



Trematodes

Fasciolopsis buski

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Fasciolopsis buski

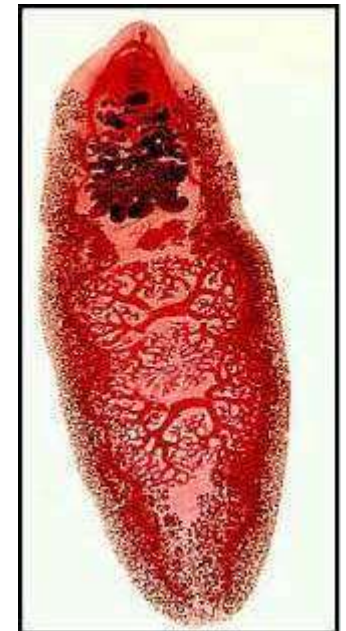
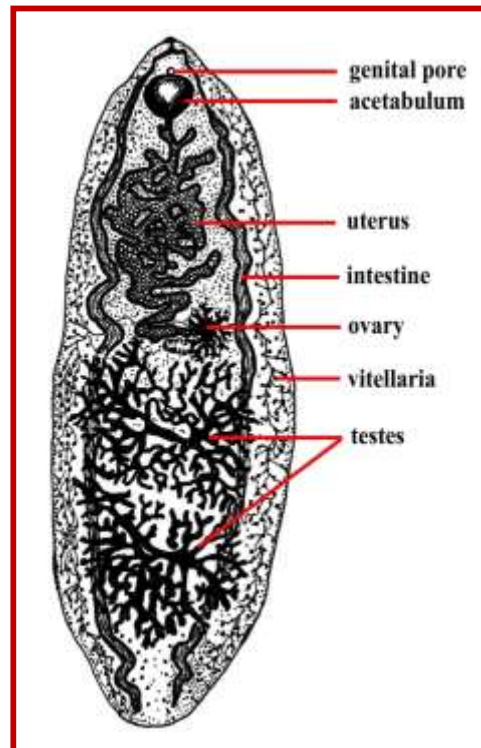
The giant intestinal fluke

❖ Geographical distribution :

➤ Far east.

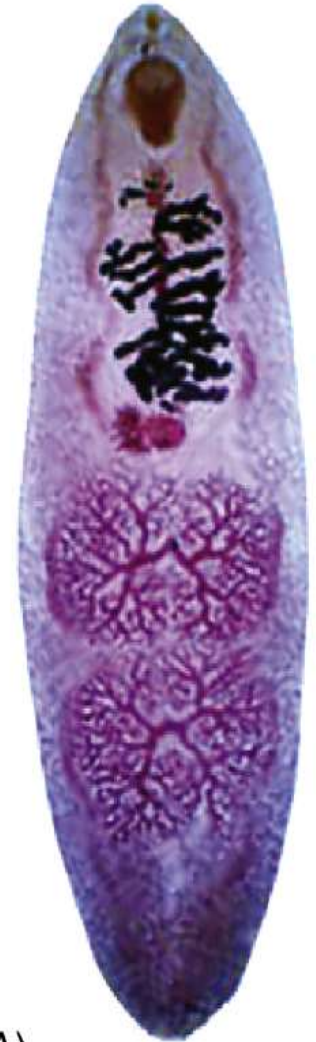
➤ More prevalent in areas where **pigs** are raised.

❖ Disease: Fasciolopsiasis



Morphological characters

- Oval in shape covered with spines
- No cephalic cone
- Size: 7 x2 cm
- Two suckers the oral is smaller than the ventral
- Simple intestinal caeca
- Two branched testes
- Branched ovary in the middle of the body



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❖ **Egg (D.S):-**

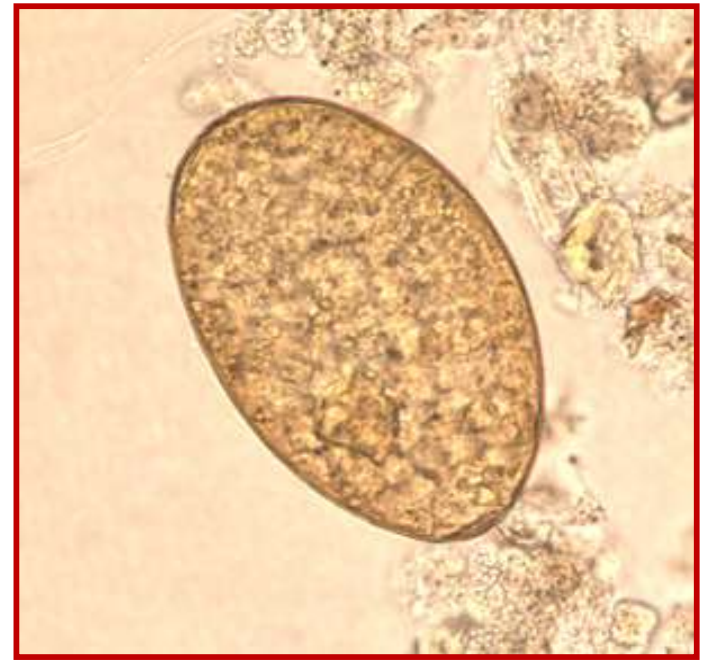
➤ **Size : 140 x 70 μm .**

➤ **Shape : Oval.**

➤ **Shell : Thin, operculated.**

➤ **Color : Yellowish brown.**

➤ **Content : Immature (ovum
& yolk cells).**

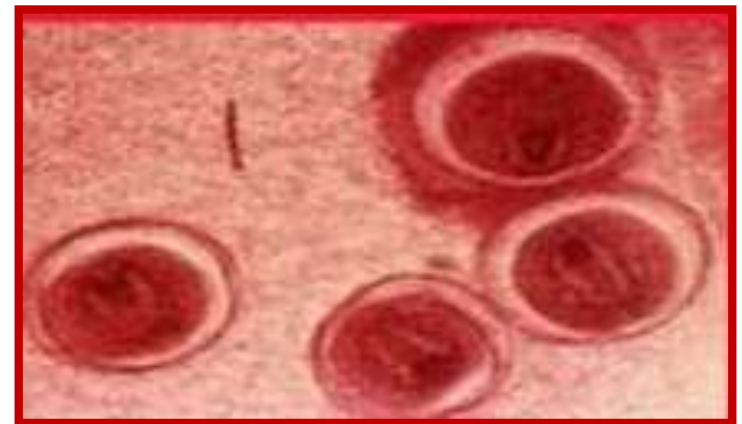


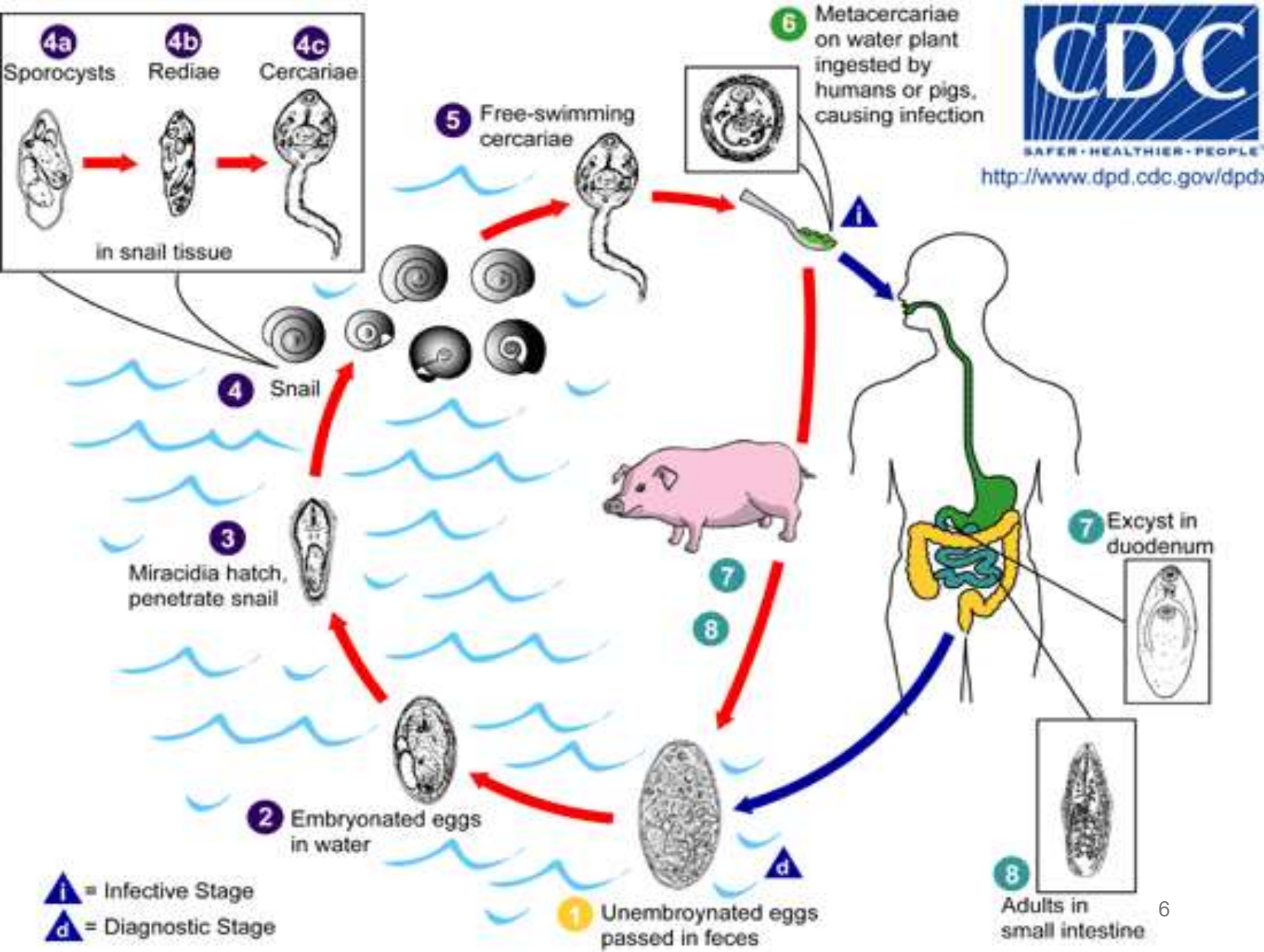
❖ **I.H:** *Segmentina* snail.

(miracidium → sporocyst → redia
→ cercaria (leptocercous cercaria)).



❖ **Encysted metacercaria (I.S):**
encysted on water plants & in water.





Water plants



Chestnuts



Bamboo

Habitat: upper part of the small intestine

Host

- **Definitive host: man**
- **Intermediate host: segmentina snail**
- **Reservoir host: pigs**

Diagnostic stage: eggs

Infective stage: encysted metacecacia

Mode of infection: Ingestion of water plants (chestnuts and bamboo) or drinking water contaminated with encysted metacercaria

Pathogenesis & symptomatology

- ❖ Adult worm causes traumatic, mechanical & toxic effects. Ulceration & abscess formation occurs due to its attachment to the intestinal mucosa by the ventral sucker.
- ❖ **Clinical pictures:**
 - Symptoms depend on the parasitic load:
 - 1- **Light infection** are asymptomatic.
 - 2- **Moderate infection** may presented by abdominal pain, nausea & vomiting especially in the morning.
 - 3- **Heavy infection** causes fever, severe abdominal pain, **bloody diarrhea**, malabsorption, protein losing enteropathy, generalized oedema due to toxic metabolites, anaemia due to bleeding at the site of attachment & intestinal obstruction.

Diagnosis

1- Clinically (history and examination).

2- Laboratory:

Stool examination to detect eggs.

Treatment

Praziquantel is the drug of choice.



Trematodes

Heterophyes
heterophyes

Heterophyes heterophyes
(The smallest intestinal worm)

❖ **Geographical distribution :-**

➤ **Far East : China, Japan, Korea, Taiwan.**

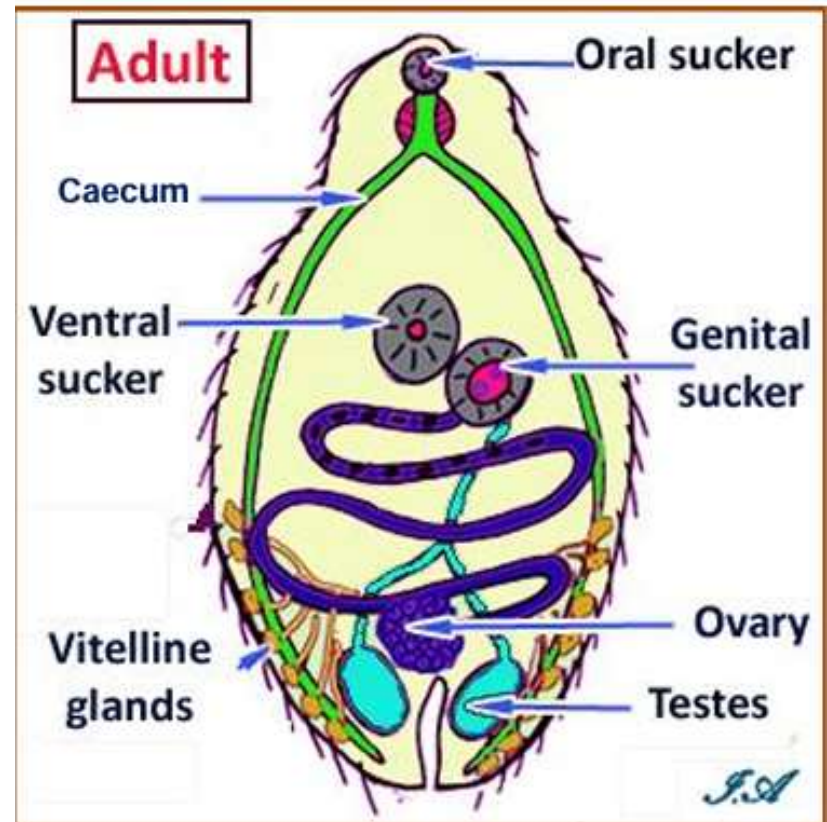
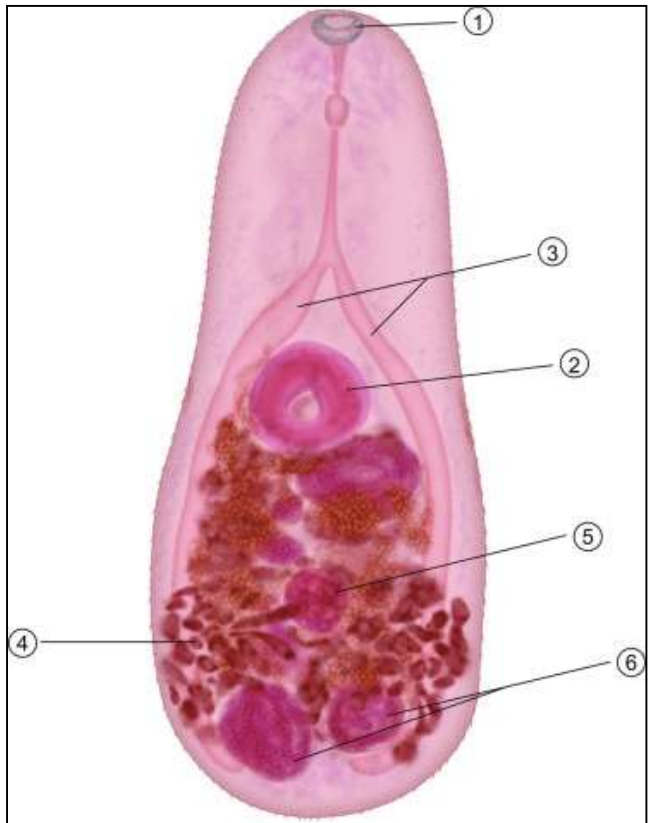
➤ **Egypt : Mainly found in the north part**

of Delta especially in Borollos and

Manzala lakes.

Morphological characters

- Shape: pear-shaped with 3 suckers
- Size: 2.5 x 0.75 mm
- Globular 2 testes and one globular ovary
- Globular vitelline glands in the post. third of the body



❖ Eggs (D.S) :-

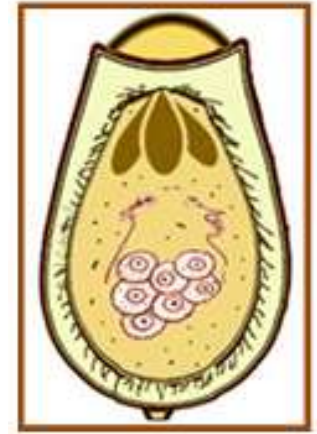
➤ **Size** : 30 x 15 μm .

➤ **Shape** : Oval.

➤ **Shell** : Thick with anterior operculum and a small knob at posterior end.

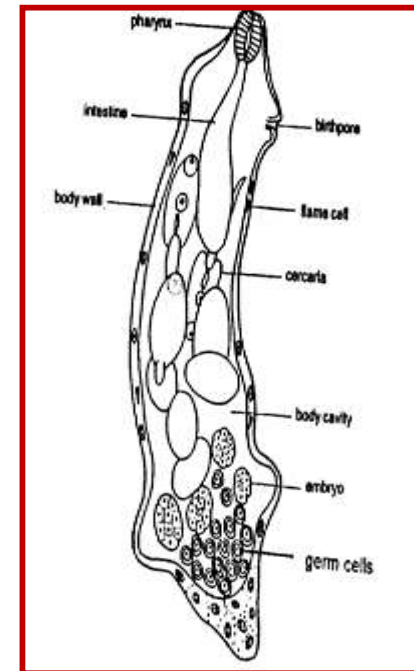
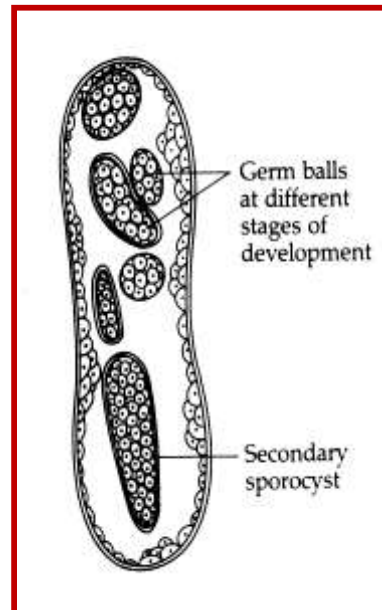
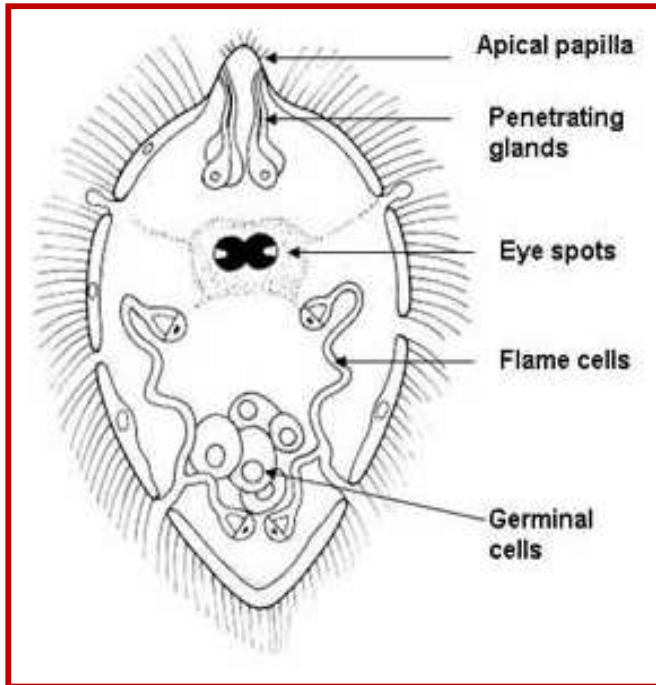
➤ **Color** : Yellowish brown.

➤ **Content** : Mature (miracidium).



1st IH:

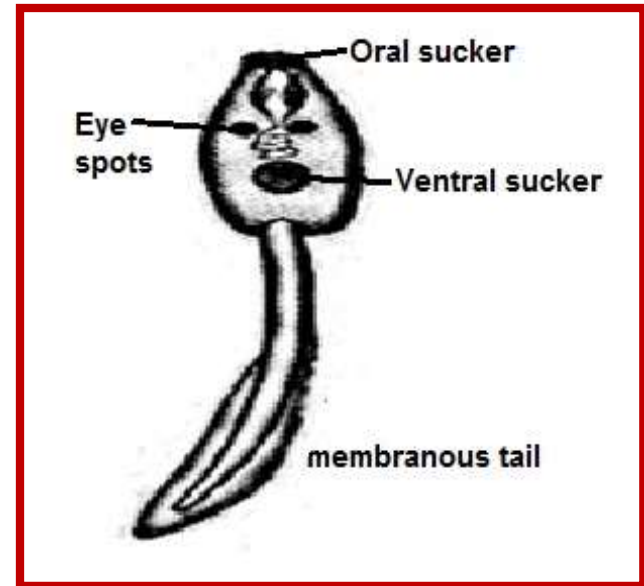
***Pirenella conica* snail.**





❖ Cercaria:-

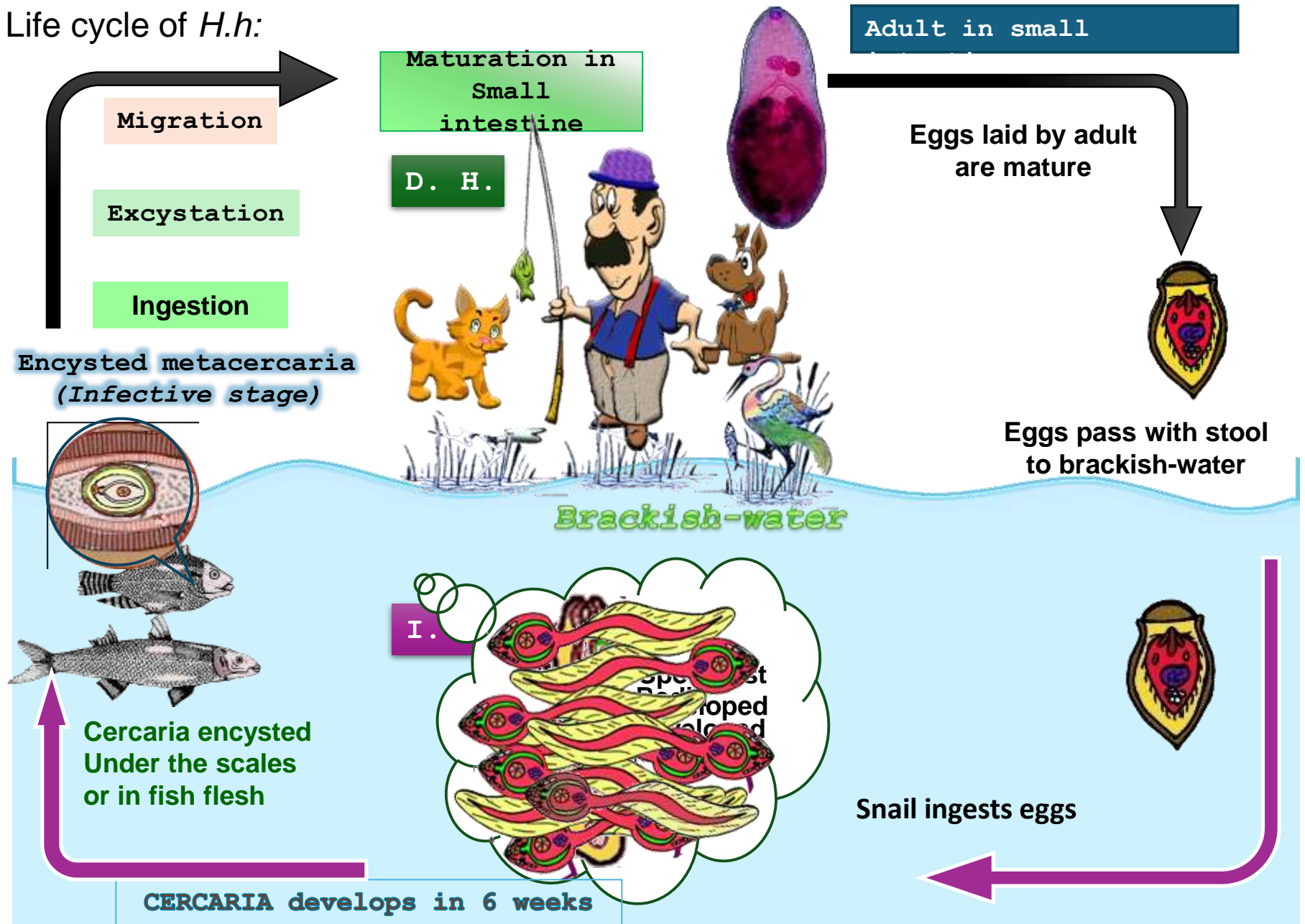
- Has body and membranous tail (lophocercous cercaria).

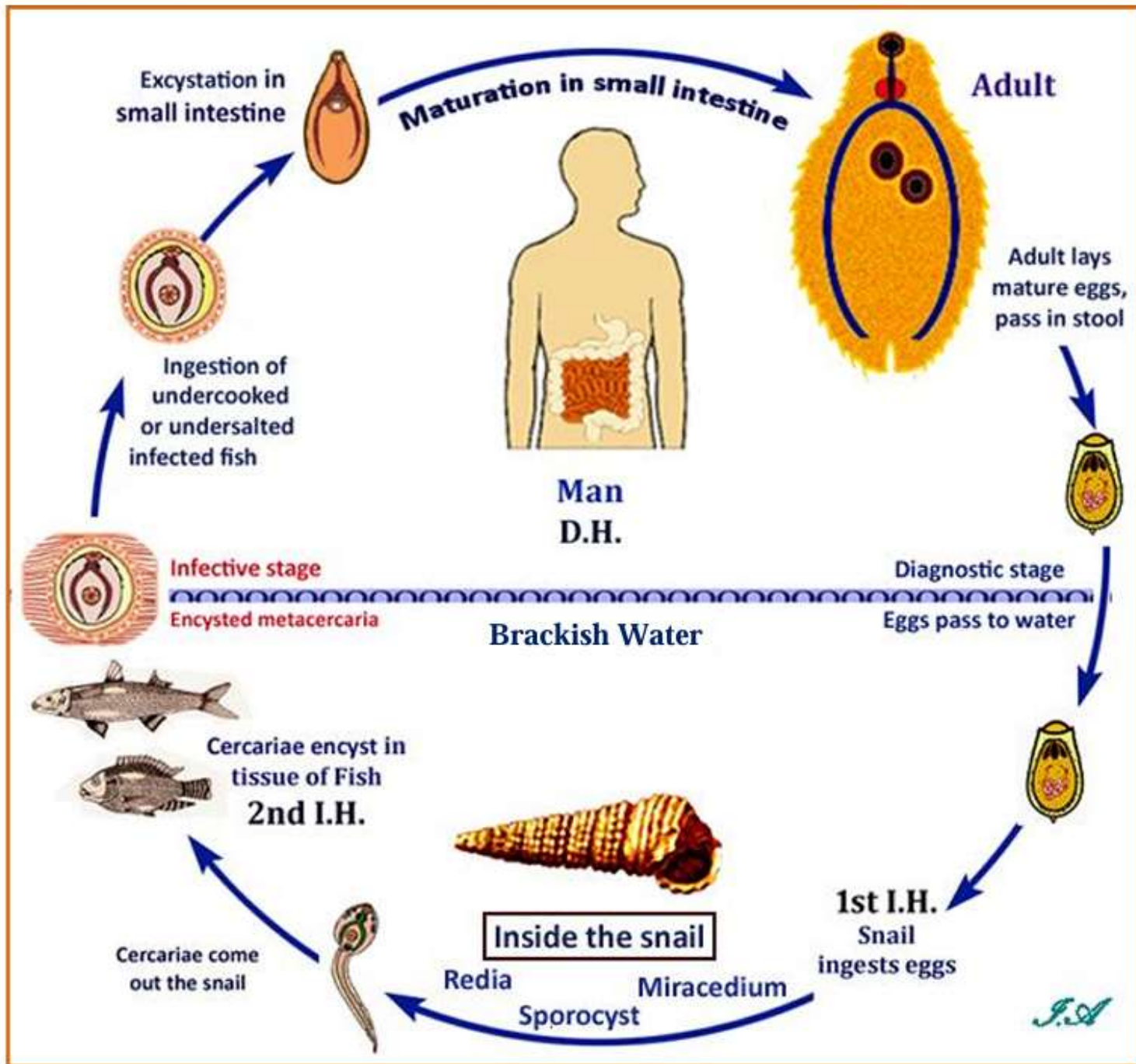


❖ Encysted metacercaria (IS) in fish (2nd I H)



Life cycle of *H.h.*:





❖ **Habitat :-**

Small intestine (deeply embedded between villi).

❖ **D.H** : Man

❖ **R.H**: Fish eating animals (dogs & cats).

❖ **I.H** : 1st ➔ *Pirenella conica* snail.

2nd ➔ Brackish water Fish e.g. Boury and
Bolty.

❖ **D.S**: Eggs

❖ **I.S**: Encysted metacercaria

❖ **Mode of infection**: Ingestion of undercooked fish contaminated with encysted metacercaria

Pathogenesis & Symptomatology

Diseases :Heterophyiasis.

1) Intestinal phase

- **Mild inflammatory reaction at the site of attachment.**
- **In heavy infections, damage of the mucosa occur ➔ colicky abdominal pain and mucus diarrhea.**

2) Ectopic sites

Sometimes eggs can inter the blood stream (due to its minute size) to reach other organs especially heart (myocarditis & heart failure) and brain (neurological disorders).

Diagnosis

1) Clinically.

2) Laboratory: Identification of eggs in the stool

Treatment

Praziquantel (Biltricide) is the drug of choice.



Test Knowledge

- Eating fried or grilled fish better in endemic areas to avoid *Heterophyes heterophyes* infection?
- Mention the complications of *Fasciolopsis buski* and *Heterophyes heterophyes* infection.

Thank You

The image features the words "Thank You" in a large, 3D, pink, blocky font. The letters are arranged in a slightly staggered manner. Two monarch butterflies with orange and black wings are positioned as if flying around the text. There are also some green, leafy plants or bushes at the base of the letters, particularly under the 'T' and 'o'. The entire scene is set against a solid black background.