

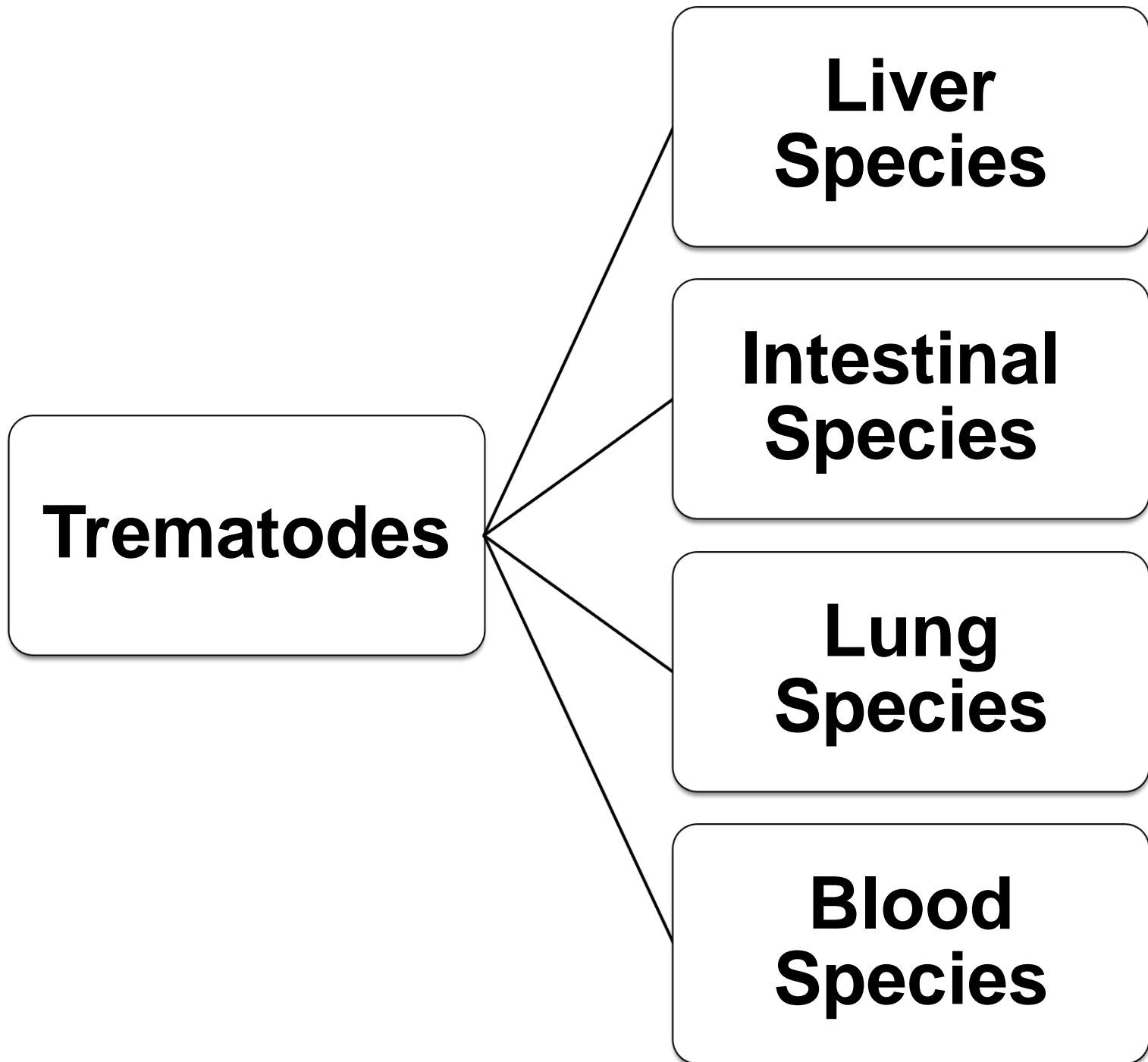
# ***Trematodes***

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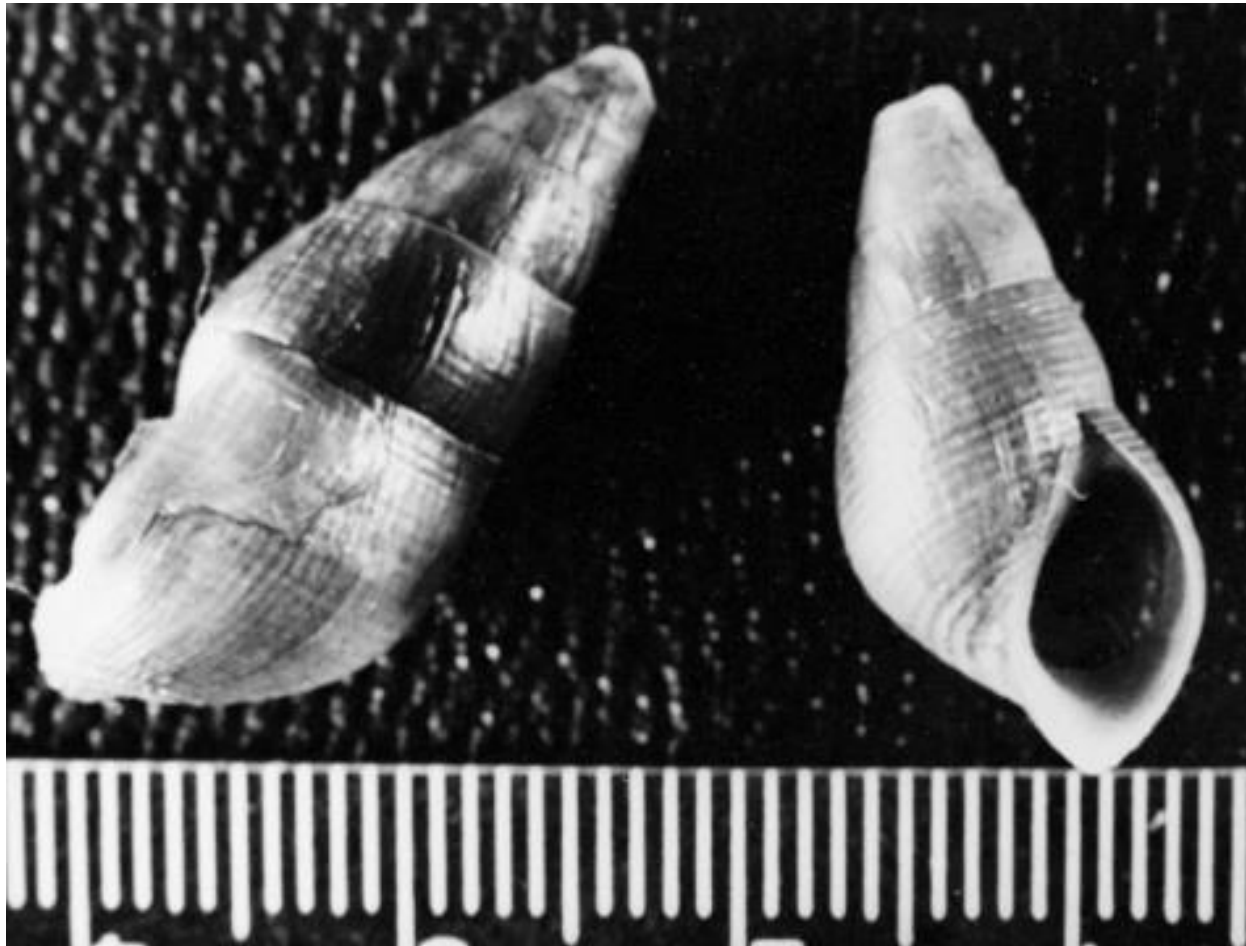


# **“Lung Species”**

## ***Paragonimus westermani***

- ❑ **COMMON NAME...** Oriental lung Fluke.
- ❑ **DISEASE....** Paragonimiasis or Pulmonary distomiasis.
- ❑ **INFECTIVE STAGE....** Metacercaria.
- ❑ **DEFINITIVE HOST....** Human.
- ❑ **FIRST INTERMEDIATE HOST....** Snail of (*Melania*).
- ❑ **SECONDARY INTERMEDIATE HOST....** Crayfish or Crab.

# Snail of (*Melania*)



# Egg

- Size range from (78-120)  $\mu\text{m}$   $\times$  (54-20)  $\mu\text{m}$
- Oval egg consist of an undeveloped miracidium protected by thin , smooth shell.
- An operculated rim (shoulders) surrounded the operculum.
- There is terminal thick shell located on the end opposite the operculum.
- Egg is embryonated when laid.

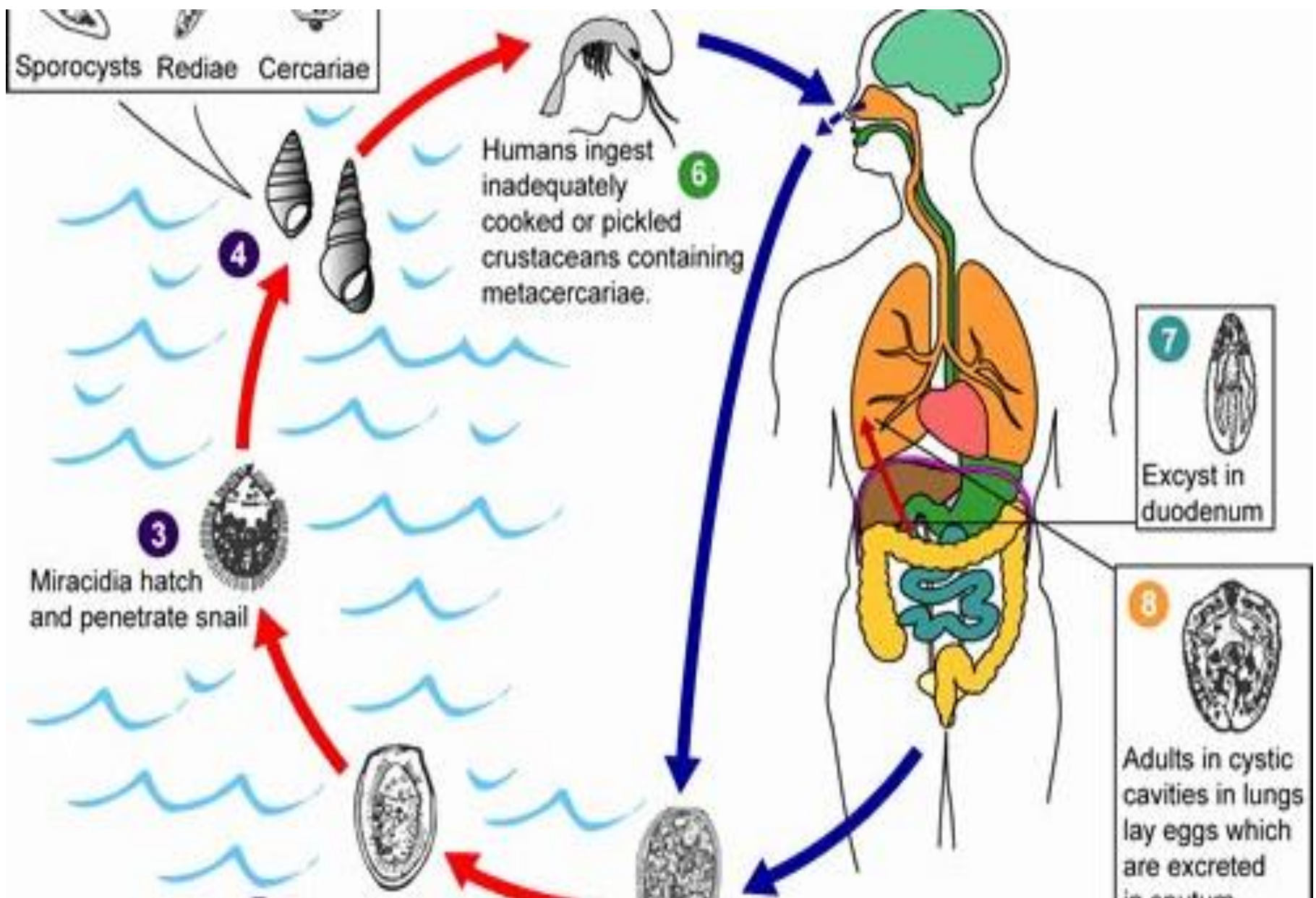


# Adult

- ❖ **Oval in shape, red to brown in colored (1×0.7) cm in size.**
- ❖ **The ventral sucker lies anterior to the middle of the body & about the same size as the oral sucker.**
- ❖ **The testes side by side in the posterior part of the body.**







**LIFE CYCLE OF *PARAGONIMUS WESTERMANI*.....**

## LABORATORY DX.....

*It is accomplished by the recovery of eggs in sputum specimens. Such eggs may be seen in stool samples.*



## “Intestinal Species”

- *Fasciolopsis buski*.
- *Heterophyes heterophyes*.
- *Metagonimus yokogawai*.

### “*Fasciolopsis buski*”

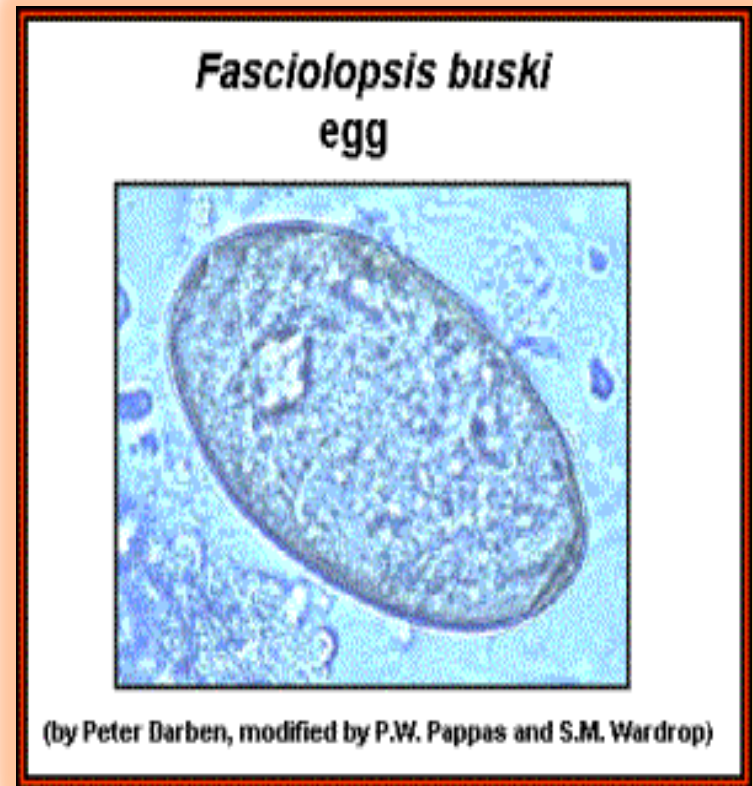
- ❑ COMMON NAME... Giant Intestinal Fluke.
- ❑ DISEASE.... Fasciolopsis.
- ❑ INFECTIVE STAGE.... Metacercaria.
- ❑ DEFINITIVE HOST.... Human.
- ❑ INTERMEDIATE HOST.... Snail of (*Segmentina*).

# Egg

Large in size measuring (130-140) × (80-85) μm.

The shell is clear , thick & has a small inconspicuous operculum.

The egg is yellowish brown in color & consist of an oblong undeveloped miracidium.



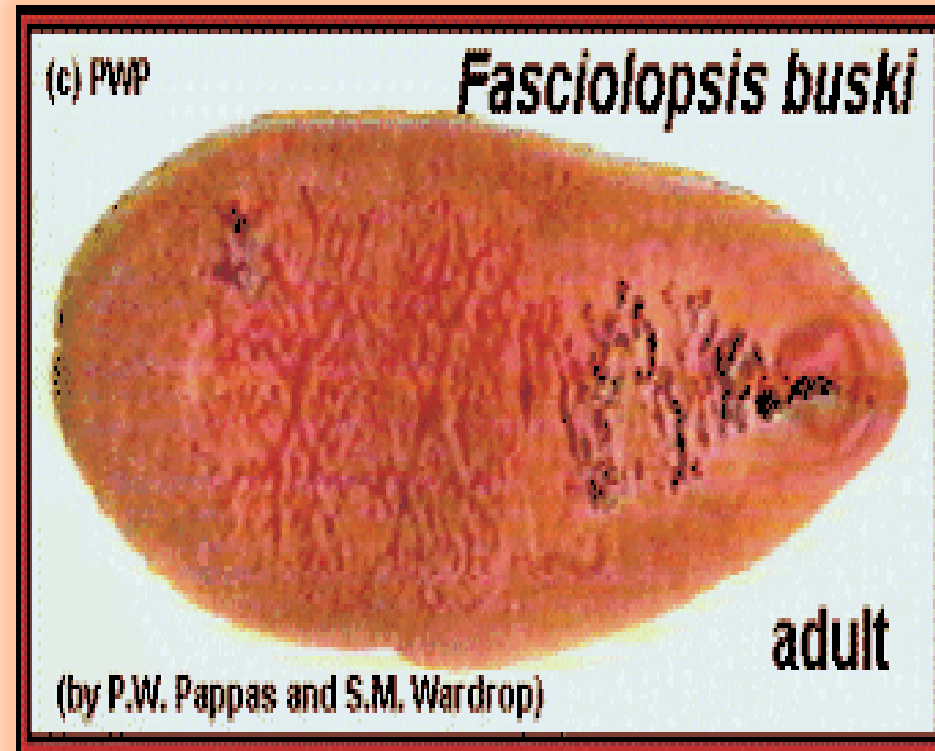
# Adult

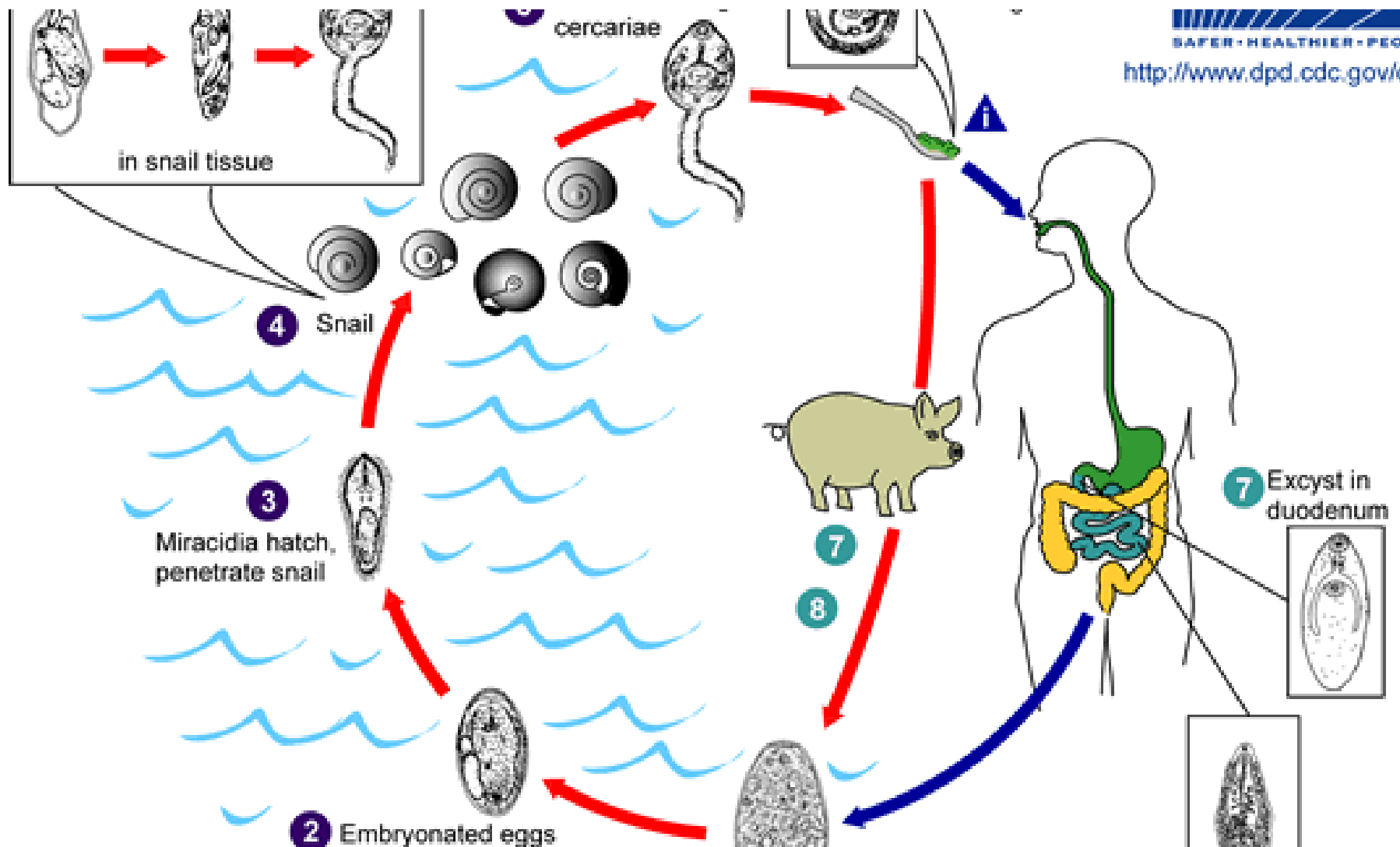
The adult is flat, oval, fleshy measure  $(20-75) \mu\text{m} \times (8-20) \mu\text{m}$  & covered with spines.

Oral sucker is subterminal & ventral sucker is 3-4 times larger than oral sucker.

Intestinal caeca are simple with two curves in the middle.

Genital pore is immediately anterior to the ventral sucker.





**LIFE CYCLE OF FASCIOLOPSIS BUSKI.....**

# “Intestinal Species”

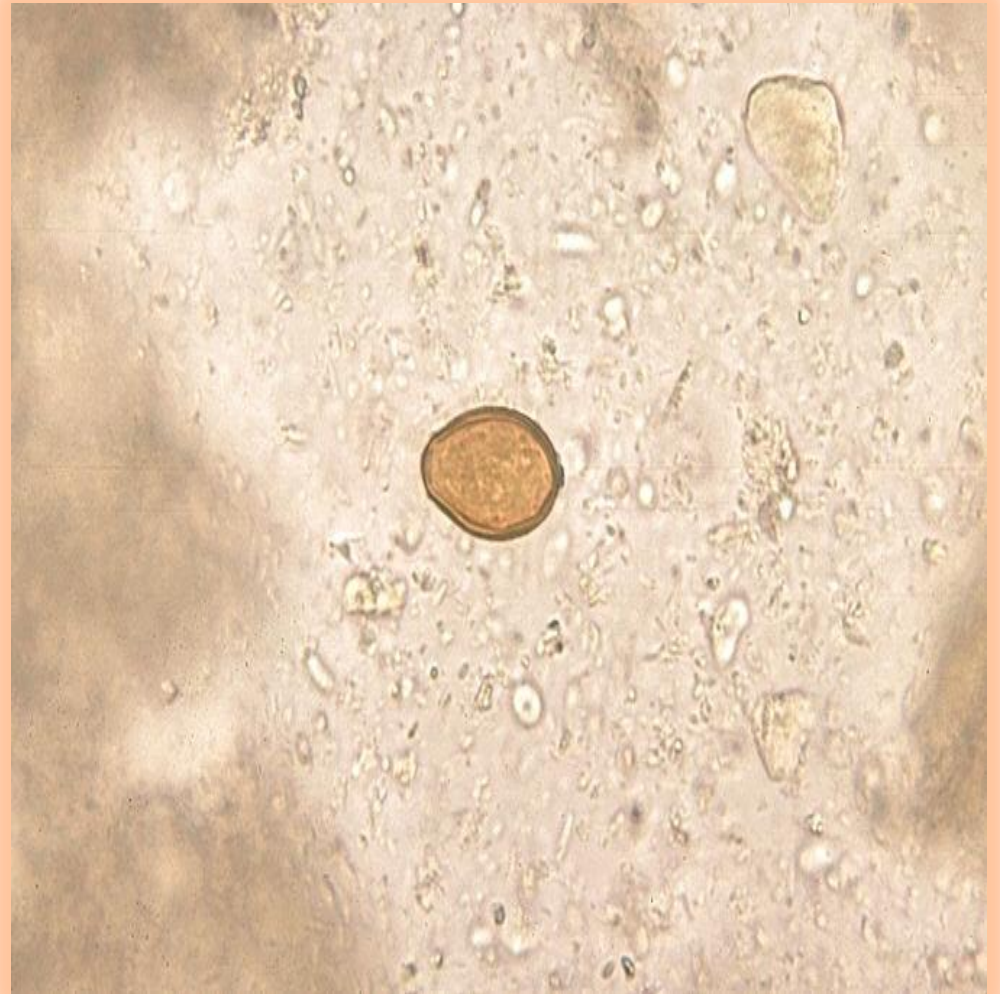
- *Heterophyes heterophyes*.

- ❑ COMMON NAME... Japanese, Chinese and Egyptian Intestinal Fluke.
- ❑ DISEASE.... Heterophyasis.
- ❑ INFECTIVE STAGE.... Metacercaria.
- ❑ DEFINITIVE HOST.... Human.
- ❑ FIRST INTERMEDIATE HOST.... Snail of (*Pironella*).
- ❑ SECONDARY INTERMEDIATE HOST.... Fish.

# Egg

The eggs is operculated ,  
fully embryonated  
measure  $(29 \times 16) \mu\text{m}$ .

They have broad ends,  
indistinct operculum &  
less well developed  
posterior spines &  
shoulders.



# Adult

The adult is minute (1-2 mm by 0.3 mm), greyish in color, oval & spinous.

It has 3 suckers.... Oral, Ventral near the middle of the body & genital sucker around the genital pore posterior & lateral to the ventral sucker.







# **LABORATORY DX.....**

**The diagnosis is established by demonstration the presence of eggs in the stool, occasionally adult worm can be demonstrated in the stool.**

