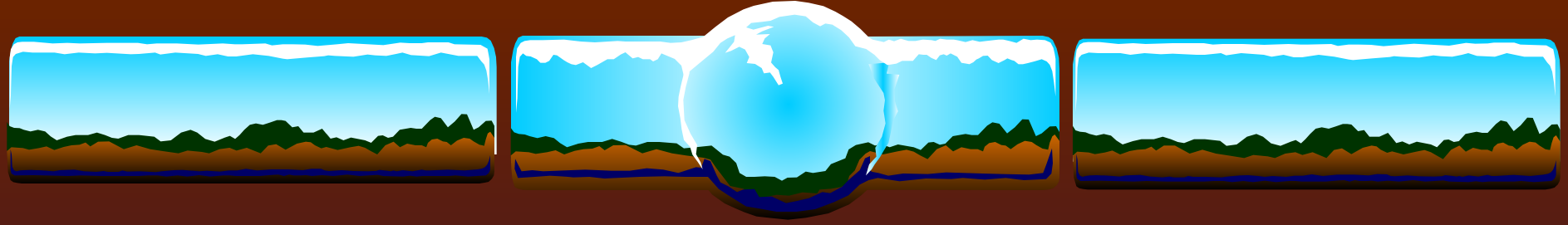
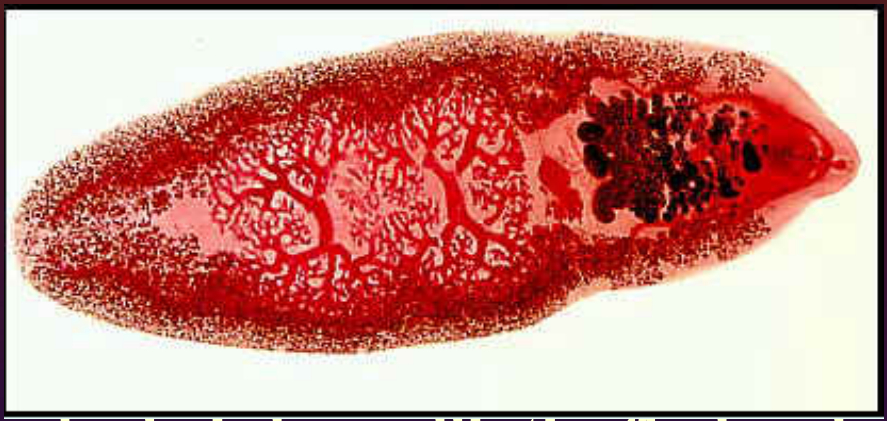


Fasciolopsis Buski

- *Fasciolopsis buski* is commonly called the giant intestinal fluke is commonly called the giant intestinal fluke, being the largest known parasitic fluke is commonly called the giant intestinal fluke, being the largest known parasitic fluke in humans is commonly called the giant intestinal fluke, being the largest known parasitic fluke in humans. The body can be up to 7.5 cm in length and 2.5 cm in width. The reason for its common name is due to the fact that it is one of the largest flukes is commonly called the giant intestinal fluke, being the largest known parasitic fluke in humans. The body can be up to 7.5 cm in length and 2.5 cm in width. The reason for its common name is due to the fact that it is one of the largest flukes to infect

I. morphology



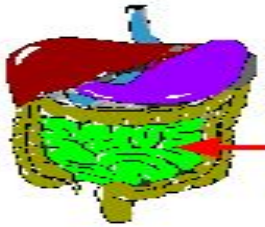
1. Adult: the body is long elliptic, flesh-colored, looks like a slice of raw meat. The size is about 20-75× 8-20 ×1-3mm, the largest one of human trematodes. The ventral sucker is near by the much smaller oral sucker. Two coral-liked testes are located in the posterior half of the body.

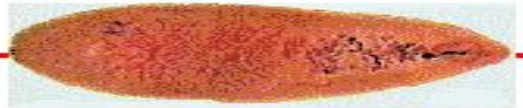
2. egg is oval in shape, slight yellow in color, 130-140×80-85μ(the largest helminth egg). The thinner shell with an operculum encloses an ovum and 20-40 yolk cells.

II. Life cycle

1. Site of inhabitation: small intestine
2. Infective stage: metacercaria
3. Infective mode: eating raw water plants with metacercariae
4. Medium of water plants: chestnut, water bamboo and caltrop
5. Intermediate hosts: Planorbis snail
6. Reservoir host: pig
7. Life span: 1-4 years

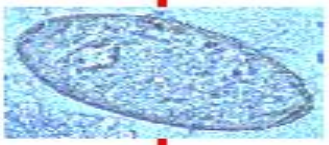
THE LIFE CYCLE OF *FASCIOLOPSIS BUSKI*





The adult, sexually mature parasite resides in the host's small intestine.

Eggs are passed in the host's feces.

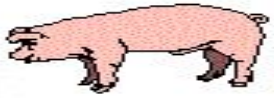


The eggs hatch, producing a free-swimming miracidium.

The miracidium infects the first intermediate host, a snail.

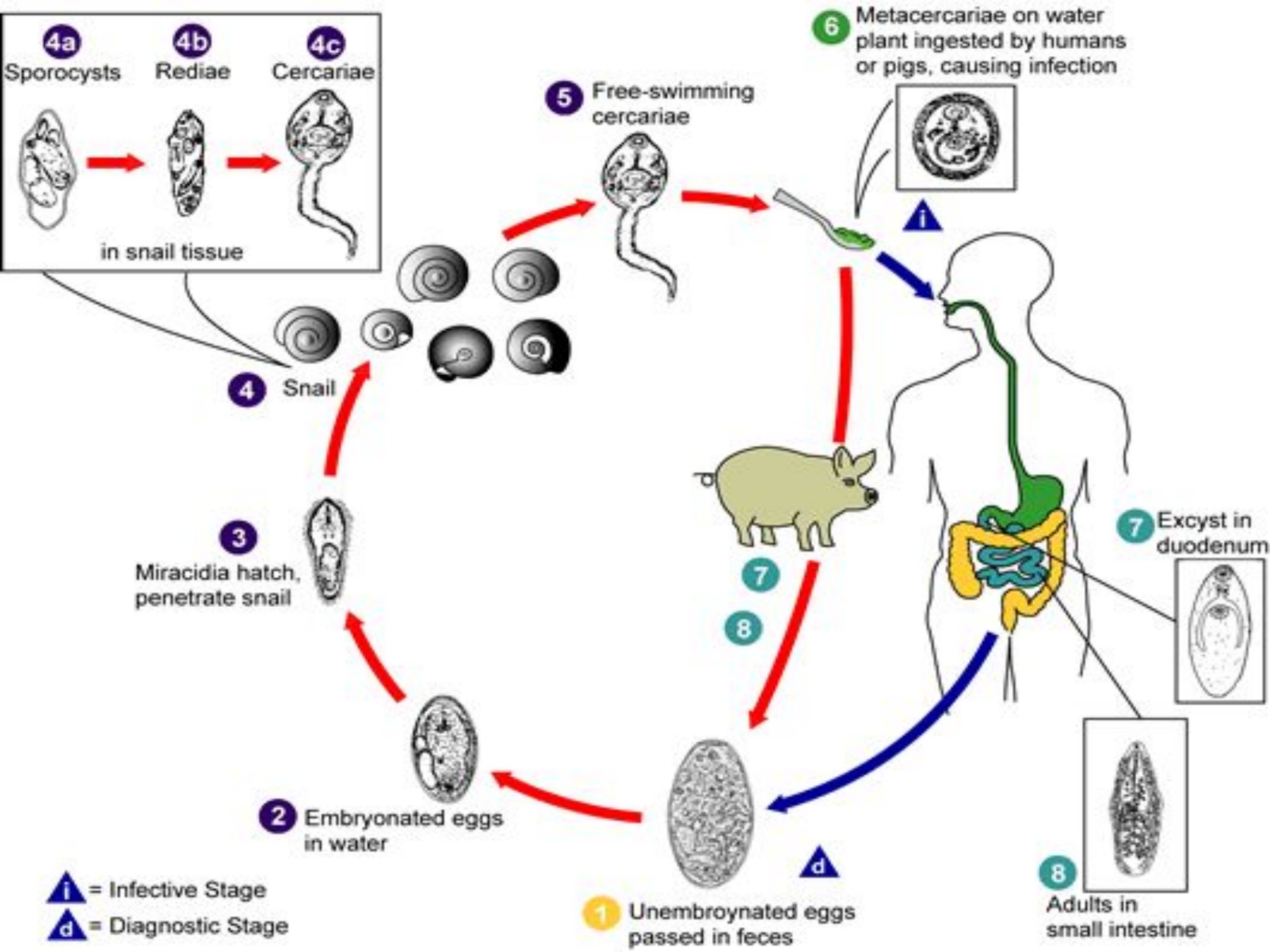
The parasite reproduces asexually in the snail, producing cercariae.

The cercariae leave the snail and encyst on edible vegetation, producing metacercariae.



The metacercaria is ingested by the definitive host and "excysts" in the small intestine.

(Parasites and Parasitological Resources)


4a
Sporocysts
4b
Rediae
4c
Cercariae
in snail tissue
5
Free-swimming cercariae
6
Metacercariae on water plant ingested by humans or pigs, causing infection
i
4
Snail
3
Miracidia hatch, penetrate snail
7
8
7
Excyst in duodenum
2
Embryonated eggs in water
d
1
Unembroynated eggs passed in feces
8
Adults in small intestine
i = Infective Stage
d = Diagnostic Stage

Man is infected by ingesting water chestnuts contaminated with metacercaria which find access to the small intestine, attach themselves to the mucosa and mature in 25 to 30 days. The fluke eggs are passed in the feces and hatch in fresh water producing miracidia which must penetrate a suitable snail within hours. The miracidia in the snail develop into cercaria and enter fresh water where they attach themselves to water plants (water chestnut) and encyst to become metacercaria .

- **Symptoms**
  Most infections are light and asymptomaticMost infections are light and asymptomatic. In heavy infections, symptoms can include abdominal painMost infections are light and asymptomatic. In heavy infections, symptoms can include abdominal pain, chronicMost infections are light and asymptomatic. In heavy infections, symptoms can include abdominal pain, chronic diarrheaMost infections are light and asymptomatic. In heavy infections, symptoms can include abdominal pain, chronic diarrhea, anemiaMost infections are light and asymptomatic. In

- **Pathology**
  The fluke attaches itself to the intestinal mucosa where inflammation, ulceration and abscesses occur.
- **Diagnosis**
  Diagnosis is based on clinical symptoms in endemic areas. Eggs in feces (75 to 100 by 130 to 150 micrometers) provide the final diagnosis. Microscopic identification of eggs, or more rarely of the adult flukesDiagnosis is based on clinical symptoms in endemic areas. Eggs in feces (75 to 100 by 130 to 150 micrometers) provide the final diagnosis. Microscopic identification of eggs, or more rarely of the adult flukes, in the stoolDiagnosis is based on clinical symptoms in endemic areas. Eggs in feces (75 to

IV. Diagnosis

Stool examination:

1. Direct fecal smear

2. Water sedimentation method

V. Treatment and Prevention

1. The treatment of the patients, carriers and pigs

Drug of choice is praziqantel. Other effective drugs include hexachloroparaxylol, bithionol (bitin).

2. Prevention

(1) Health education, (2) Deal with night soil.

(3) Avoid feeding pigs on raw water plants

Treatment and control

Praziquantel has proven effective. Water chestnuts from contaminated waters should be avoided. Sewage should be treated before disposal.

- ***Heterophyes heterophyes***
- Humans are infected by the small flukes *Metagonimus yokogawai* and *Heterophyes heterophyes* by eating raw fish. Both *M. yokogawai* and *H. heterophyes* are primarily intestinal flukes of dogs and cats. Human infection with *M. yokogawai* occurs in Asia, the Middle East, and Siberia. *H. heterophyes* infection occurs in southeast Asia and northwest Africa.

- **Life cycle.** The life cycles of *M. yokogawai* and *H. heterophyes* are identical. Eggs are ingested by snails that are the first intermediate hosts. The eggs mature into cercariae and are passed by the host snail. The cercariae penetrate the skin of freshwater fish and migrate to the muscle where they mature into metacercariae. Infected raw fish are ingested by humans. The metacercariae mature into adult worms in the duodenum and jejunum

- **Clinical manifestations**. The majority of *M. yokogawai* and *H. heterophyes* infections are asymptomatic. Abdominal pain and diarrhea may accompany severe infection. Occasionally, eggs may penetrate the intestinal mucosa and reach the intestinal lymphatics where migration into the heart or central nervous system can occur. Granulomatous reaction may result from this migration; however, symptoms are distinctly uncommon.

- **Diagnosis, treatment, and prevention.** The diagnosis is made through the identification of typical eggs of *M. yokogawai* or *H. heterophyes* in the host feces. Treatment of these flukes is the same as that for *F. buski*. Infection with these worms can be prevented with proper cooking of fish prior to ingestion.

- ***Gastrodiscoides hominis***
- *Gastrodiscoides hominis* is a common parasite in humans in India and the former Soviet Union, where it is prevalent in pigs. Humans become infected through ingestion of infected plants.
- **Life cycle.** The life cycle of *G. hominis* is not completely known but is believed to be similar to that of *F. buski*, with snails and aquatic plants acting as intermediate hosts.

- **Clinical manifestations.** Most infections are asymptomatic. Severe infection is associated with abdominal pain and diarrhea.
- **Diagnosis, treatment, and prevention**. The diagnosis is made through the identification of typical eggs in the host feces. Treatment is the same as that for *M. yokogawai* or *H. heterophyes*.
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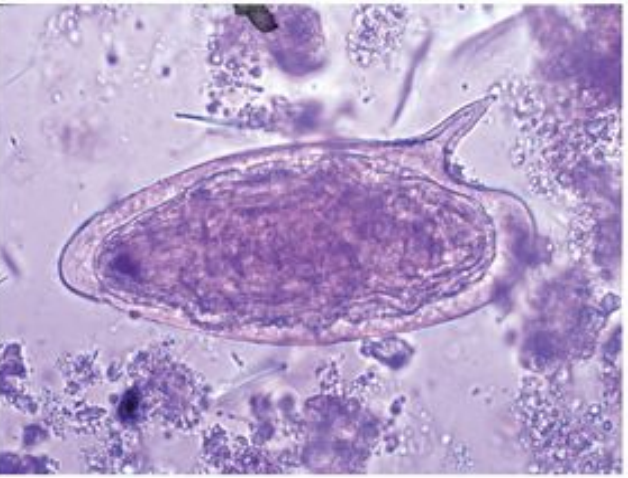
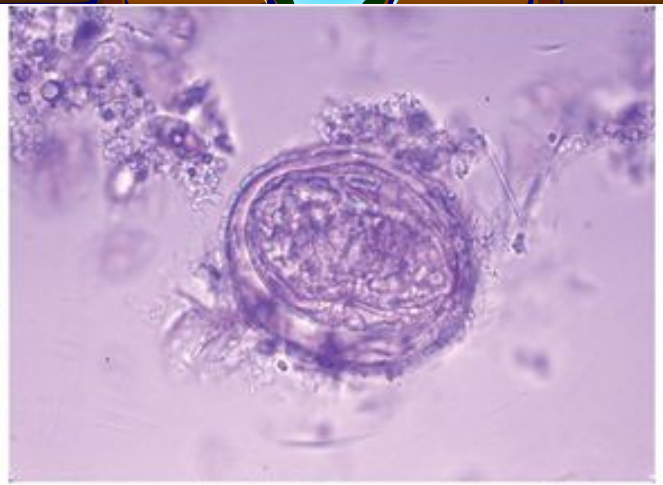
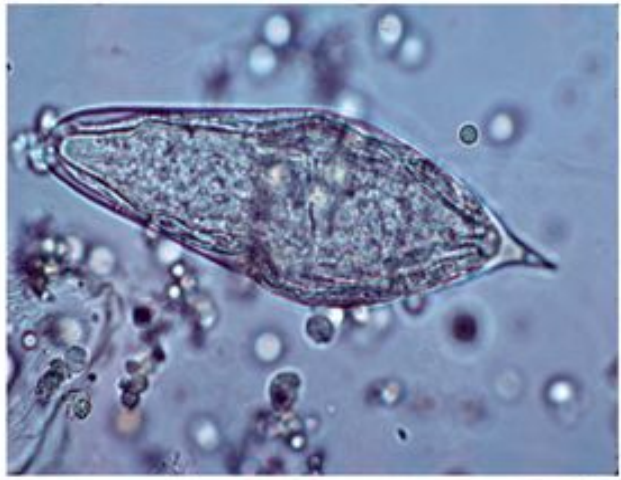
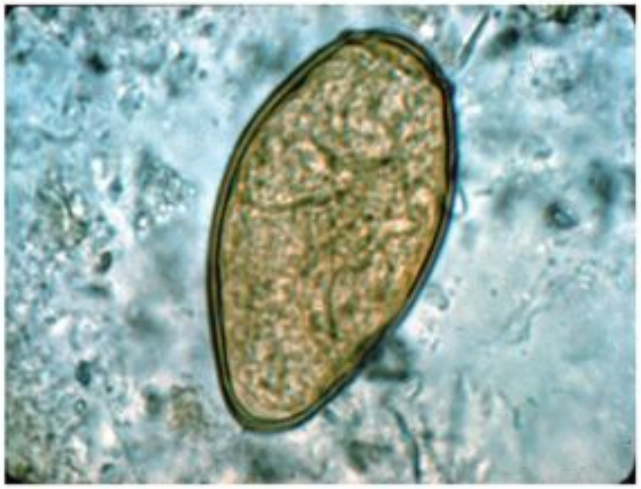
Trematodes (Flukes)

Flukes (Trematodes) → Human diseases		
Blood: Schistosomes; Bilharzia (Theodor Bilharzia)	S. haematobium	S. intercalatum
	S. mansoni	
	S. japonicum	S. mekongi
Intestinal	Fasciolopsis buski	
	Heterophyes heterophyes	Metagonimus yokogawi
Liver	Fasciola hepatica	Fasciola gigantica
	Opisthorchis (Clonorchis) sinensis	O. felineus & O. viverini
Lung	Paragonimus westermani	




THANK YOU