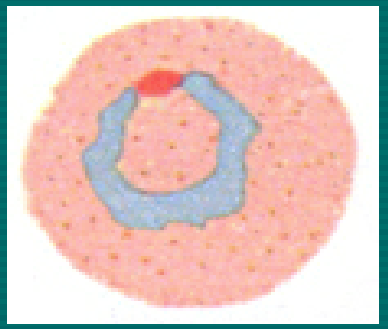
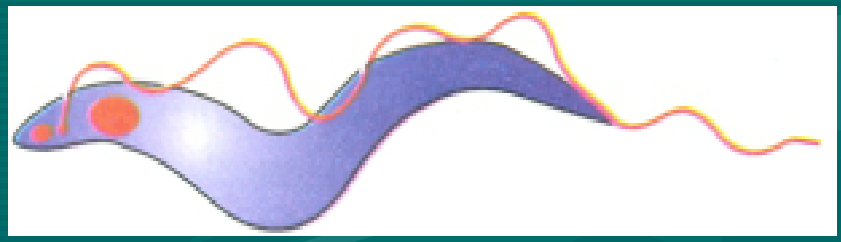
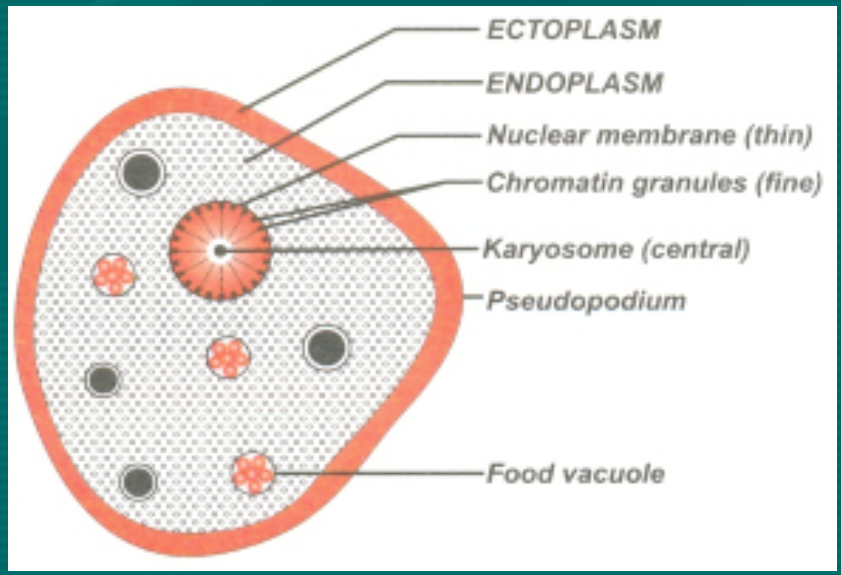
6. **Watercress**
   - Fasciola hepatica
7. **Blood – sucking insects**
   - Plasmodium spp.
   - Trypanosoma spp.
8. **Housefly**
   - Entamoeba histolytica
9. **Dog**
   - Echinococcus Granulosus
10. **Cat**
    - Toxoplasma gondii
11. **Man**
    - Entamoeba histolytica
    - Enterobius vermicularis
12. **Autoinfection**
    - Enterobius vermicularis







PORTAL OF ENTRY INTO BODY

1. **Mouth**
- Commonest
- Faecal – oral route
  - Entamoeba histolytica
  - Giardia lamblia
  - Balantidium coli
  - Tinea saginata
  - Tinea solium

2. **Skin**
- Walking over faecally contaminated soil
  - Ancylostoma duodenale
  - Necator americanus
- In water
  - Schistosoma spp.
- By blood - sucking arthropods
  - Plasmodium spp.
  - Trypanosoma spp.
  - Leishmania spp.

3. **Sexual contact**
   - Trichomonas vaginalis
   - Entamoeba histolytica
   - Giardia lamblia
4. **Congenital**
   - Toxoplasma gondii
   - Plasmodium spp.
5. **Inhalation**
   - Enterobius vermicularis
6. **Iatrogenic infection**
   - Malaria parasite

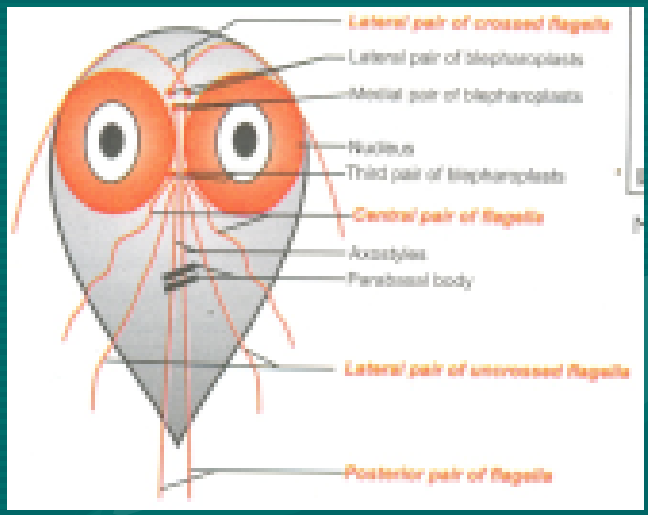
TAXONOMIC CLASSIFICATION OF PARASITIC ORGANISMS

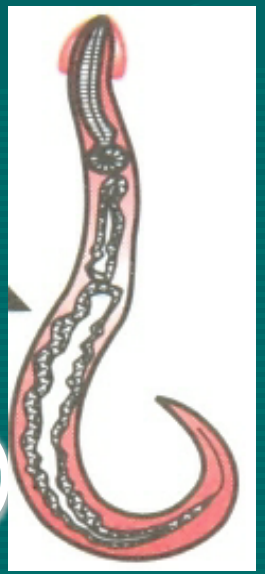
- The classification of parasites is controversial – there is no universally accepted system
- Parasites form part of the animal kingdom which comprises some 800,000 identified species categorized into 33 phyla (but it is estimated that there may be – 10m species in total)

TAXONOMIC CLASSIFICATION OF MEDICALLY IMPORTANT PARASITES

PARASITES

1. **Protozoa**
   - Sarcodina
   - Sporozoa
   - Mastigophora
   - Ciliata
2. **Metazoa**
   - Platyhelminths (Flatworms)
     - Termatoda (Flukes)
     - Cestoda (Tapeworms)
   - Nemathelminths (Roundworms)

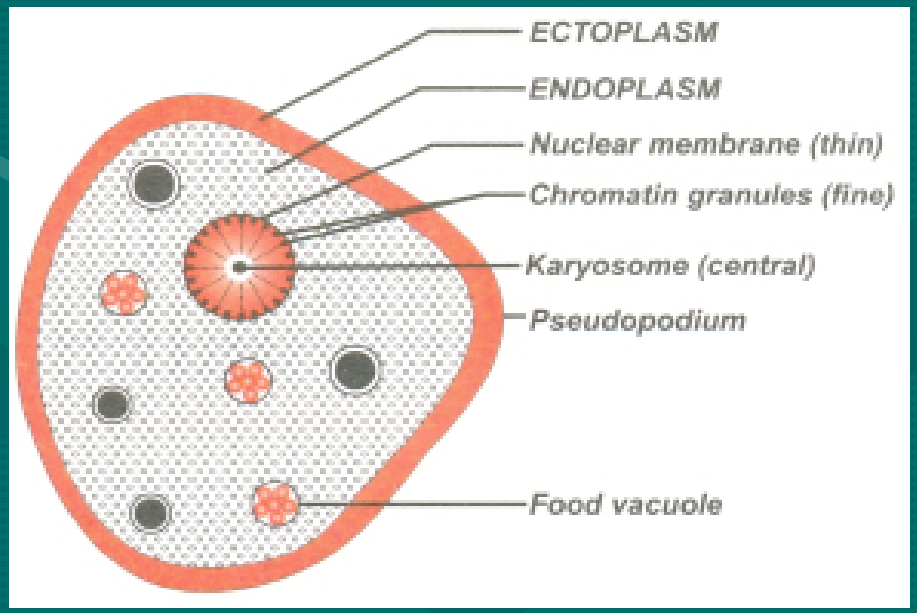


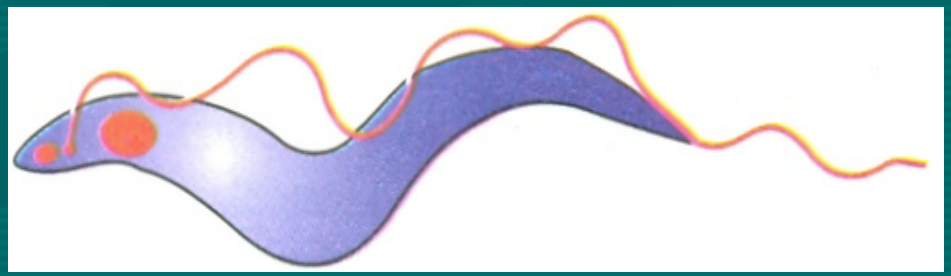


INTRODUCTION TO PROTOZOA

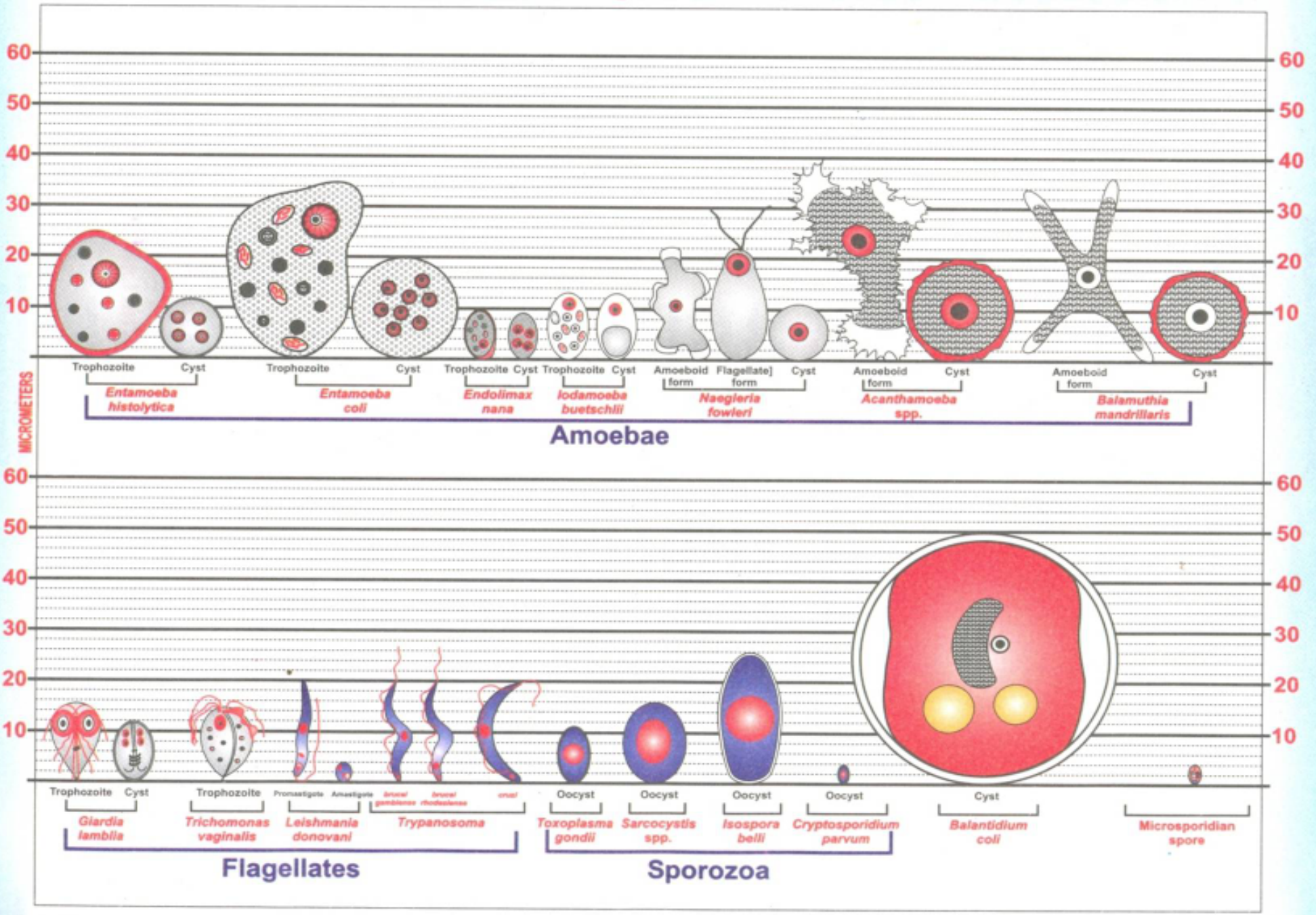
GENERAL CHARACTERISTICS

- Kingdom Protista
- Unicellular
- Eukaryotic
- 1 to 150µm



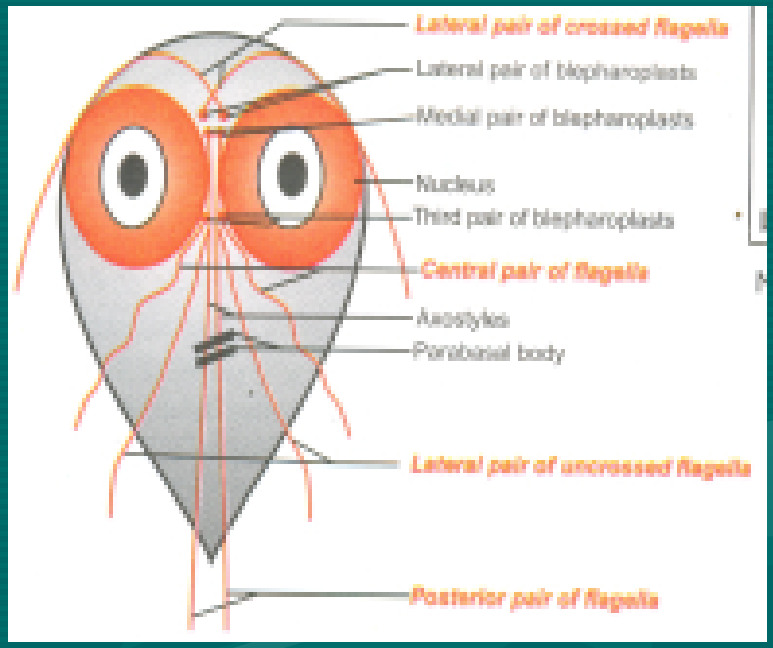


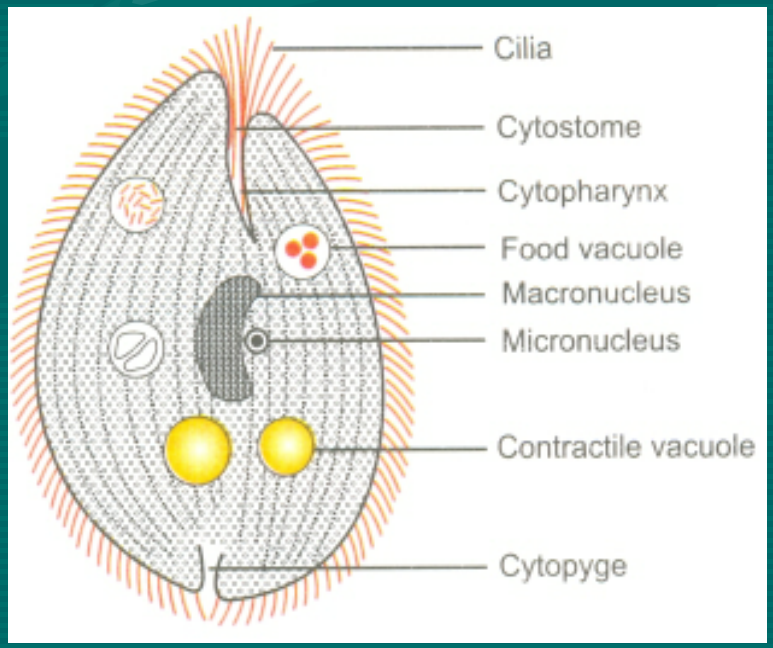
RELATIVE SIZES of morphological forms of various PROTOZOA



- **Consists of**
  - plasma membrane
  - cytoplasm
  - endoplasmic reticulum
  - mitochondria
  - golgi body
  - ribosomes
  - nucleus
  - nuclear membrane
  - chromosomes

- **Organelles of locomotion**
  - pseudopodia
  - cilia
  - flagella
- **Functions**
  - respiration
  - digestion
  - excretion
  - locomotion
  - reproduction





CLASSIFICATION OF PROTOZOA

Table 2.1. Classification of protozoa

Phylum	Subphylum	Superclass	Class	Order	Genus
Sarcomastigophora	Mastigophora		Kinetoplastidea	Trypanosomatida	*Leishmania* *Trypanosoma*
				Retortamonadida	*Retortamonas* *Chilomastix*
				Enteromonadida	*Enteromonas*
				Diplomonadida	*Giardia*
				Trichomonadida	*Trichomonas* *Dientamoeba*
	Sarcodina	Rhizopoda	Lobosea	Euamoebida	*Entamoeba* *Endolimax* *Iodamoeba*
				Amoebida	*Acanthamoeba* *Balamuthia*
				Schizopyrenida	*Naegleria*
Apicomplexa					

Apicomplexa	Coccidea	Eimeriida	*Cryptosporidium*
			Cyclospora
			Isospora
			Sarcocystis
			Toxoplasma
	Haematozoea	Haemosporida	*Plasmodium*
		Piroplasmida	*Babesia*
Ciliophora	Litostomatea	Vestibuliferida	*Balantidium*
Microspora		Microsporida	*Encephalitozoon*
			Enterocytozoon
			Pleistophora
			Trachipleistophora
			Vittaforma
			Nosema
			Microsporidium

- When a man dies no further reward is recorded for his actions, with three exceptions:
- Sadqa which continues to be supplied, or
- Knowledge from which benefit continues to be reaped, or
- The prayers of a good son to his dead father

(Muslim)


THANK YOU