

## Practical parasite second :stage lecture :8 Trematodes

### Genus: *Schistosoma*

*Schistosoma* is found in Africa and the Middle East the adult stages have two sexes .

#### 1-Parasite : *Schistosoma haematobium*

**Disease** : Urinary schistosomiasis.

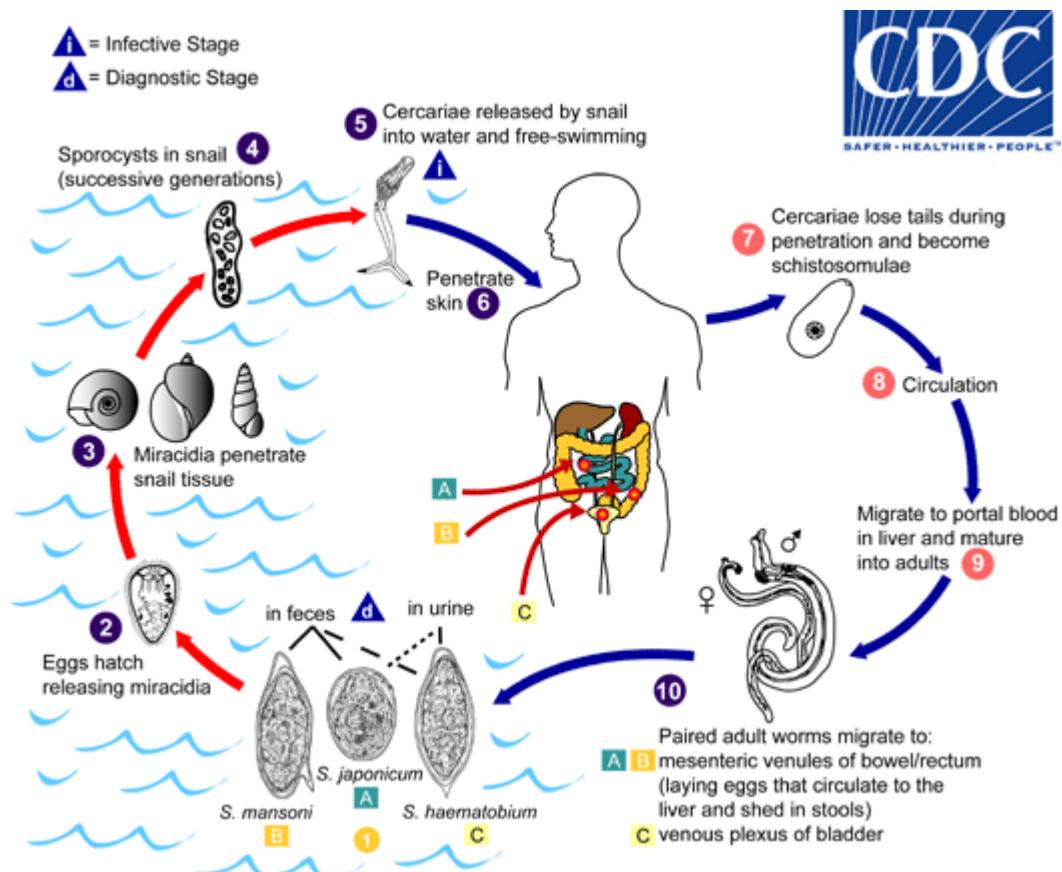
**Intermediate host**: *Bulinus* sp.p. snail

**Definitive host** : Human , mammals

**Infective stage** : larval cercariae .

**Habitat**: Adults are found in the venous plexuses around the urinary bladder .

**Life cycle**:



## Diagnosis :

Direct smear by examination of eggs in the urine, tissue biopsy is effective when eggs don't appear in urine.

## Prevention :

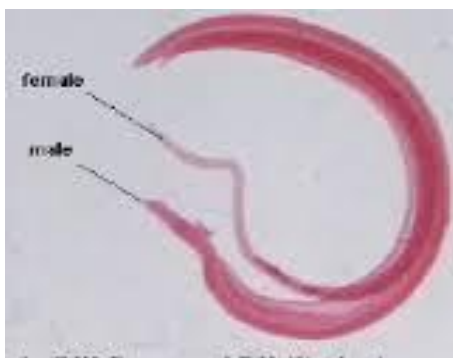
The main cause of schistomiasis is the dumping of human waste into water supplies. Prevent swimming in the contaminated water .

## Pathogenicity :

The ova are initially deposited in the muscularis propria which leads to ulceration of the overlying tissue that lead to acute inflammation, hemorrhage and granulomas , in late stage the infection may lead to extra-urinary complication .

## Treatment :

The drug is praziquantel , a quinolone , derivative.



Adult worm Sof Egg of *S . haematobium*

*S . haematobium*



Cercariae stage *S. haematobium*

## 2- Parasite : *Schistosoma mansoni*

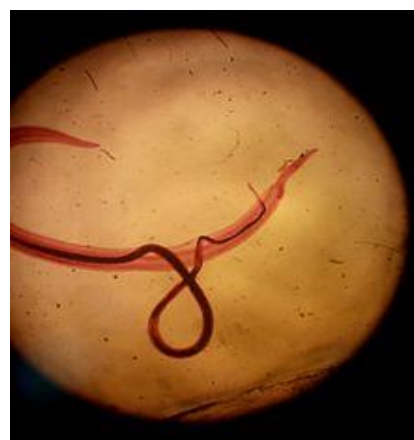
**Disease :** Intestinal schistosomiasis.

**Intermediate host:** *Biomphalaria* sp.p. snail

**Definitive host :** Human ,mammals

**Infective stage :** larval cercariae .

**Habitat:** Venous plexuses of intestinal tract .



Couple of *Schistosoma mansoni*

## **Pathogenicity :**

Periportal fibrosis of the liver, Fever ,granulomas in the intestinal wall or in the liver , granulomas due to fibrosis,hepatosplenomegaly in severe cases , fibrosis, resulting in organ damage .

## **Diagnosis:**

Direct Microscopic smear of eggs in stool , the most practical method for diagnosis,tissue biopsy

## **Treatment :**

The drug is praziquantel , a quinolone , derivative  
The life cycle of *Schistosoma mansoni*.



*S. mansoni* egg with the lateral spine

## **3-PARASITE :     *Schistosoma japonicum***

*S. japonicum* worms are larger than the other Schistosomes ,male has 1.2 cm by 0.5 mm. The females has 2 cm by 0.4 mm. The ova lateral spine or knob.

**Disease :** Intestinal schistosomiasis.

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

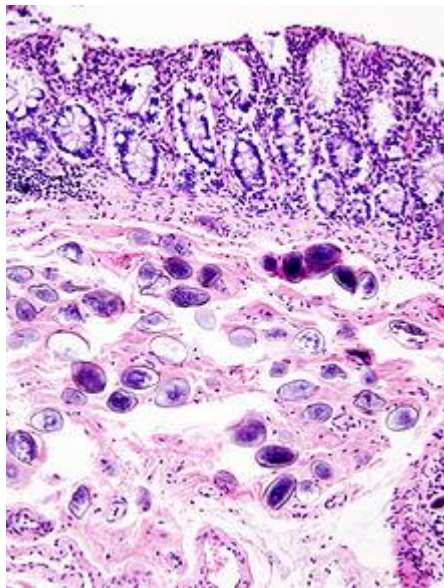
**Definitive host :** Human, wild mammals.

**Infective stage :** larval cercariae .

**Habitat:** ending at the mesenteric veins of Intestinal tract

**Pathogenicity :**

Granulomas , fibrosis , fever, liver fibrosis, liver cirrhosis, liver portal hypertension, splenomegaly, and ascites.



Eggs in the colonic sub mucosa of *Schistosoma japonicum*.

**Diagnosis:**

Direct Microscopic smear of eggs in stool , the most practical method for diagnosis. Tissue biopsy (rectal biopsy for all species and biopsy of the bladder for *S. haematobium*) may demonstrate eggs when stool or urine examinations are negative.

**Treatment:** Praziquantel, a quinolone derivative. Combination treatment may prevent morbidity due to schistosomiasis.

## Prevention:

To prevent this disease occurring, human waste should never be used for fertilizer of earth , and avoid contact with water that is contaminated by human waste.



Adult worm of *S. japonicum*



Egg of *S. japonicum*