HELMINTHS

Nematodes (round worm)
  - Intestine
  - Blood

Cestodes (tape worm)
  - Intestine

Trematodes (Flat worm)
  - Intestine
  - Blood
  - Liver & Lungs
Helminths (worms)

Flat worms
Platyhelminthes

- One piece
  Trematoda
  Flukes
- Segmented
  Cestoda
  Tape worms

Cylindrical worms
Nemathelminthes

- Nematoda
  Intestinal & tissue

in different areas

intestine & Tissue
Points to be studied in any helminth

Geographical Distribution
Definitive host (Final host)
Habitat (adult parasite)
Intermediate host
Infective Stage & mode of infection
Pathogenesis & Clinical picture
Diagnostic stage & Methods of diagnosis
Treatment
Prevention and Control
TREMATODES
General Characteristics

- Mouth
- Surrounded by oral sucker
- Genital pore
- Ventral sucker
- Spines
- Cuticle
- Excretory pore
- Genital pore
- Penis
- Ovary
- Ootype
- Oviduct
- Vas deferens (sperm ducts)
- Testes
- Vitelline Glands
FASCIOLOYSIS
**Geog. Distribution:**

- *F. gigantica* cattle raising countries
- *F. hepatica* sheep raising countries

**Final Host:**

**Habitat:**

**Diagnostic stage:**

**Infective stage:**

**Mode of infection:**

raw green vegetables
**Life Cycle of *Fasciola* spp**

**Mode of infection**

- Ingestion of contaminated vegetables & water

**Reservoir host**

- Infected Herbivorous animals

**Definitive host**

- Infected Man

**Egg**

- Diagnostic stage

**Intermediate host**

- Hatching miracidium

**Fresh water**

**Encysted after metacercaria**

**Infective stage**

- simple tail
- Lepto-cercous cercaria
- L. cailliaudi
- F. gigantica
- L. truncatula
- F. hepatica

**Life Cycle Diagram:**

- Egg → Hatching miracidium → Lepto-cercous cercaria → L. cailliaudi, F. gigantica, L. truncatula, F. hepatica → Infective stage → Fresh water → Encysted after metacercaria → Intermediate host (snail) → Infective stage → Definitive host (Infected Man) → Mode of infection (Ingestion of contaminated vegetables & water).
Fasciolopsis buski

(Giant Intestinal Fluke)
Fasciolopsis buski

- *Fasciolopsis buski*

Egg

Egg is similar to *Fasciola hepatica*
SCHISTOSOMIASIS
Schistosoma Parasites

Called Blood Flukes

Adult Flukes live in blood vessels of infected Humans

- **S. haematobium**
  - D.H: Man
  - R.H: None

- **S. mansoni**
  - D.H: Man
  - R.H: Rodent, Monkeys

- **S. japonicum**
  - D.H: Man
  - R.H: Domestic animals
Adult Morphology

**Sexes:** separate
**Female:** cylindrical
**Male:** flattened, folded (gynaecophoric canal).

**Suckers:** oral & ventral (smaller in females).

**Digestive system:**
No muscular Pharynx
Intestinal ceaca reunite in a single caecum.
Cercarial Dermatitis (Bather’s itch or swimmer’s itch)

A condition that occurs due to penetration of cercariae of non-human species of schistosomes the skin of man.

Cercariae cannot go beyond the germinal layer.

Clinical picture:
Dermatitis, itching, oedema and secondary bacterial infection.

Treatment:
Antipruritics, antihistaminics, antibiotics.
Paragonimus westermani

(Oriental lung fluke)
Heterophyes heterophytes

(Intestinal fluke)
Clonorchis sinensis
Chinese liver fluke