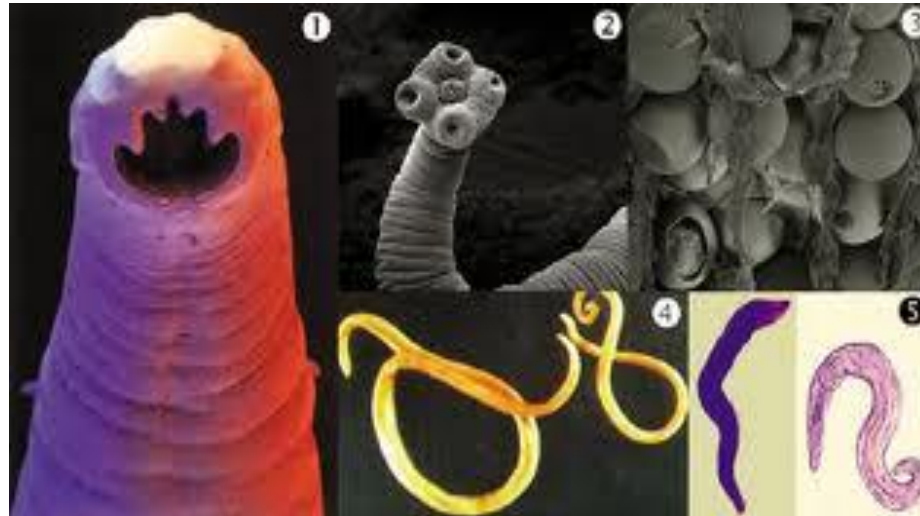


PARASITE



Parasite

- ▶ It is an organism living in or on other organism.
- ▶ Eukaryotes
- ▶ Depend on another host for their nutrients and metabolic activities.

The study of parasites called *Parasitology*

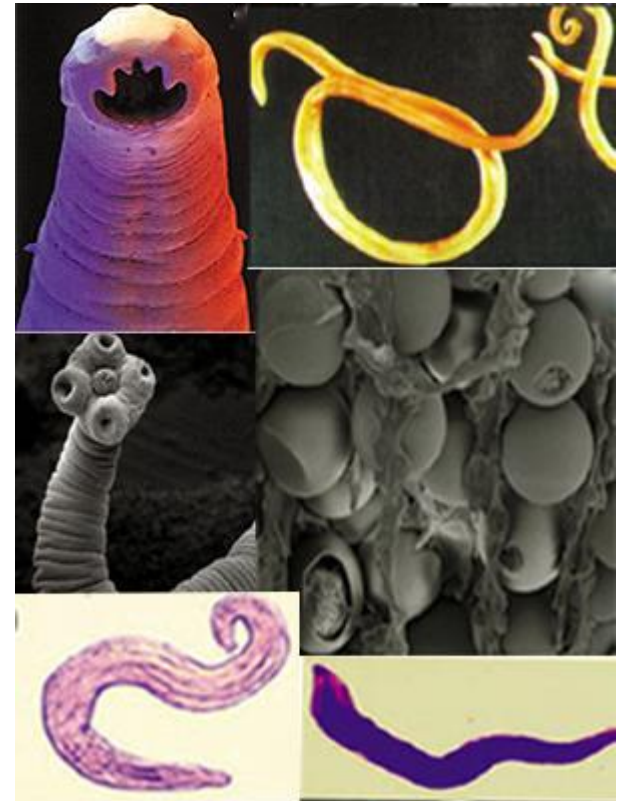
Parasite

▶ Divided to

1-Protozoa: Unicellular.

2-Helminths: Multicellular
(Worms)

3-Arthropods: Multicellular.
(Insects)



Protozoa

- ▶ **Common stages of life cycle**
 - 1- **Cyst:** resting non active stage
(dormant stage out side the body)
 - 2- **Trophozoite:** active growing stage
(Inside the body)

- ▶ ***Can infect all major tissues and organs of the body.***

- ▶ **Transmission of protozoan parasites by**
 - 1- **injection** via bites of blood sucking insects.
 - 2- **ingestion** of infective stages.

Protozoa

Protozoa are classified into four classes according to their motility:

1) Amoebas:

move by pseudo pods (Ex:Entamoeba histolotica).

2) Ciliates:

move by cilia (Ex: Balantidium coli).

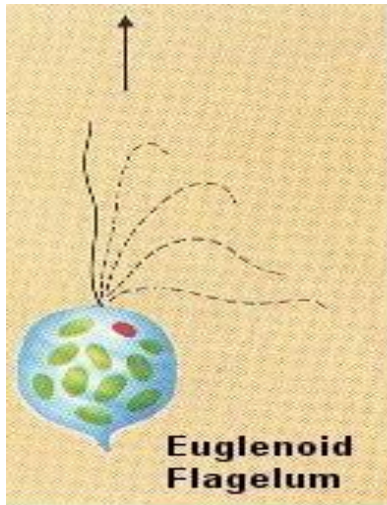
3) Flagellates:

move by flagella (Ex:Trypanosoma).

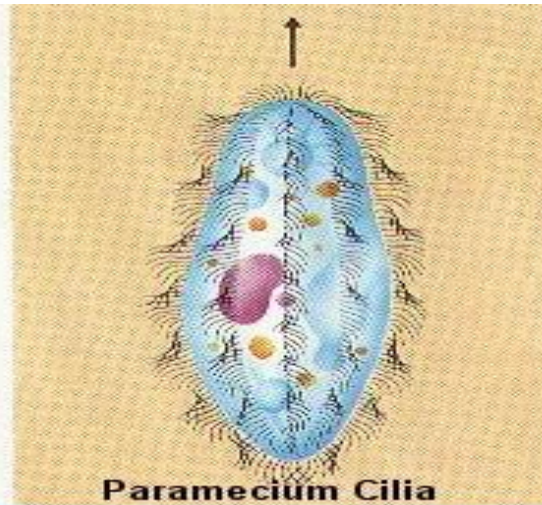
4) Sporozoa:

Intracellular parasite, doesn't move * it transmit through the blood (Ex:Plasmodium). Blood parasite.

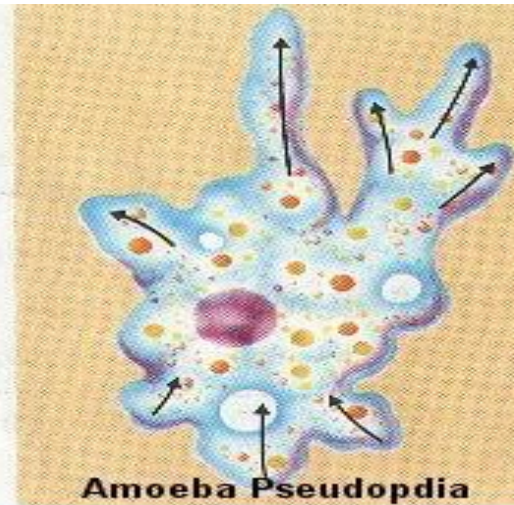
Flagella



Cilia

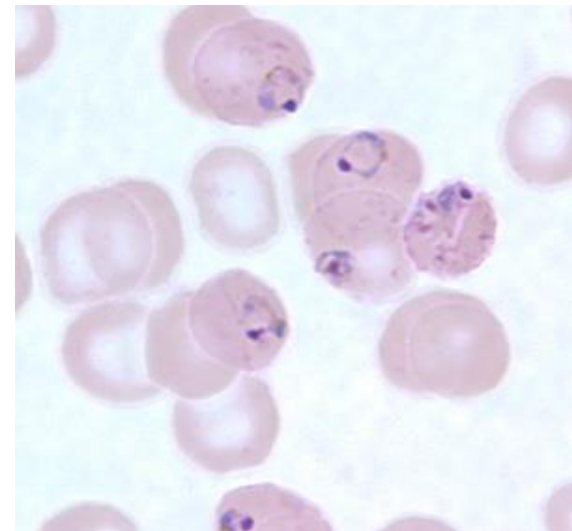


Pseudopod

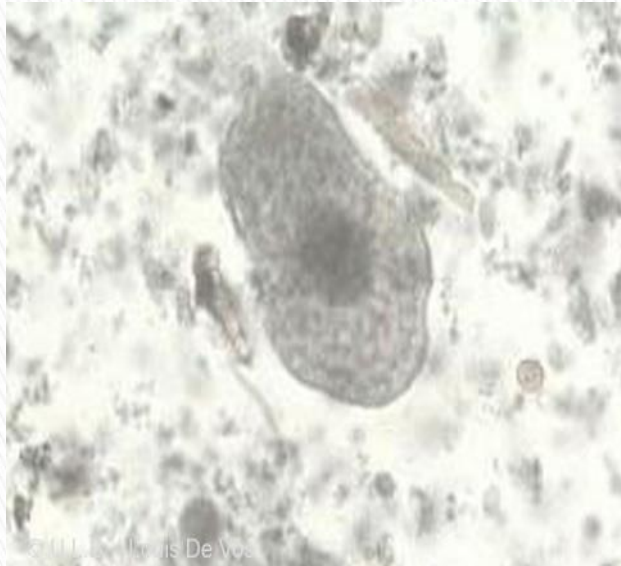


► **non motile:**

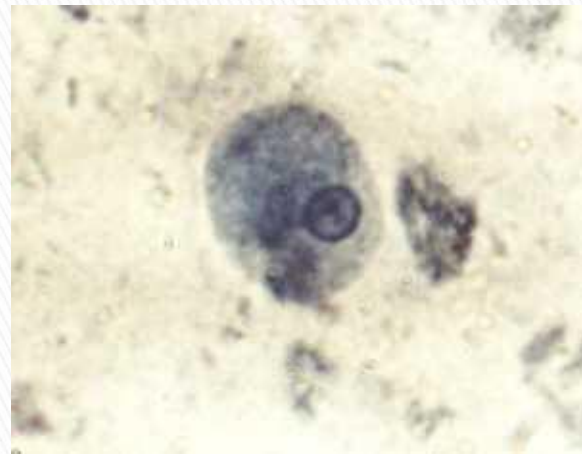
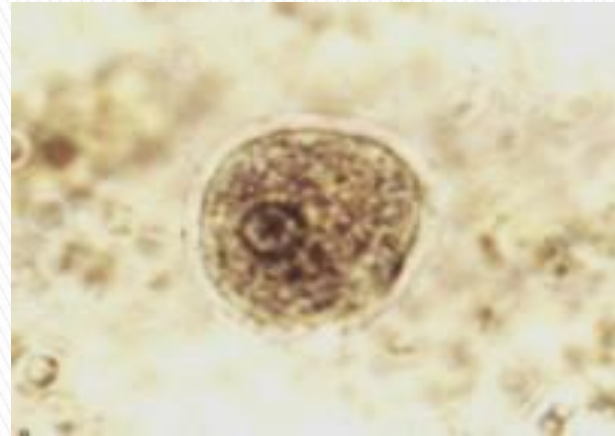
Plasmodium (ring stage)



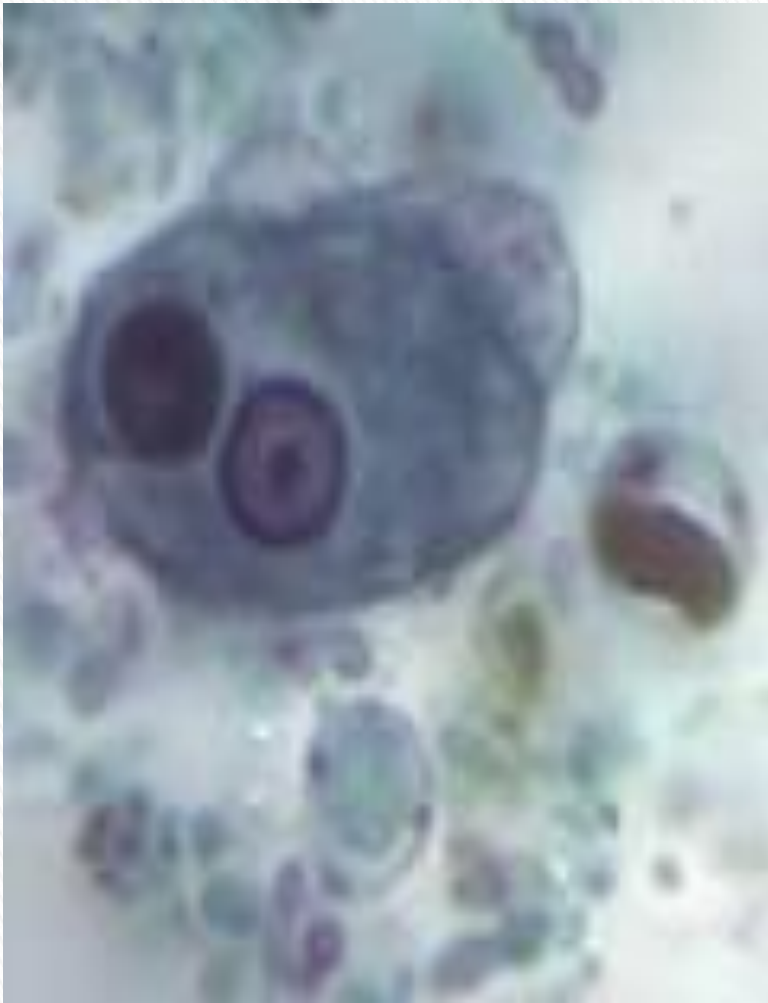
Entamoeba



Trophozoite



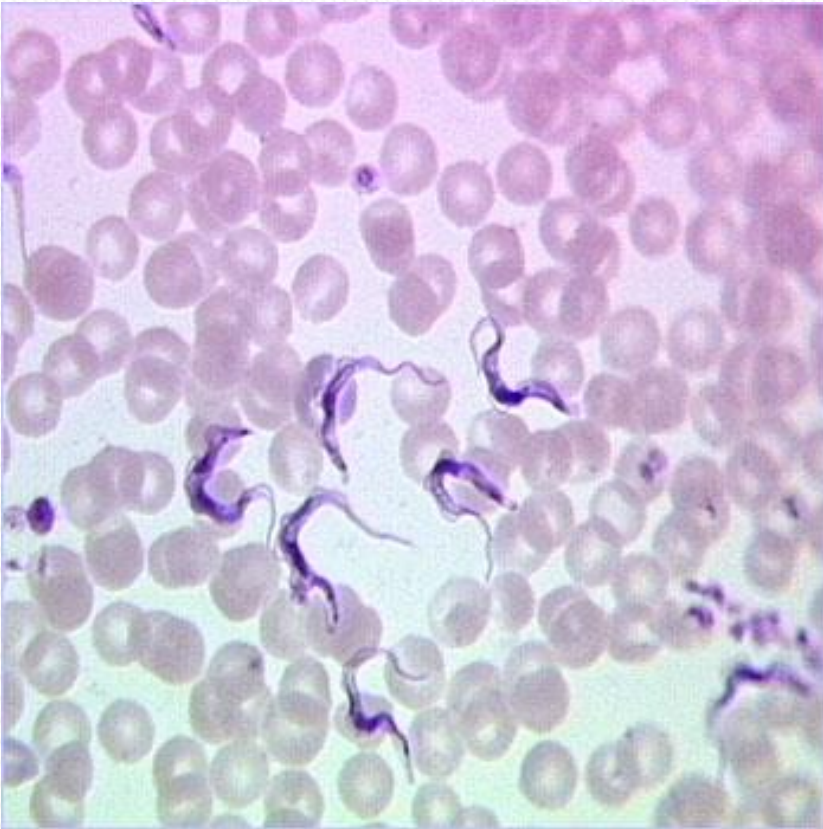
Cyst



Ex: Entamoeba histolytica



Balantidium coli (cyst)



Protozoa
Trypanosoma



Protozoa
Balantidium coli cyst

Helminths(worms)

- ▶ Multicellular organisms with organ systems as digestive, nervous , excretory system.
- ▶ Have complicated life cycle.
- ▶ Mostly have different stages of life cycle which are: ova(egg), larvae (Adult).
- ▶ Adult worms can measure centimeters or even meters long.
- ▶ Extracellular parasites.

Helminths

- ▶ Are classified according to shape into:
 - 1- **Nematodes** (round worms) cylindrical thin
Example: *Ascaris*.
 - 2- **Cestodes** (tape worms) flat long worms
Example: *Tenia*
 - 3- **Trematodes**(Flukes) leaf like flat worms
Example: *Schistosoma*.

Helminths

Nematodes

Ascaris



egg



Adult

Helminths

Ascaris egg



Helminths

Cestodes

Tenia

Ova



Adult



Helminths

Trematodes

Schistosoma



egg



Arthropods

- ▶ Are insects such as bugs ,Bee , biting flies, mosquitoes etc.

Harmful effects of them:

1. Food poisoning.
2. Discomfort.
3. Cause diseases and transmit diseases.
4. Damage of crops.

Benefit of arthropods:

1. Bees produce honey.
2. Fertilization of plants and flowers.

▶ Protozoa (According to their motility) :

1- Amoebas → Entamoeba

2- Ciliates → Blantidium

3-Flagellates → Trypanosoma

4- Sporozoa → Plasmodium

▶ Helminthes “Worms” (According to their Structures)

1- Nematodes → Ascaris

2-Cestodes → Tenia

3-Trematodes → Schistosoma

Thank you



Next week

1st Quiz

- 1 – Introduction of Microbiology
- 2 – Microscopes
- 3 – Fungs & Viruses
- 4 – Parasites