

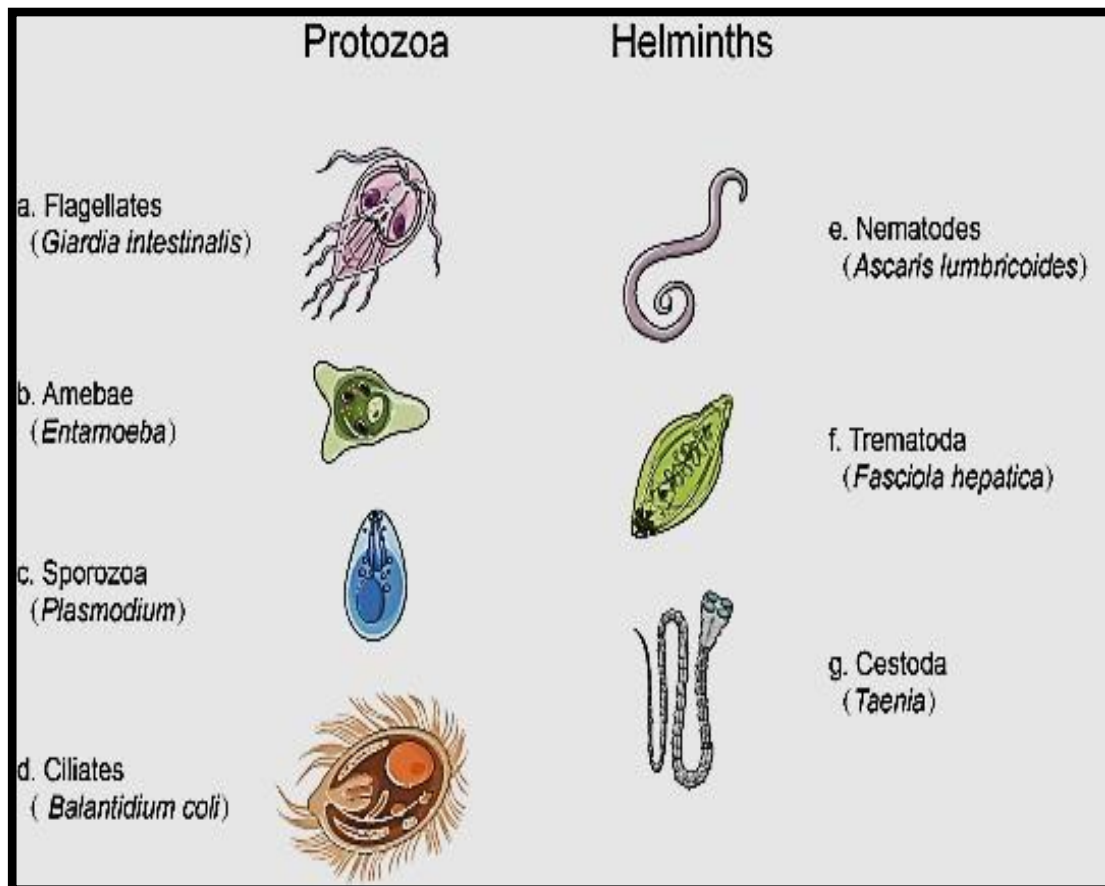
Parasite: an organism which lives on or within its host (man or animal) that provides nourishment and habitat.

Host: an organism harboring the parasite species and it may be affected or not.

Stage of life cycle for parasites

1. **Ovum:** female germ cell while still in the uterus.
2. **Eggs:** female germ cell outside the uterus.
3. **Embryo:** is the early developing stage of the parasite.
4. **Larvae:** it's easy and usually is the feeding of the parasite after embryo.
5. **Trophozoite:** it's the active vegetative stage protozoan also known as pre-cyst stage.
6. **Cyst:** its non -motile and non-feeding latent stage of certain protozoa it is surrounded by a thick wall to prevent dehydration.

Classification of Parasites	
Protozoa	helminths
Unicellular Single cell for all function	Mulicellular Specialized cells
<p>Amoebae: move by psudobodia.</p> <p>Flagellates: move by flagella.</p> <p>Ciliates : move by cilia</p> <p>Apicomplexa (sporozoa) Tissue parasites</p>	<p>Round worms (Nematodes) cylindrical, unsegmented</p> <p>Flat worms 1-Trematodes: leaf-like, unsegmented.</p> <p>2-Cestodes: tape-like, segmented</p>



Laboratory Diagnosis of Parasitic Infections:

The cornerstone for the diagnosis of parasitic infections is a thorough :

- 1-history of the patient's illness.
- 2-Epidemiologic aspects of the illness

The risks of acquiring many parasites are closely related to:

- 1-occupation 2-recreation 3-travel to areas of high endemicity.

Diagnosis of Parasitic Infections

1. Clinical
2. Laboratory

Purpose of laboratory diagnosis:

1. Confirmation of clinical suspicion.
2. Identification of unsuspected infection.

General Methods for diagnosis of parasitic infections

1. Microscopically or macroscopically.
2. Culture method.
3. Immunodiagnostic methods (antigen and antibody detection).
4. Intradermal skin tests (immune reaction).
5. Imaging techniques (shape/structure of parasites).

General consideration

1. Safety
2. Type of specimen
3. Time of collection
4. Site of collection.
5. Specimen container.
6. Specimen preservation

Parasitological specimens

1. Blood
2. Urine
3. Stool
4. Biopsy /aspirate
5. CSF
6. Sputum

Safety

All fresh specimens should be handled carefully, since each specimen represents a potential source of infectious material (bacteria, viruses, fungi, and parasites). Safety precautions should include awareness of the following:

1. Proper labeling of fixatives.
2. Specific areas designated for specimen handling (biological safety cabinets may be necessary under certain circumstances).
3. Proper containers for centrifugation.
4. Acceptable discard policies.
5. Appropriate policies for no eating, drinking, or smoking, etc., within the working areas.

If applicable, correct techniques for organism culture and/ or animal inoculation.