

### 3. Lung fluke

Kingdom: Animalia

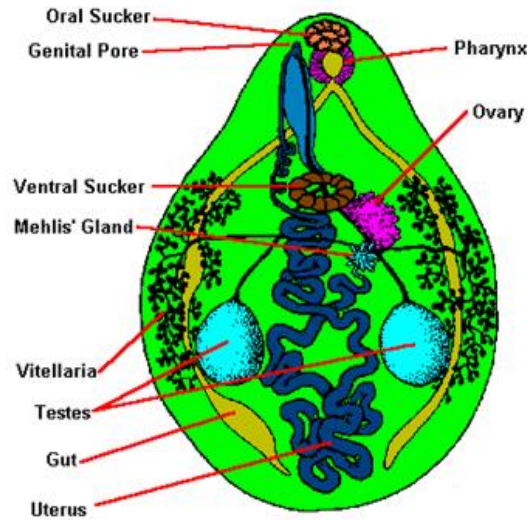
Phylum: Platyhelminthes

Class: Trematoda

Order: Plagiorchiida

Family: Paragonimidae

*Paragonimus westermani*



**Morphology:** (8-12 X 4-6 mm)

- **Habitat:** Encapsulated in Lungs. Rarely, worm may migrate to liver, brain and heart
- **Definitive host:** Human, also other mammals.
- **First intermediate host:** Water snail.
- **Second intermediate host:** Crustaceans, Crabs.
- **Infective stage:** Encysted metacercariae.
- **Diagnostic stage:** Eggs in sputum or feces; Chest X-ray.
- **Common name:** The Oriental Lung Fluke.
- **Disease:** Paragonimiasis.
- **Treatment:** Praziquantel

### 4. Blood flukes

Kingdom: Animalia

Phylum: Platyhelminthes

Class: Trematoda

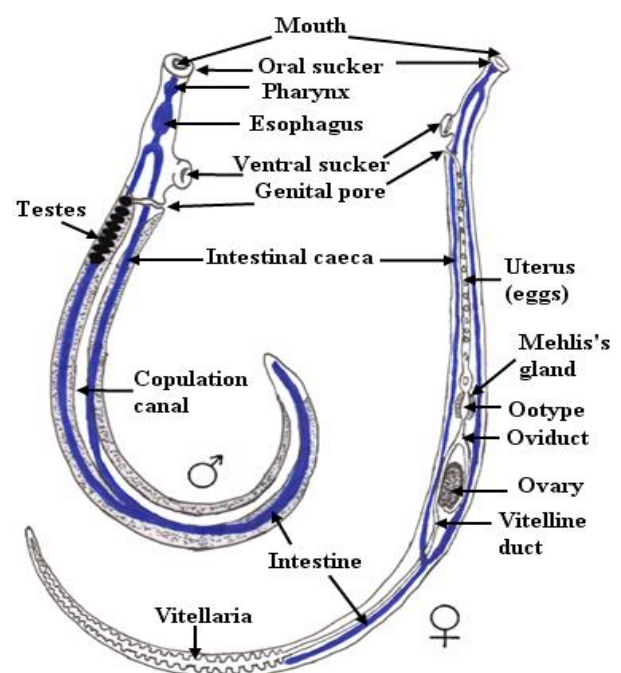
Order: Strigeiformes

Family: Schistosomatidae

*Schistosoma haematobium*

*Schistosoma mansoni*

*Schistosoma japonicum*



**Adults** live in blood capillaries of Man, monkey, bird, pig and rat. It feeds on blood, and causes a disease known as Schistosomiasis (Bilharziasis).

<b>Schistosoma spp. (blood fluke)</b>	<b>Other trematodes (intestinal, liver and lung fluke)</b>
<b>Dioecious</b> (Male is larger and shorter than female and possess gynecophoric canal)	<b>monoicous</b> (both sexes present in same animals)
Rounded worm	Flat worm
Infective stage: cercaria	Metacercaria
second intermediate host: none present	present
Penetrate integument of definitive host	Through ingestion

### **Schistosoma mansoni**

- **Common name:** Blood Fluke.
- **Habitat:** blood capillaries of large intestine
- **Definitive host:** Human.
- **Intermediate host:** Water snail *Biomphalaria* sp
- **Infective stage:** Cercaria
- **Diagnostic stage:** Eggs in feces or rectal biopsy.
- **Disease:** Intestinal Schistosomiasis (Intestinal Bilharziasis).

#### **Adult:**

**Male:** (6.4 - 9.9) mm X 1mm.

**Female:** (7 -14) mm X 0.16 mm.

#### **Eggs**

Has lateral spine; Embryonated (with miracidium).

### **Schistosoma haematobium**

**Habitat:** blood capillaries (mesenteric veins) of urinary bladder

**Intermediate host:** Water snail *Balinus* sp.

**Disease:** Urinary Bilharziasis.

#### **Adult:**

Male: (10-15) mm X 1mm, No. Of testes: (4-5)

Female: 20mm X0.2mm

#### **Eggs**

- Has terminal spine; Non-operculate, Embryonated.

***Schistosoma japonicum***

**Habitat:** blood capillaries of small intestine

**Intermediate host:** Water snail *Oncomelania* sp.

**Disease:** Oriental Schistosomiasis (Katayama disease).

**Adult:**

**Male:** (12-20) mm X 0.5mm, No. Of testes: (9)

**female:** (15-30) mm X 0.2 mm

**Eggs**

■ Has lateral knob; Ovoid, thin clear shell, embryonated, non-operculated and Smaller than *S. mansoni* and *S. hematobium*.

**Diagnosis**

1. Blood sample
2. Detect the eggs in fecal sample
3. Testing the urine
4. Serological and skin tests

**Treatment**

- Praziquantel is effective against all species.
- Oxamniquine is used exclusively to treat intestinal schistosomiasis.
- Metrifonate is effective for the treatment of urinary schistosomiasis.

