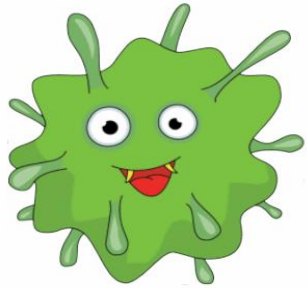


# Gastro Intestinal System



# Stool Collection



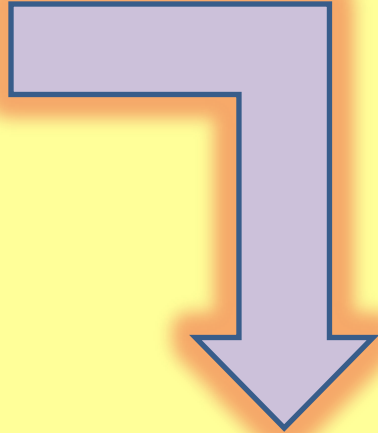
# & culture



Stool should be collected in  
clean wide mouth container  
not sterile



# Stool should be added to Selenite broth



Why? ?



- Inhibits the growth of coliforms
- Enhances the growth of Pathogen



❖ Most common pathogens ( Bacteria ) :

» **E.coli**

» Salmonella

» **Shigella**

» Vibrio

» **Proteus**

» Yersinia , Campylobacter , Clostridium,  
Bacillus ...etc



Stool sample should be cultured on the following media using streak plate method



S-S agar



Hekton agar



T.C.B.S



# S-S agar

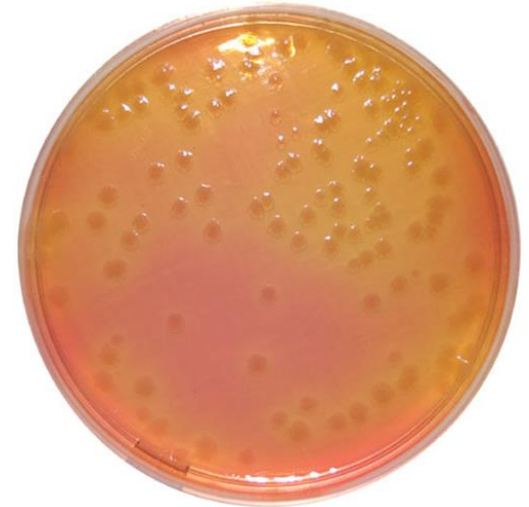


SS Agar Plate  
(Salmonella-Shigella Agar)

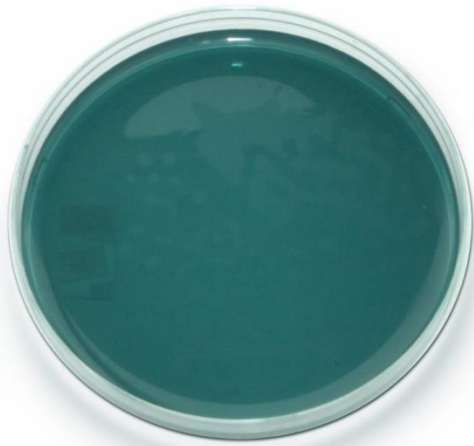
**Salmonella**



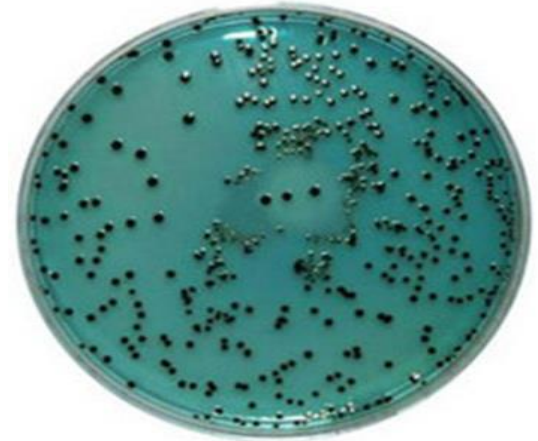
**Shigella**



# Hekton enteric agar



**Salmonella**



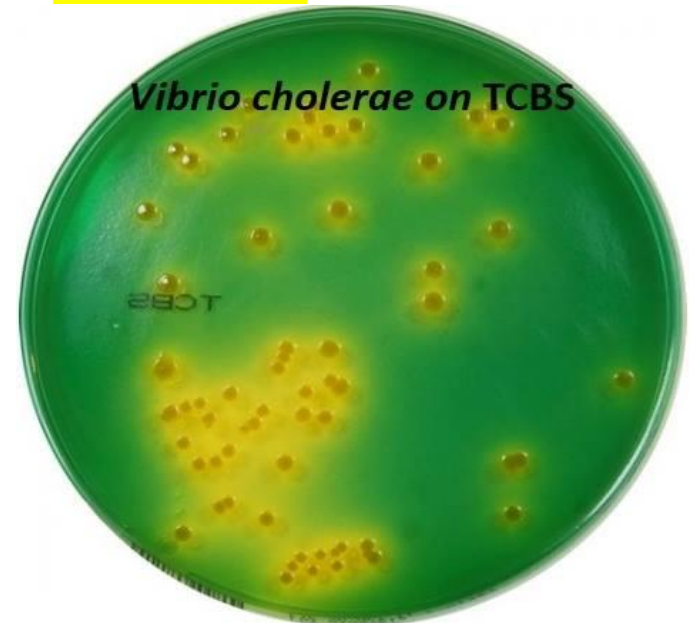
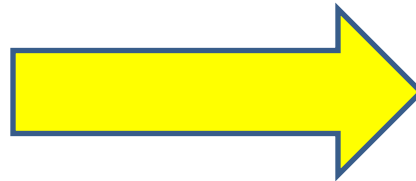
**Shigella**



# T.C.B.S media



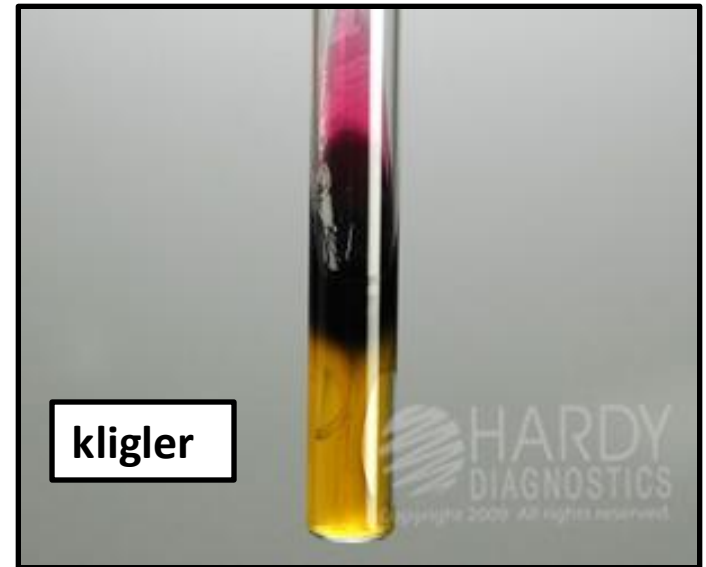
- **Selective for *Vibrio* Spp.**
- Ph ( 8.5-10 )
- **When *Vibrio* ferment sucrose it turns the media from **green** to **Yellow****



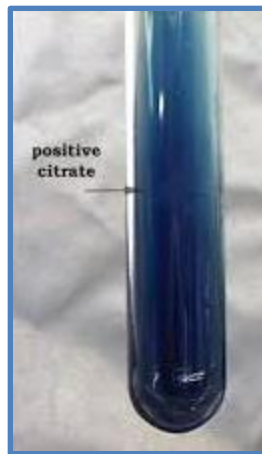


# Salmonella

- **Kligler : red/Yellow + H<sub>2</sub>S**
- **Urease : Negative**
- **Citrate : Positive**
- **SIM : Positive / Negative / Positive**



Urease test



citrate test

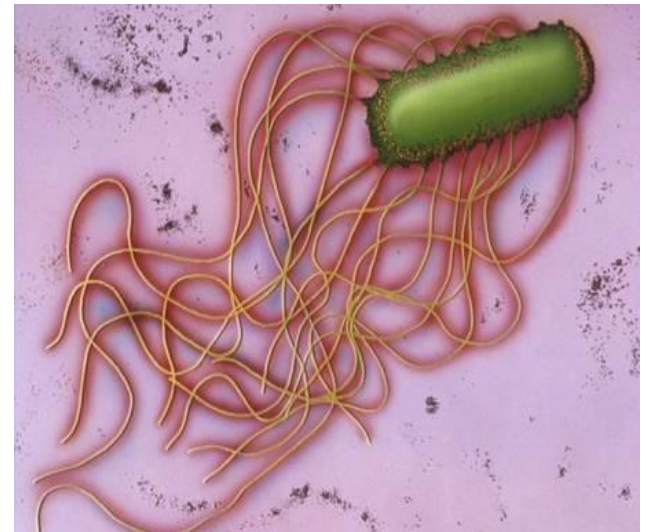
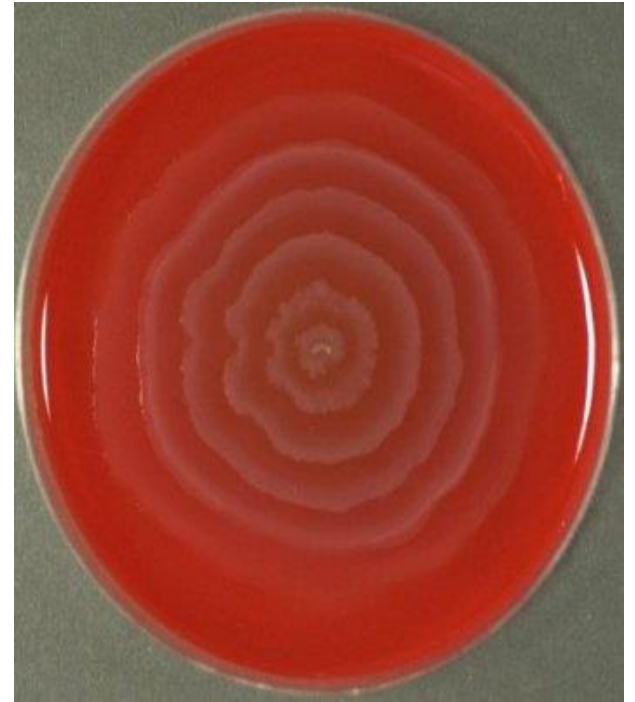


SIM test



# Proteus

- Gram negative rods , non lactose fermenter
- **Swarming motility ( flagellated )**
- Prevent swarming by culturing it on CLED or MacConkey media





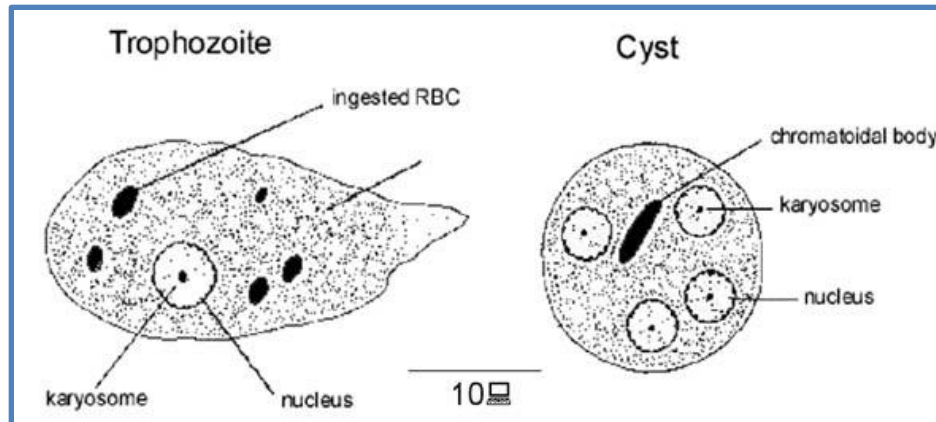
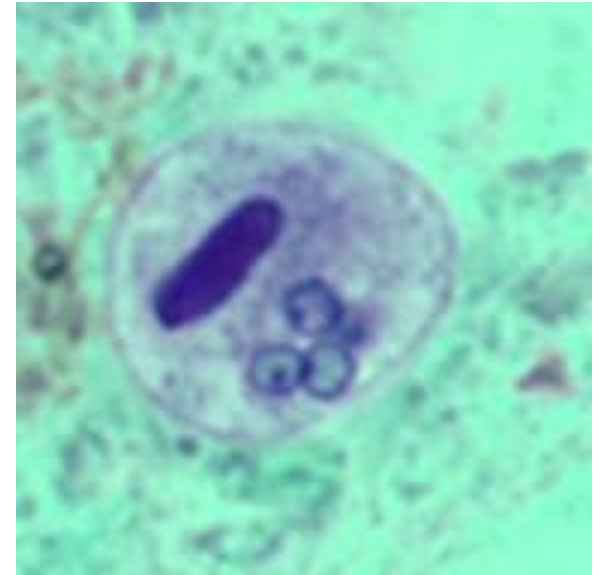
# Entamoeba histolytica

## Trophozoite



- trophozoites
- 15-20  $\mu\text{m}$
- extended pseudopodia
- progressive movement

## Cyst

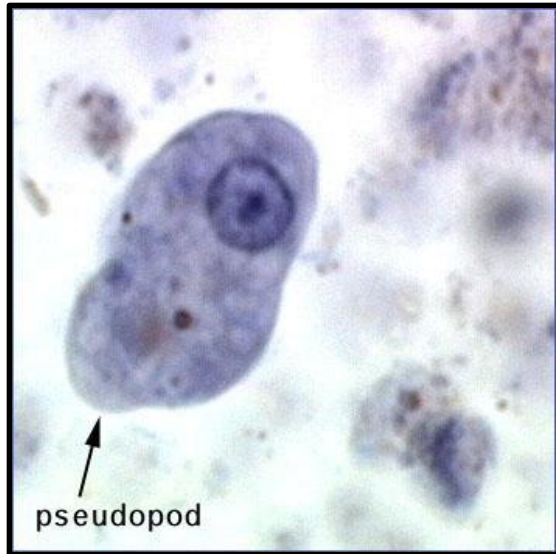


- cysts
- 12-15  $\mu\text{m}$
- 4 nuclei (mature)
- blunt chromatoid bodies

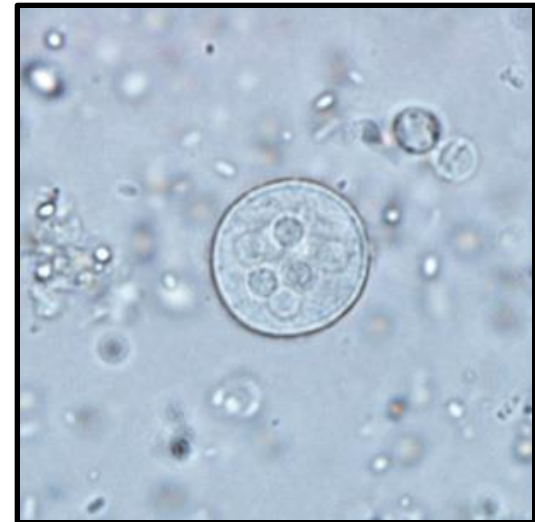
# Entamoeba Coli

## Trophozoite

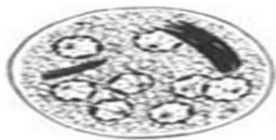
- trophozoites
- 20-25  $\mu\text{m}$
- broad blunt pseudopodia



## Cyst



### Entamoeba coli



Cyst

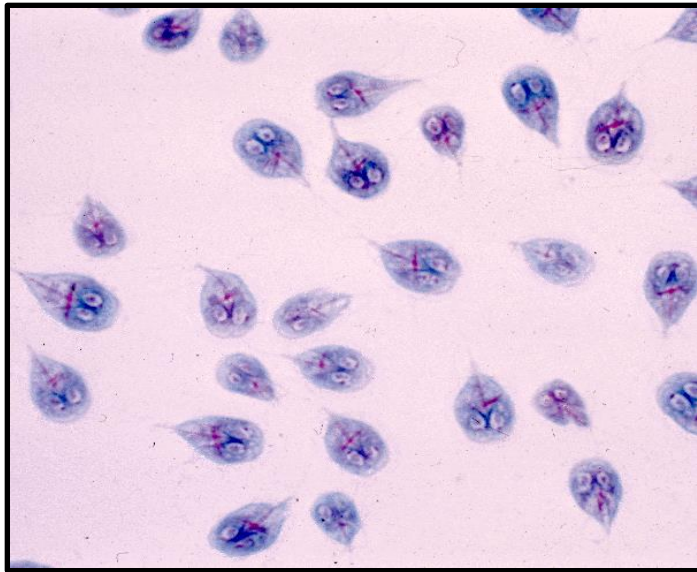


Trophozoite

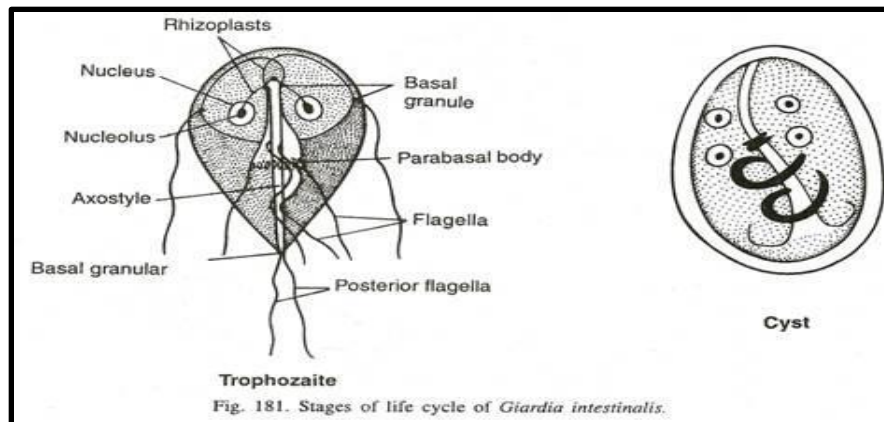
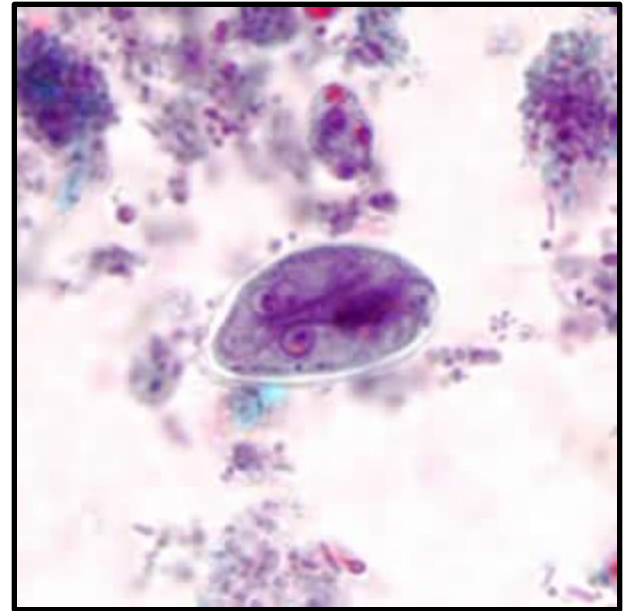
- cysts
- 15-25  $\mu\text{m}$
- 8 nuclei (mature)
- pointed chromatoid bodies (less prominent)

# Giardia lamblia

## Trophozoite



## Cyst

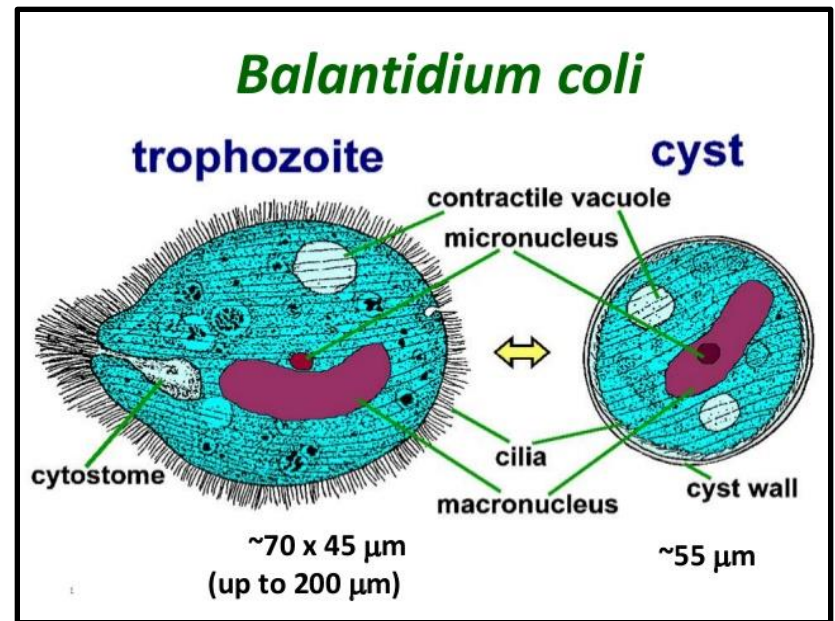


# Balantidium coli

Trophozoite



Cyst

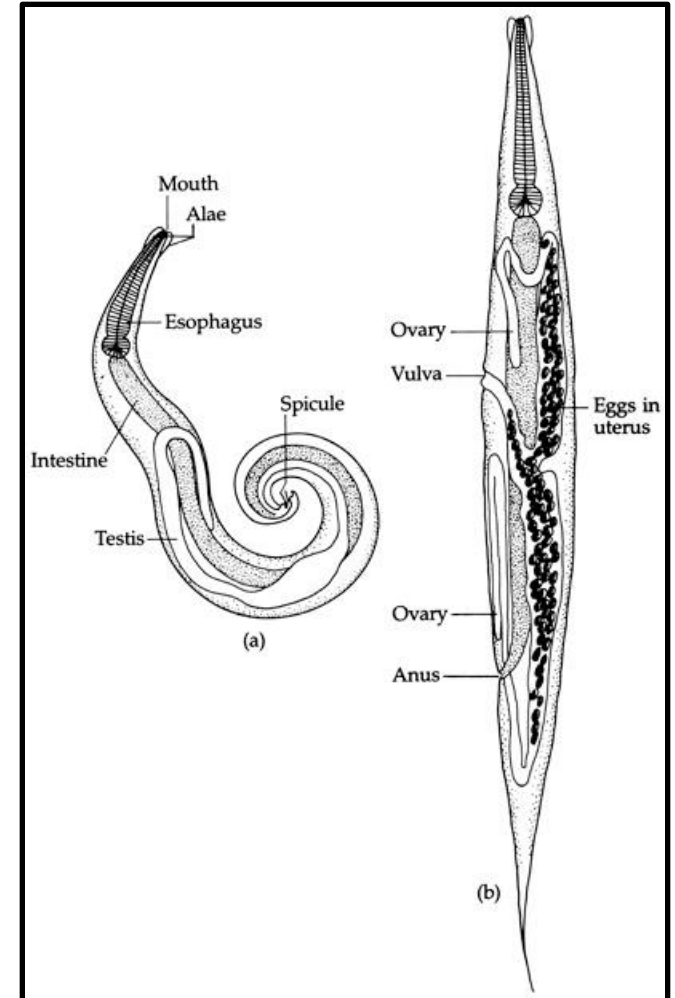


# Enterobius Vermicularis (Nematode)

Worm



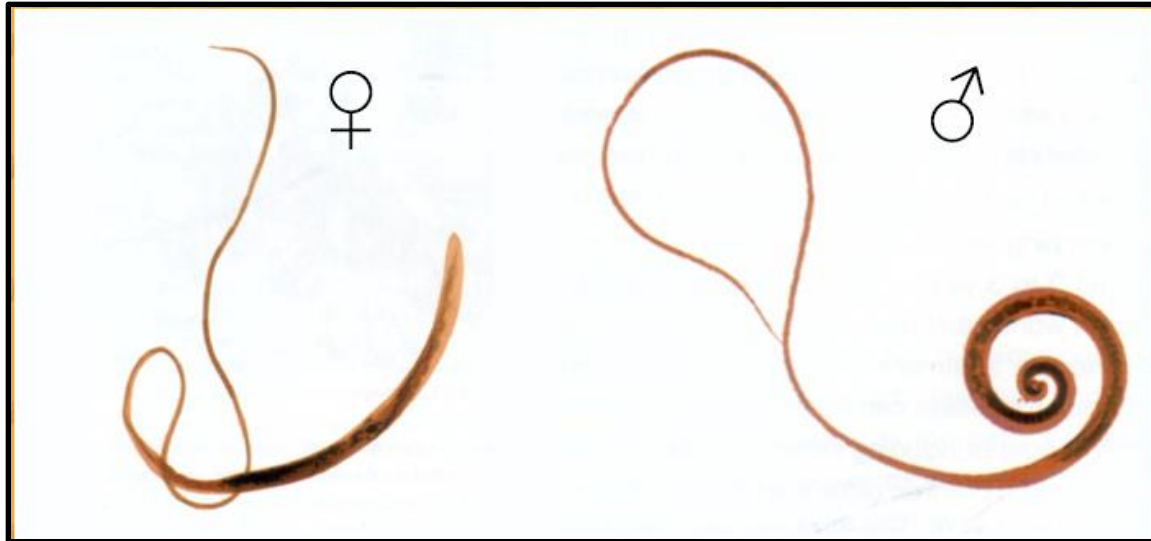
Egg





# Trichuris Trichiura

Worm



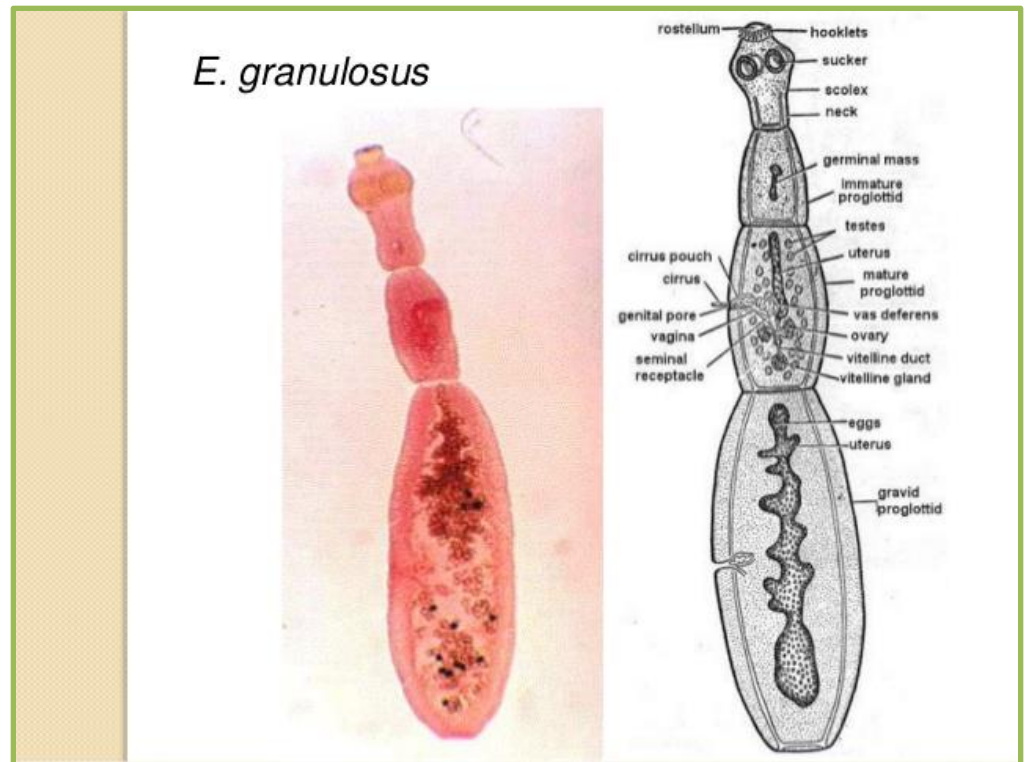
Egg



# Echinococcus granulosus (cestode)



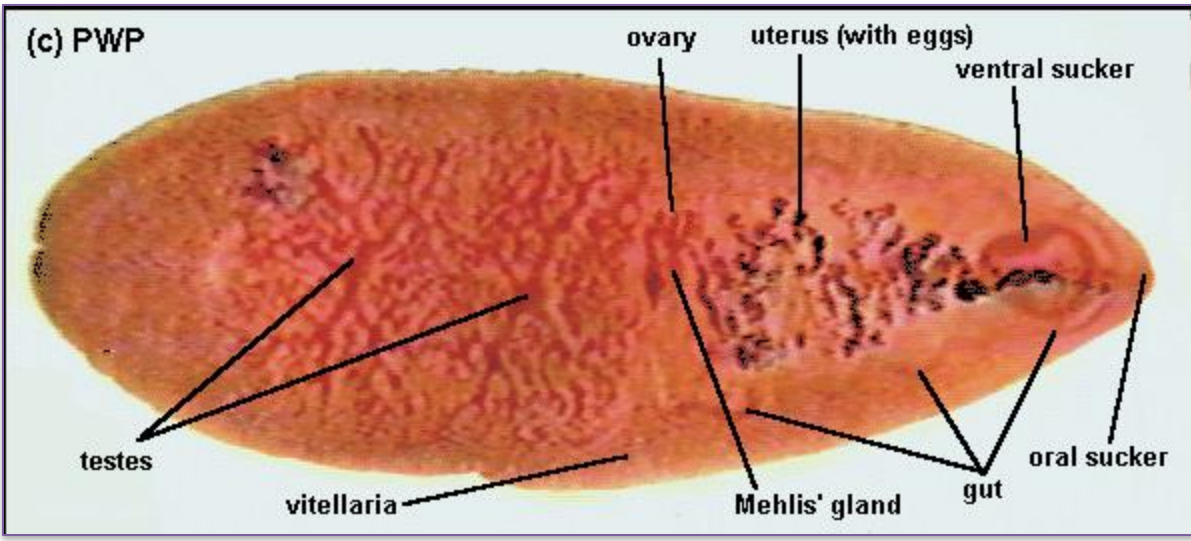
Ova



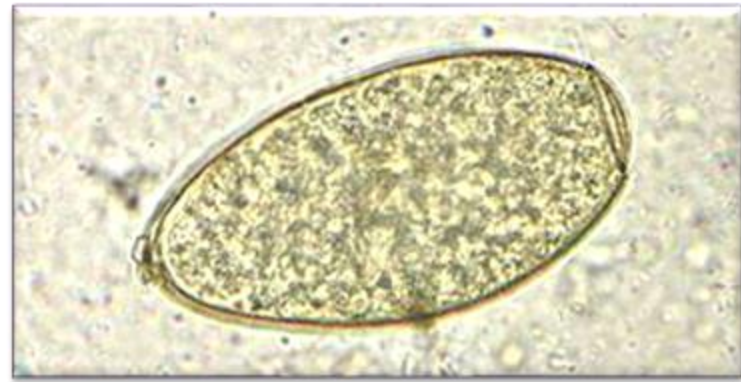
Worm

# fasciolosis buski ( Trematode)

Worm →



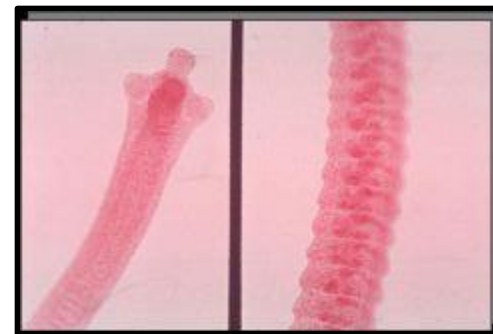
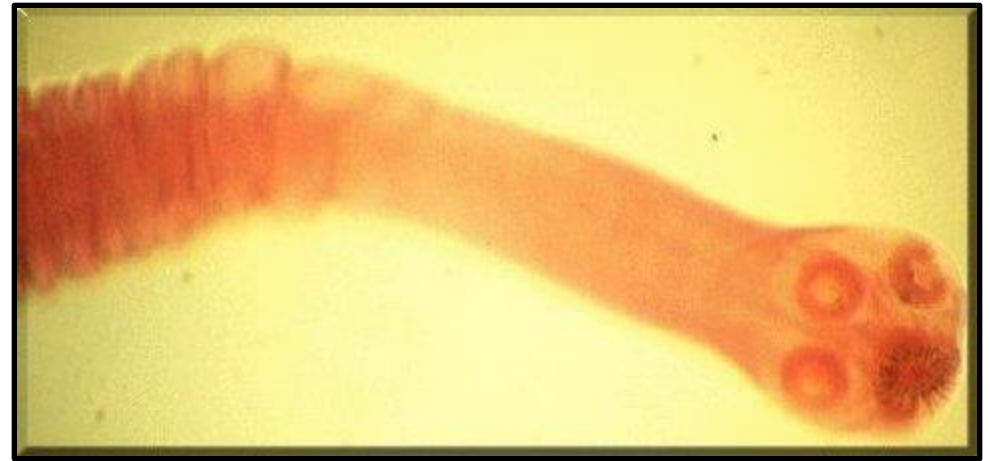
Worm →



# Hymenolepis Nana ( Cestode )

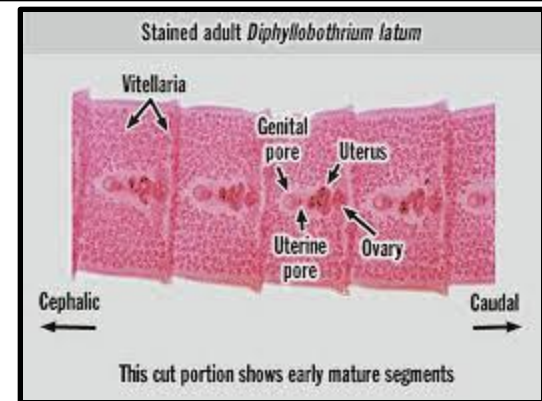
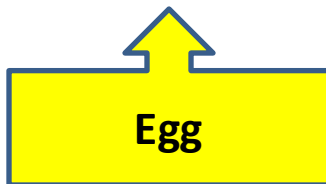


**Ova**

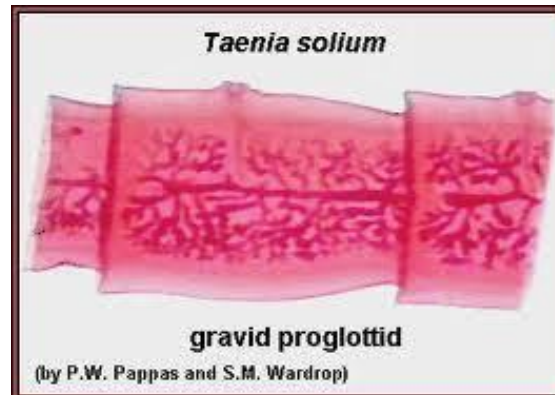
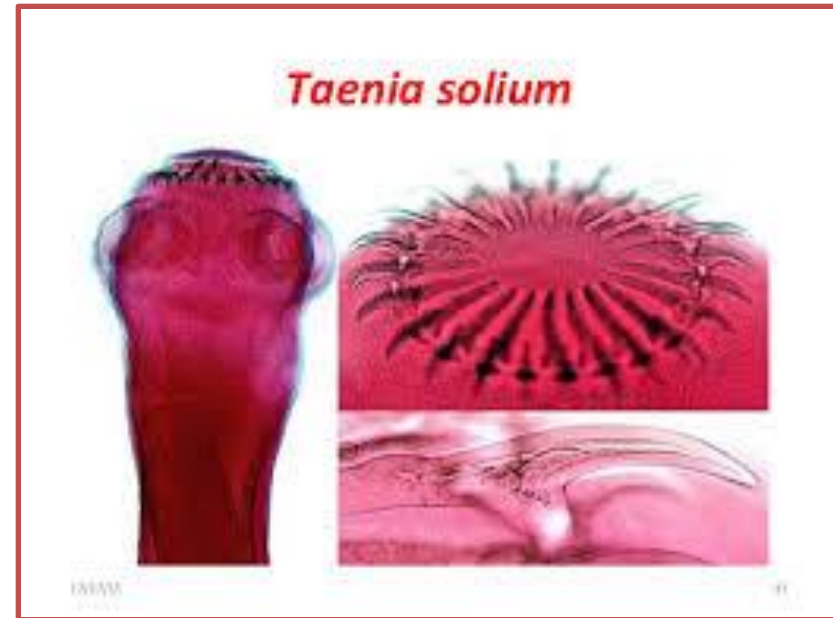


**Worm**

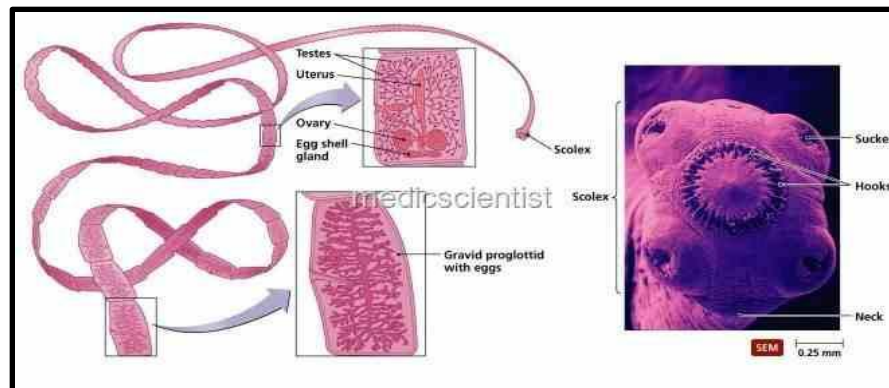
# Diphyllobothrium latum( Cestode )

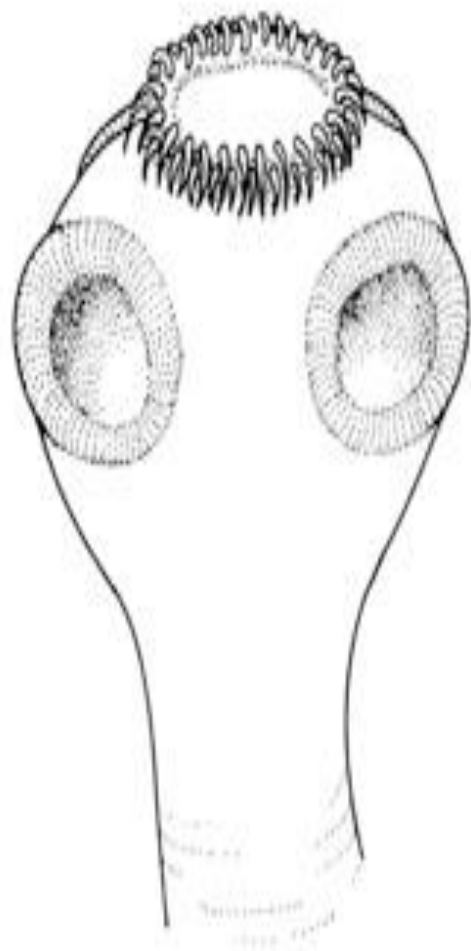


# Taenia solium ( Cestode )

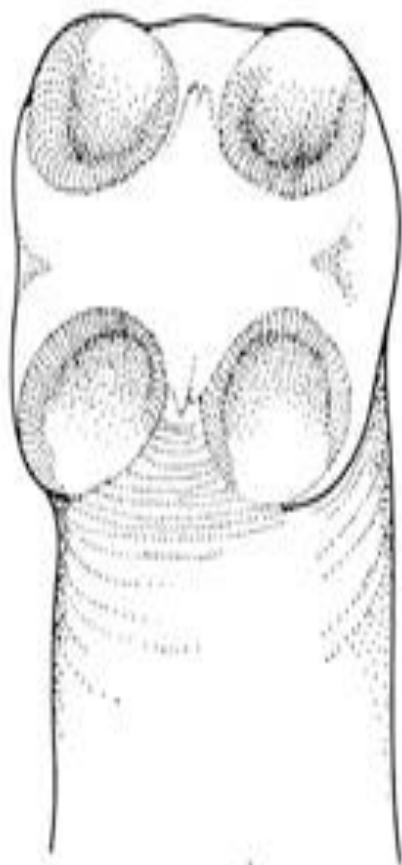


# Taenia saginata ( Cestode )





*Taenia solium*



*Taenia saginata*

(a)



*Taenia solium*

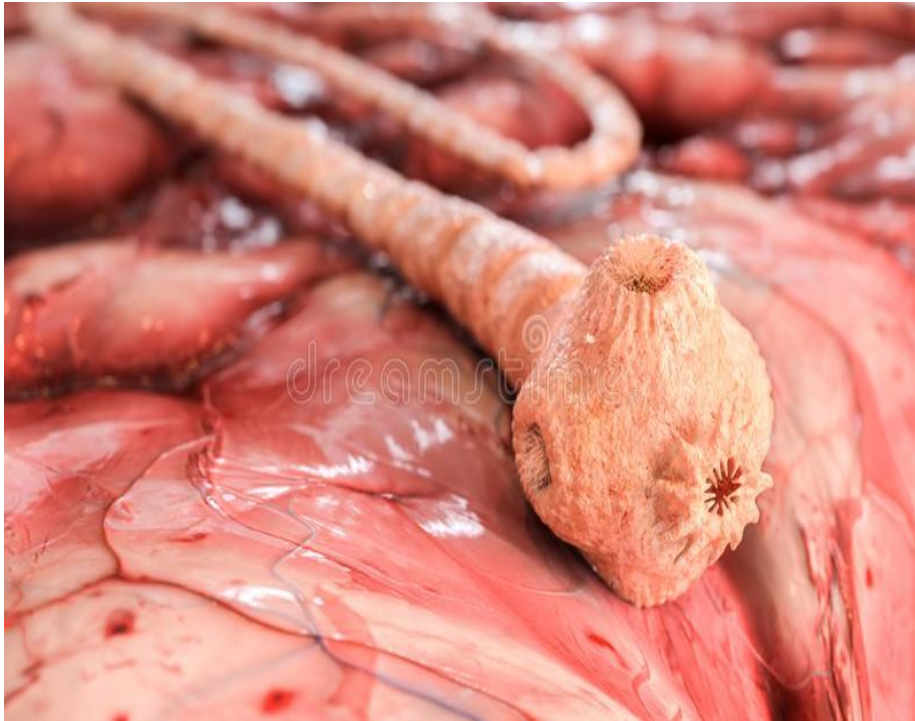


*Taenia saginata*

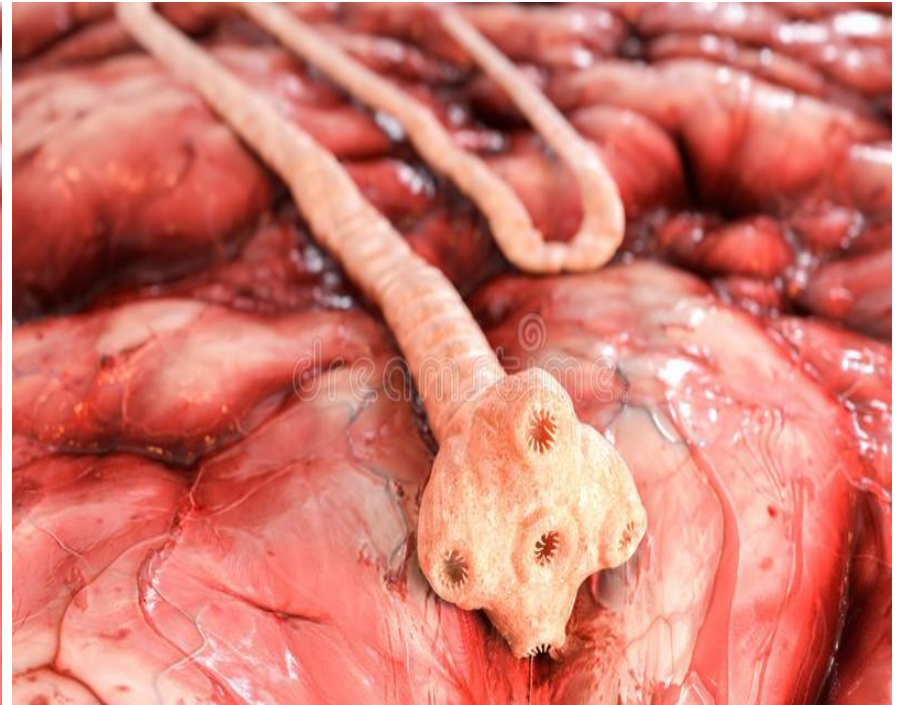
(b)



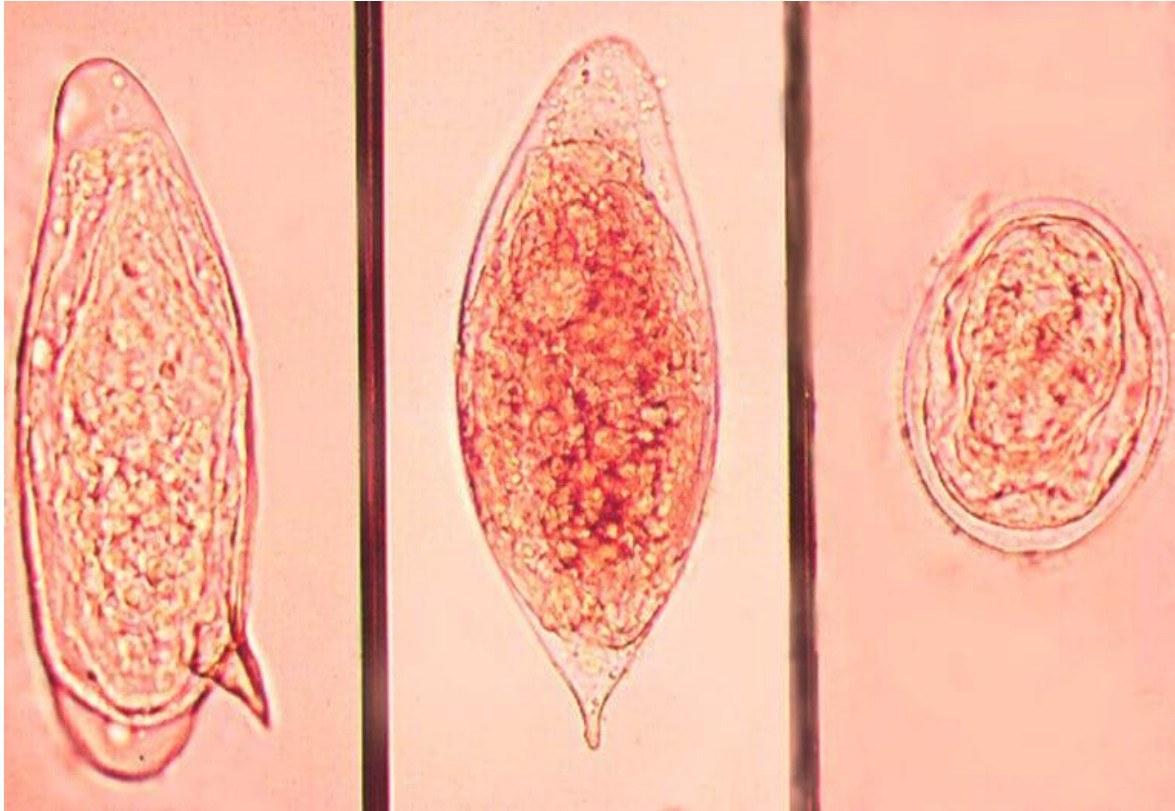
**Taenia Solium**



**Taenia saginata**



# *Schistosoma (Trematode)*



Schistosoma  
mansoni ( stool )

Schistosoma  
haematobium ( urine )

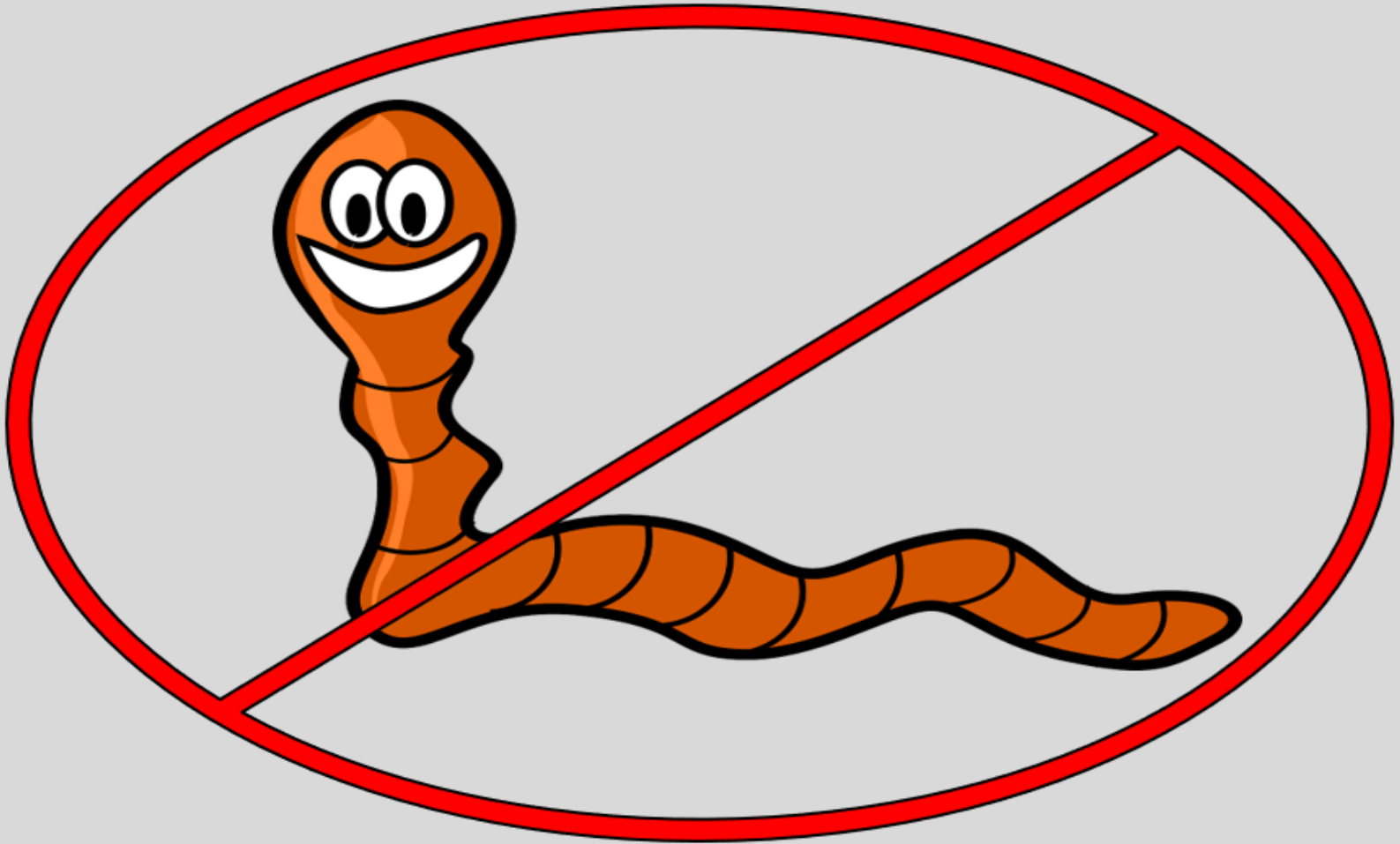
Schistosoma  
japonicum ( stool )

Adult worm



Male

Female





Thank you for listening!

**QUESTIONS?**  
ALWAYS  
WELCOME!