

# Summary of different parasites

## Trematoda

	Habitat	Definitive Host	Intermediate Host	Diagnostic Stage	Infective Stage	Mode of Infection	Name of Disease
<b>Schistosoma spp.</b> (egg, Adult, cercaria)	<u>S. haematobium</u> : Pelvic and Vesical plexus <u>S. mansoni</u> : Radicals of the inferior mesenteric plexus	- <b>Man</b>	<u>S. Haematobium</u> : Bulinus truncatus snail <u>Schistosoma Mansoni</u> : Biomphalaria Alexandria	<b>Egg</b> , containing Full formed Miracidium (oval in shape with terminal spine in sch.haematobium, lateral spine in sch.mansoni)	Fercocercus <u>Cercaria</u>	Penetration of skin of people in infected water by Fercocercus Cercaria	Schistosomiasis, Swimmers itch
<b>Fasciola Spp.</b> (adult, egg, Cercaria)	Bile Duct	- <b>Man</b> & - Herbivorous animals	<u>Fasciola Gigantica</u> Lymnaea cailiaudi snail <u>Fasciola</u> <u>Hepatica</u> Lymnaea Truncatula snail	<b>Eggs</b> (Oval operculated with thin shell containing immature ovum)	Encysted <u>Metacercaria</u>	Ingestion of encysted Metacercaria in improperly washed vegetables or drink	Fascioliasis

## Cestoda

<b>Diphyllobothrium Latum</b> (mature segment)	<b>Small Intestine</b>	<b>Man</b>	1 <sup>st</sup> : Cyclops 2 <sup>nd</sup> : Fresh water fish (salmon,cyprinoid fish)	<u>Unembryonated egg</u> pass in feces	plerocercoid larva	<u>Ingestion of</u> plerocercoid larva in improperly cooked fish	Diphyllobothriasis
<b>Taenia Saginata</b> (egg, gravid segment)			- Cattle - pig	<b>Egg</b> (spherical operculated with thick radially shell containing hexacanth embryo)	cysticercus bovis (larval stage)	<u>Ingestion of</u> undercooked beef containing viable cysticercus bovis	Intestinal taeniasis
<b>Hymenolepis Nana</b> (Adult, egg)			- Man or - larva of rat flea	<b>Egg</b> (spherical double walled translucent containing mature hexacanth embryo)	<b>Egg</b>	1- <u>Ingestion</u> of Eggs with Contaminated food 2- Autoinfection 3- faeco-oral route	Hymenolepisis nana
<b>Echinococcus Granulosus</b> (adult, Hydatid cyst in tissue)			- Dogs & - Other canines	- Cattle - sheep - occasionally Man	<u>Hydatid cyst</u> in liver, lungs, etc	<u>Embryonated egg</u> in feces	<u>In Man</u> (Hydatid Disease ( Hydailosis )) <u>In Dogs</u> (Echinococcosis)

## Nematoda

<b>Trichinella spiralis</b> (teased larva)	<b>Small Intestine</b> (embedded in mucosa)	Pigs or rats or <b>Man</b>	The same as DH	- Trichinella spiralis larva - or encysted	Encapsulated (teased) larva in striated muscle	Eating under cooked pork meat containing encysted larva within Trichinella capsule	Trichinellosis
<b>Toxocara spp.</b> (Toxocara canis, Toxocara cati) (egg)	<b>Small intestine of dogs &amp; cats</b>	<b>Dogs &amp; Cats</b> Man is an accidental host where life cycle not completed.	<b>No</b>	<b>Egg</b>	<u>Embryonated eggs</u> containing immature larva	ingestion of embryonated eggs with food or drink	Visceral larva migrans
<b>Heterophyes Heterophyes</b> (Adult, egg)	<b>Small Intestine</b> (deeply embedded between The villi of Jejunum & upper ileum)		1- Pirenella conica snail 2- Mugil (bouy) & Tilapia (bolti) Fish	<b>Mature eggs</b> (oval with thick operculum and knob at the end, golden yellow, with mature Miracidium)	<u>Encysted Metacercaria</u> in Fish	Eating insufficiently cooked or salted infected fish containing encysted Metacercaria	Heterophyiasis
<b>Ascaris Lumbricoides</b> (Adult, egg)	<b>Small Intestine</b> ( free in the lumen with mucosal folds pressed against it )			<b>Egg</b> (oval brown, coarse mammilated shell containing one cell embryo)	<b>Embryonated egg</b> containing 2 <sup>nd</sup> stage rhabditiform larva	Ingestion of embryonated eggs with food or drink	Ascariasis
<b>Ancylostoma duodenale</b> (filariiform larva)	<b>Small Intestine</b> Mainly: - Jejunum - illum			<b>Eggs in stool</b> ( contain immature ovum in 4-cell stage )	<b>3<sup>rd</sup> Stage Filariform larva</b>	Penetration of human skin by 3 <sup>rd</sup> stage filariform larva	Ancylostomiasis (Hookworm Disease)
<b>Trichuris Trichura</b> (adult, egg)	<b>Large Intestine</b> Mainly: - Caecum			<b>Eggs in stool</b> ( Barrel-Shaped with thick shell containing ovum in one cell stage)	<b>Embryonated egg</b> containing 1 <sup>st</sup> stage Rhabditiform larva	Ingestion of embryonated eggs contain 1 <sup>st</sup> rhabditiform larva in food or drink	Trichuriasis (Trichocephaliasis)
<b>Enterobius Vermicularis</b> (adult, egg)	<b>Large Intestine</b> Mainly: - Caecum, - Appendix - illum			<b>Eggs in perianal region</b> (D-shaped double walled containing mature larva)	<b>Eggs</b> containing Mature Larva	1) Ingestion of Eggs in contaminated food or drink or inhalation through air 2) Autoinfection . 3) Retro infection: - migration of larvae back to large intestine after hatching	Enterobiasis
<b>wuchereria Bancrofti</b> (Microfilaria)	<b>Lymphatics &amp; lymph nodes</b> of - lower limb & - external genitalia			<b>Microfilaria in blood</b> between 10pm and 2am	<b>3<sup>rd</sup> stage filariform larva</b>	escape of 3 <sup>rd</sup> stage filariform larva from mosquito (female culex) to skin through blood meal (bite)	Bancroftian filariasis (elephantiasis)

## Amoeba

<b>Toxoplasma gondii</b> (cyst)	Obligate intracellular parasite (invade any nucleated cell)	Cats	<b>Man</b> & other Domestic animals and rats (accidental hosts)	- Tachyzoites or - cysts	<b>all forms of parasite are infective</b> (Trophozoites, Pseudocysts, cysts, mature oocysts)	<b>Congenital ( Placenta ) Acquired</b> A) Ingestion of sporulated oocysts in food or tissue cysts in under cooked meat B) Organ transplantation, Bl. Transfusio	Toxoplasmosis
<b>Plasmodium spp.</b> (falciparum, vivax)	Red Blood Cells (intra-erythrocytic)	<b>Vector</b> Female Anopheles mosquito	<b>Man</b>	<b>In p.vivax</b> ( Ring, Trophozoites, schizonts, gameteocyte ) stages in blood <b>In p.falciparum</b> (only ring, Trophozoites) stages in blood	Sporozoites	1) Bite of Infected female Anopheles Mosquito 2) Blood Transfusion or organ transplantation from infected donor	Malaria
<b>Trichomonas Vaginalis</b> (trophozoite)	<b>Genitourinary system</b> urethra, vagina, prostate, urinary bladder			Trophozoite	Trophozoite	Sexual intercourse or contact with contaminated toilet seats or congenital through birth canal	Trichomoniasis
<b>Giardia lamblia</b> (Cyst)	<b>Small Intestine</b> especially Duodenum and upper jejunum			- Trophozoites or - cysts	<b>Cysts</b> (Quadrinucleated cyst)	<u>Ingestion of</u> cysts with contaminated food or Drink	Giardiasis (Travelers Diarrhea)
<b>Entamoeba Histolytica</b> (cyst, Trophozoites)	<b>Large Intestine</b>			- Cyst in formed stool or - Trophozoites in diarrheic stool	<b>Cysts</b> (Mature Quadrinucleated cyst)	<u>Ingestion of</u> mature cysts in food or drink	Amoebiasis
<b>Balantidium Coli</b> (cyst, Trophozoites)				- Cyst in formed stool or - Trophozoites in diarrheic stool	<b>cyst</b>	<u>Ingestion of</u> Cyst in food or Water contaminated with pig faeces	Balantidiasis (Balantidial Dysentery)
<b>Leishmania Spp.</b> (donovani (promastigote))	<b>L.Donovani complex</b> Reticuloendothelial system in all viscera (spleen, liver, etc) <b>L.tropica, L. Mexicana, L.Braziliensis</b> Reticuloendothelial system in skin and mucus membrane			Amastigotes	Promastigotes	1) Bite of infected female sand fly inoculate Promastigotes 2) Direct contact or auto infection	- Visceral leishmaniasis (Kala-Azar) - Cutaneous Leishmaniasis (Oriental Sore)