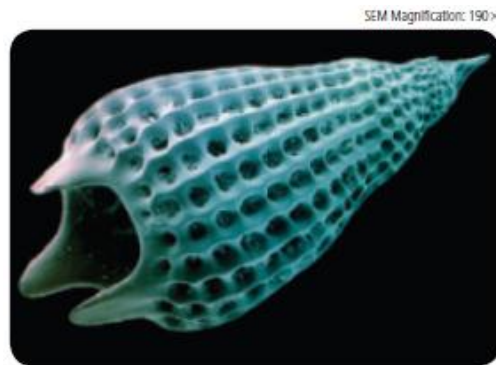


Conjugation





Chemical stimuli from smaller organisms can cause the amoeba to form pseudopods from their cell membrane.



Radiolarians have tests made of silica.
Foraminiferans and radiolarians extend their pseudopods through openings in their tests.

The End