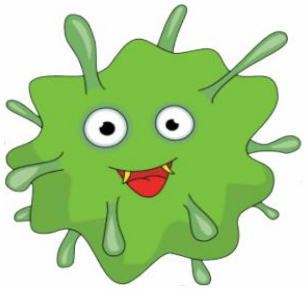
Gastro Intestinal System

Stool Collection & culture



- Stool should be collected in clean wide mouth container not sterile

Stool should be added to Selenite broth

Why? ?

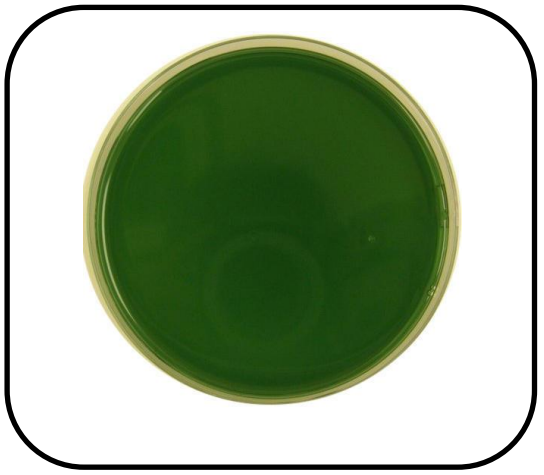
- ❑ Inhibits the growth of coliforms
- ❑ Enhances the growth of Pathogen

- 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

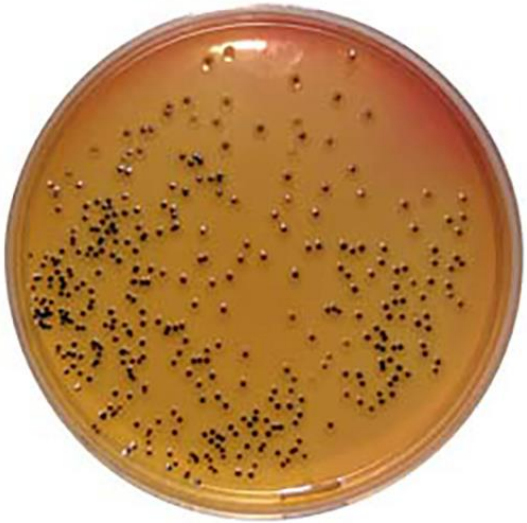


T.C.B.S

S-S agar

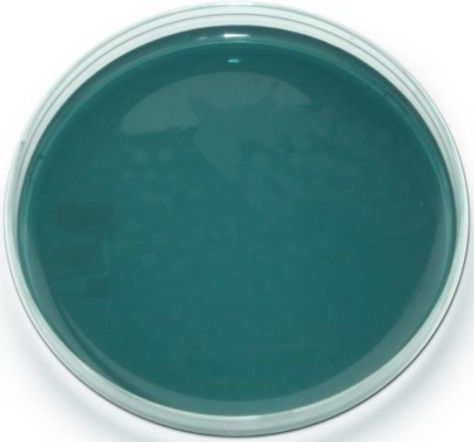
SS Agar Plate
(Salmonella–Shigella Agar)

Salmonella



Shigella

Hekton enteric agar

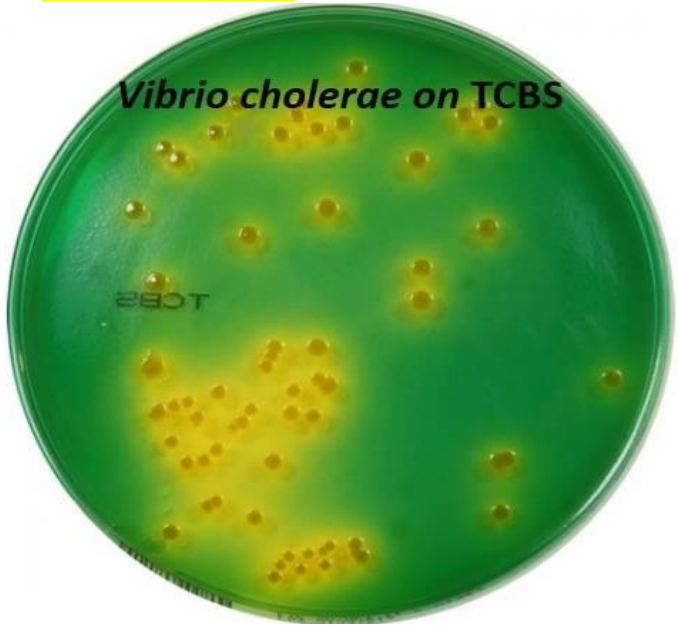


Salmonella

Shigella

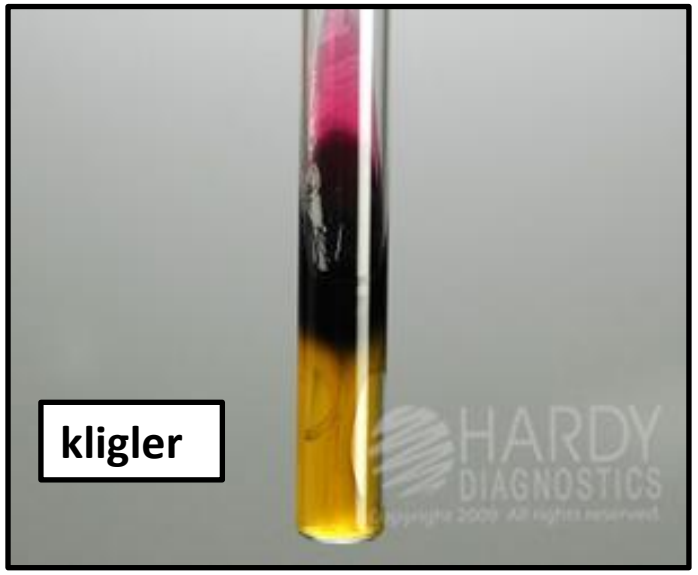
T.C.B.S media

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



Salmonella

- Kligler : red/Yellow + H2S
- Urease : Negative
- Citrate : Positive
- SIM : Positive / Negative / Positive



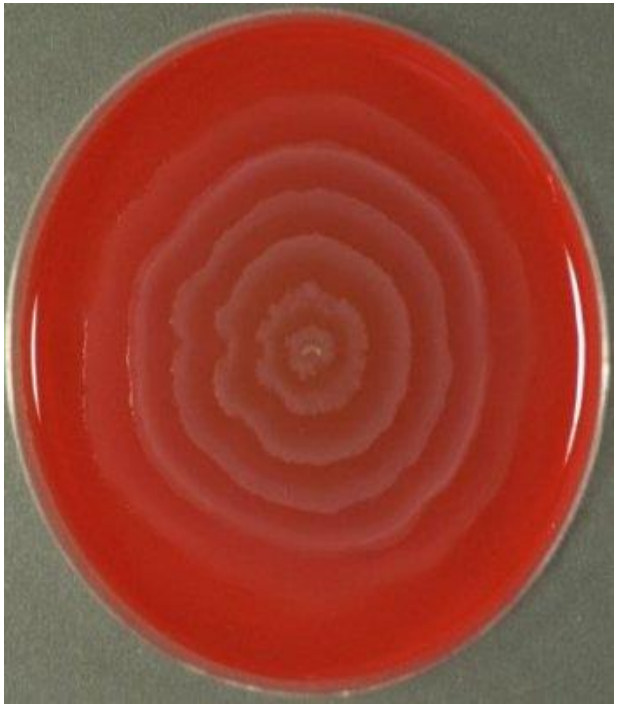
Urease test

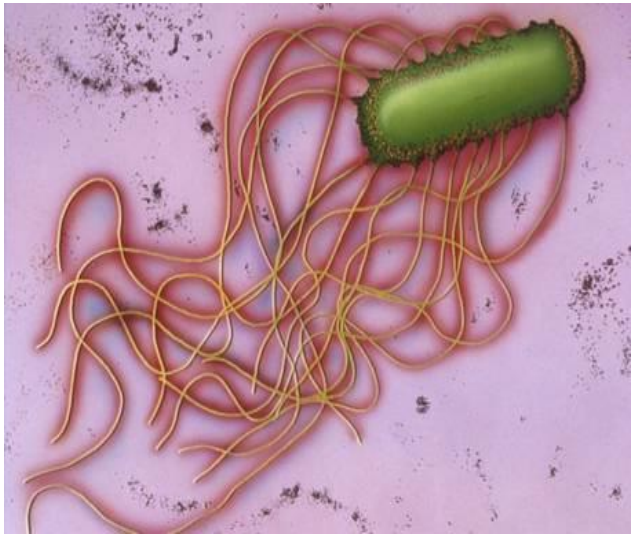
citrate test

SIM test

Proteus

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





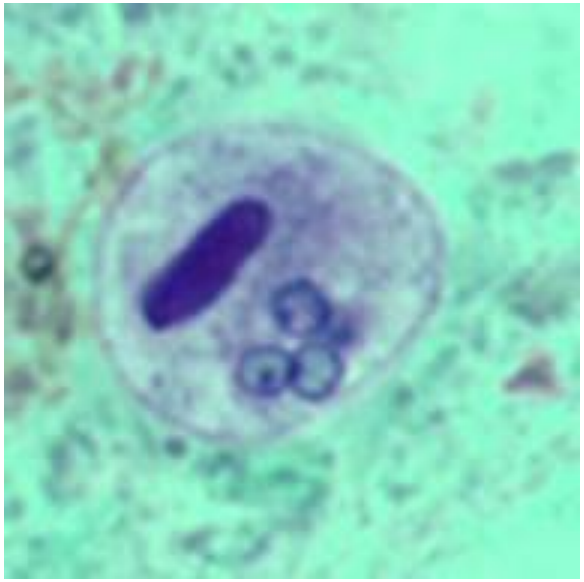
Parasites that are pathogenic to GI system

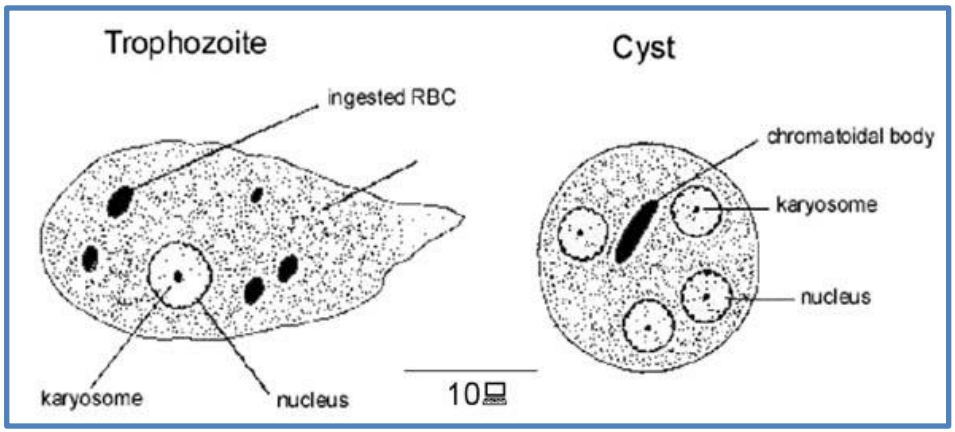
Entamoeba histolytica

Trophozoite

- trophozoites
  - 15-20 μm
  - extended pseudopodia
  - progressive movement

Cyst





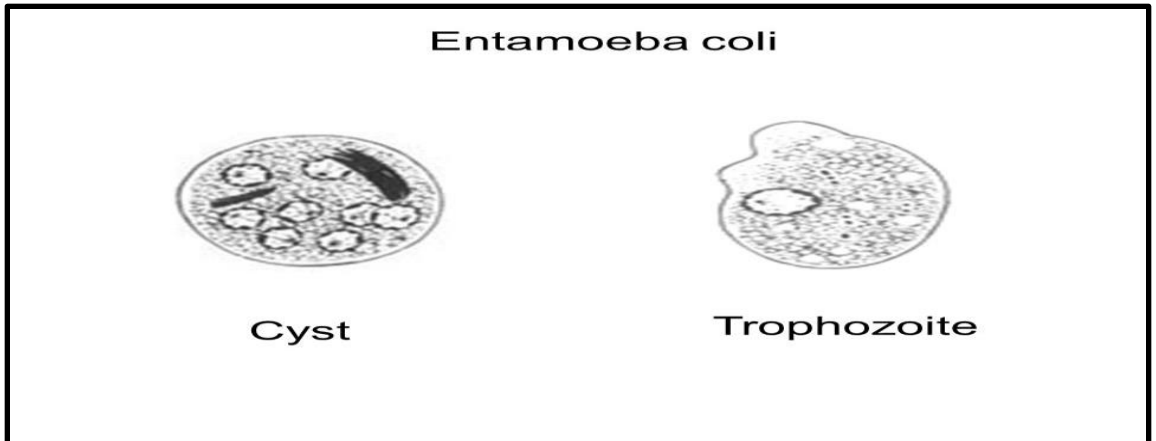
- **cysts**
  - **12-15 μm**
  - **4 nuclei (mature)**
  - **blunt chromatoid bodies**

Entamoeba Coli

Trophozoite

- trophozoites
  - 20-25 μm
  - broad blunt pseudopodia

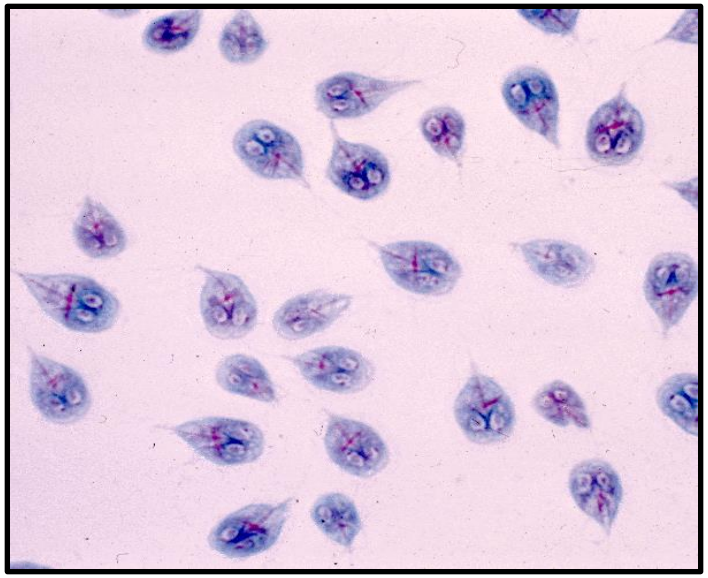
Cyst



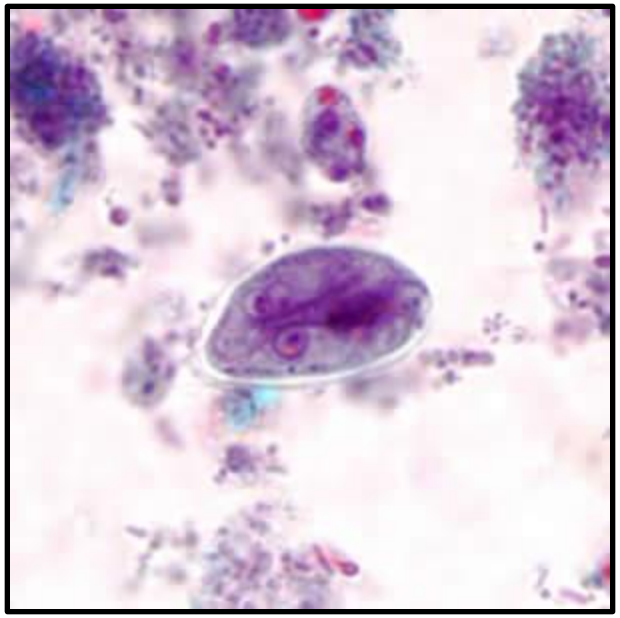
- cysts
  - 15-25 μm
  - 8 nuclei (mature)
  - pointed chromatoid bodies (less prominent)

Giardia lamblia

Trophozoite



Cyst



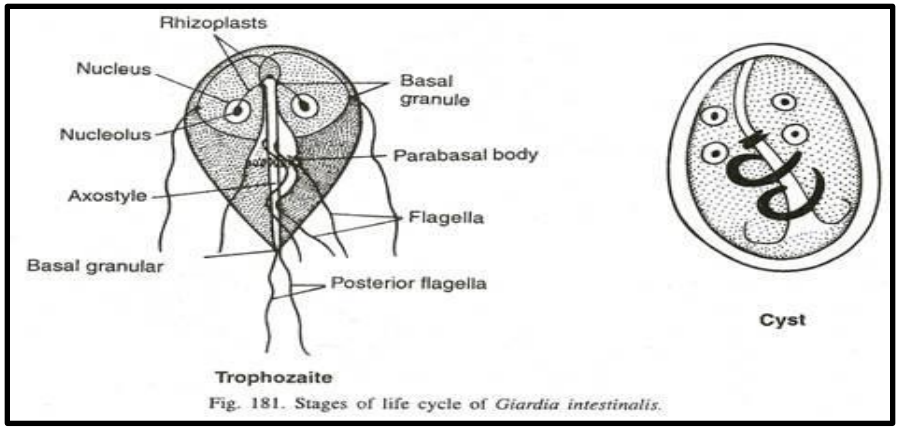
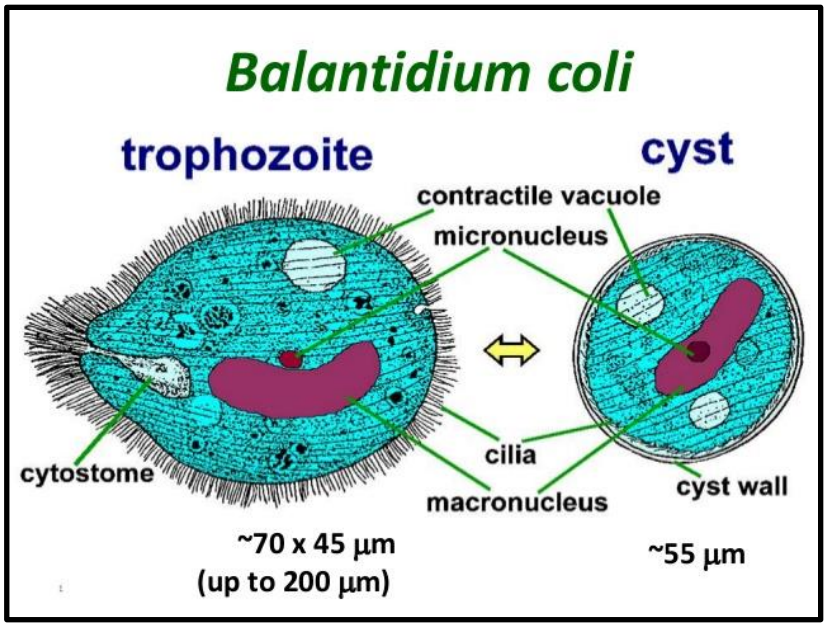


Fig. 181. Stages of life cycle of *Giardia intestinalis*.

Balantidium coli

Trophozoite

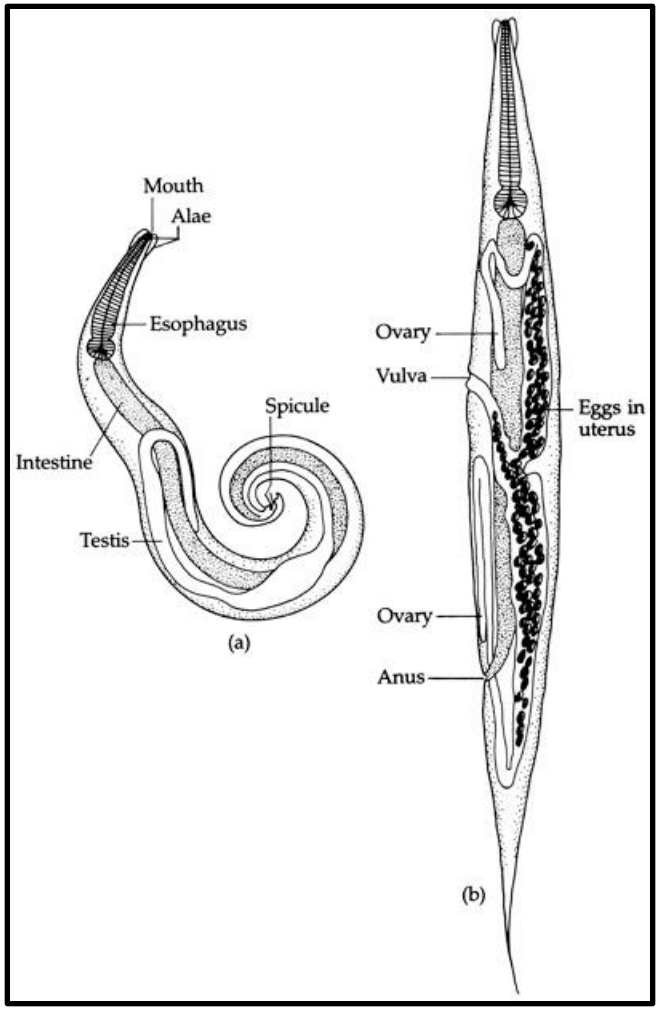
Cyst



Enterobius Vermicularis (Nematode)

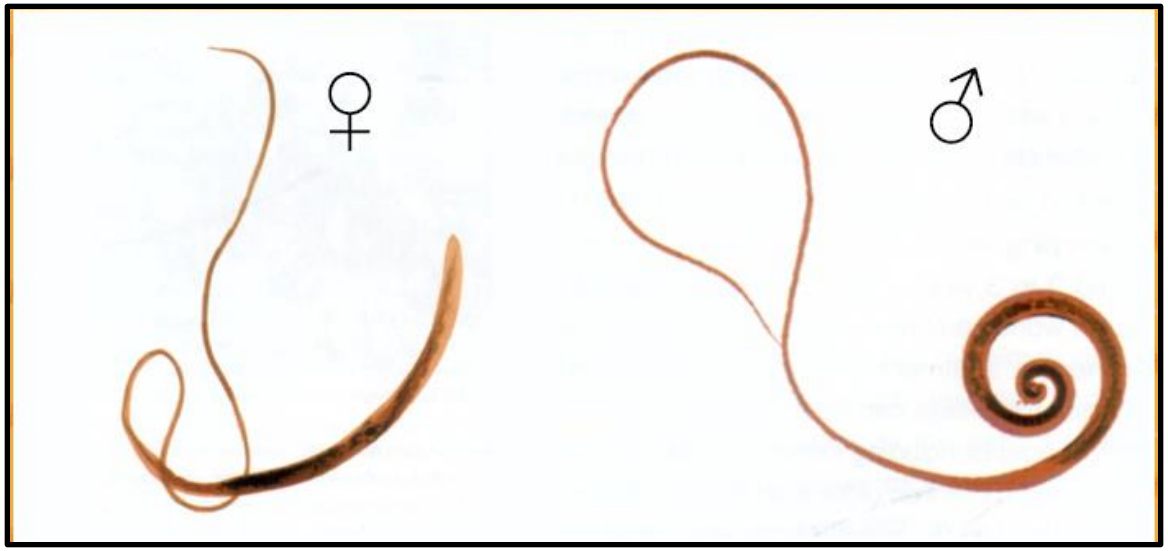
Worm

Egg



Trichuris Trichiura

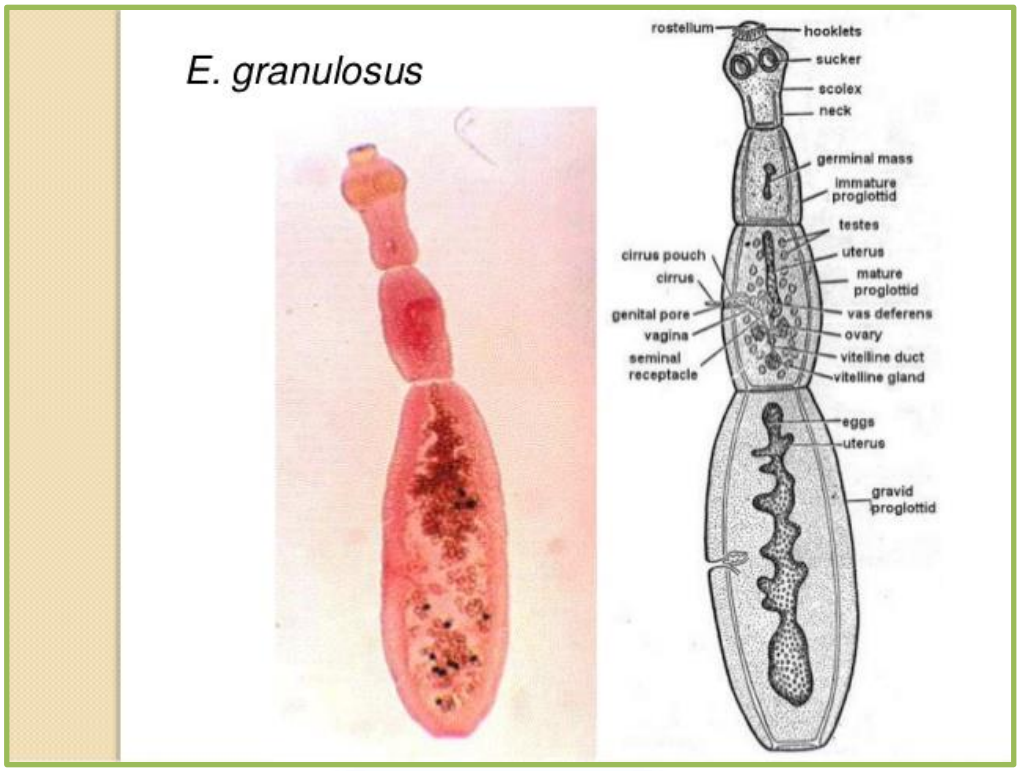
Worm



Egg

Echinococcus granuloses (cestode)

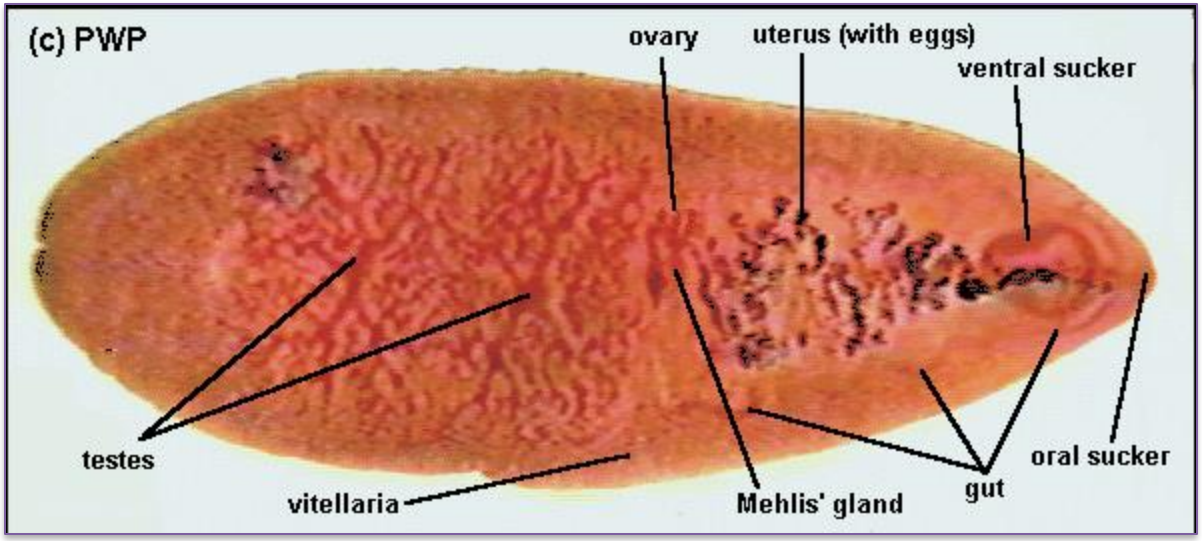
Ova



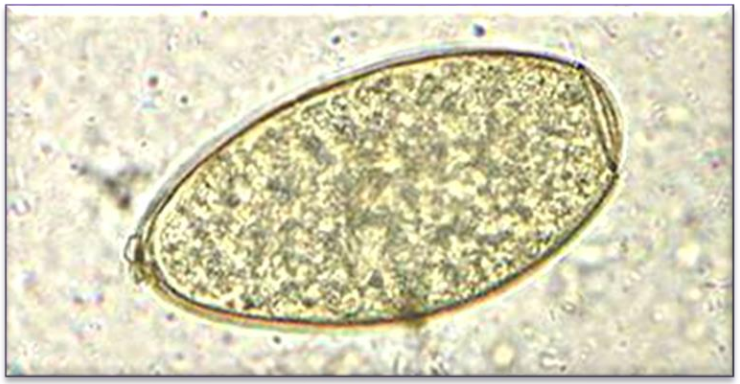
Worm

fasciolosis buski (Trematode)

Worm

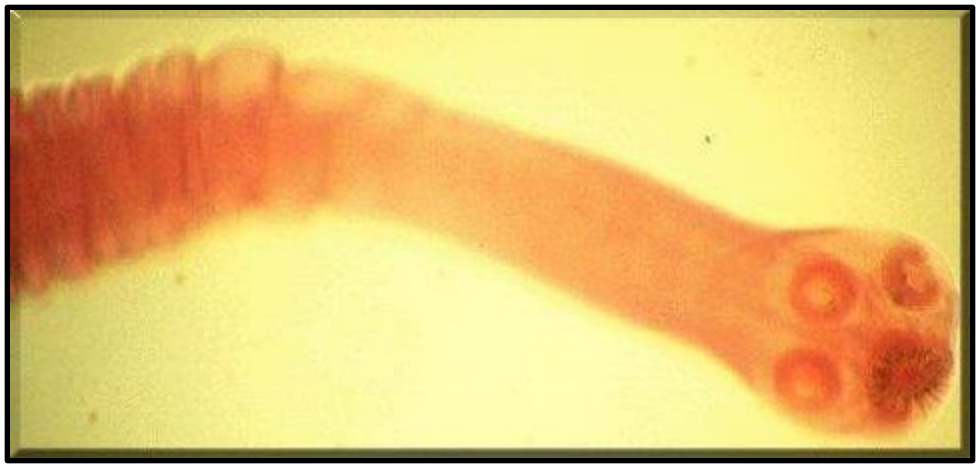


Worm



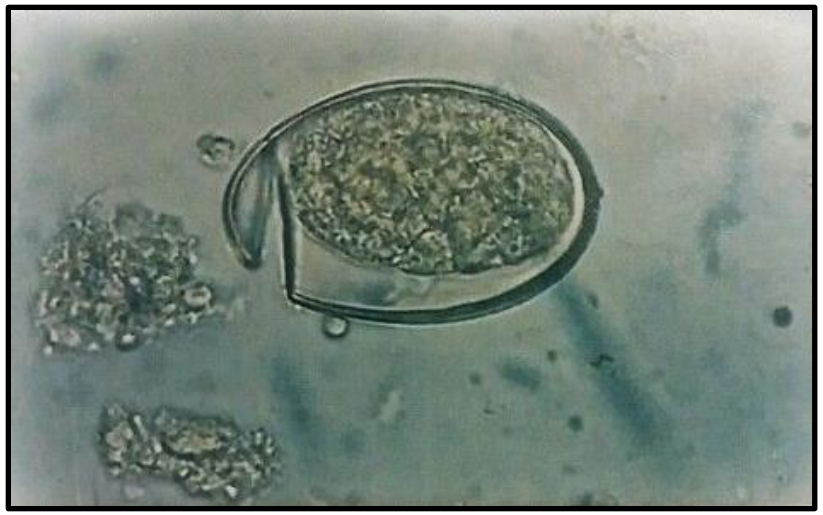
Hymenolepis Nana (Cestode)

Ova

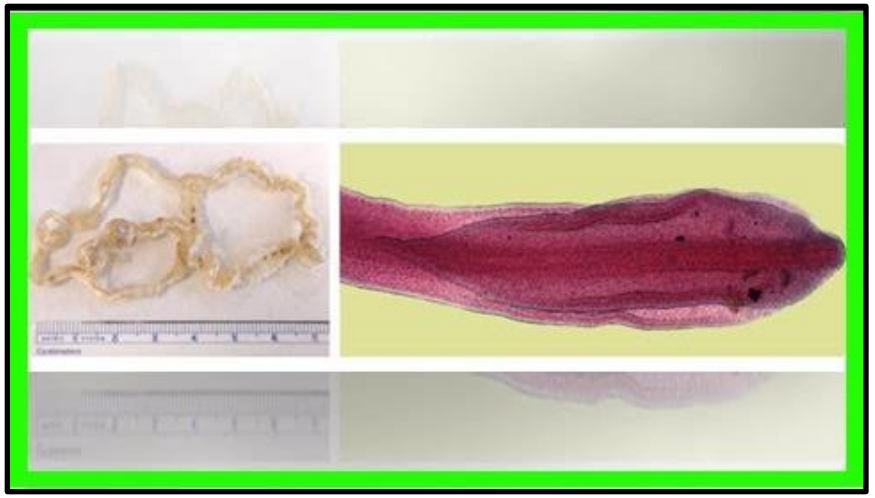


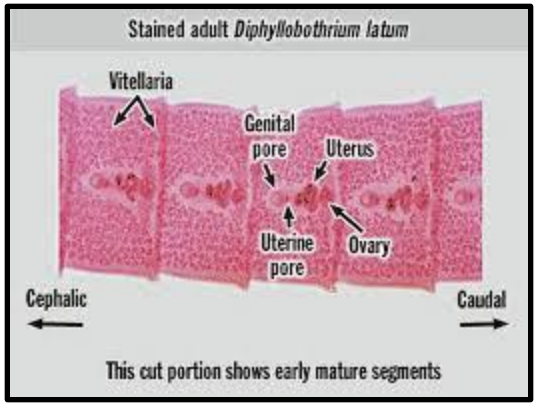
Worm

Diphyllobothrium latum(Cestode)



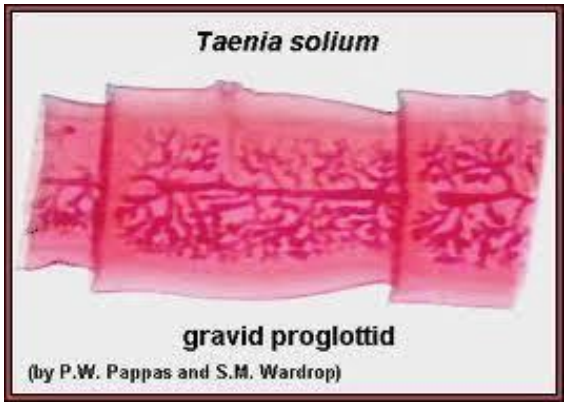
Egg



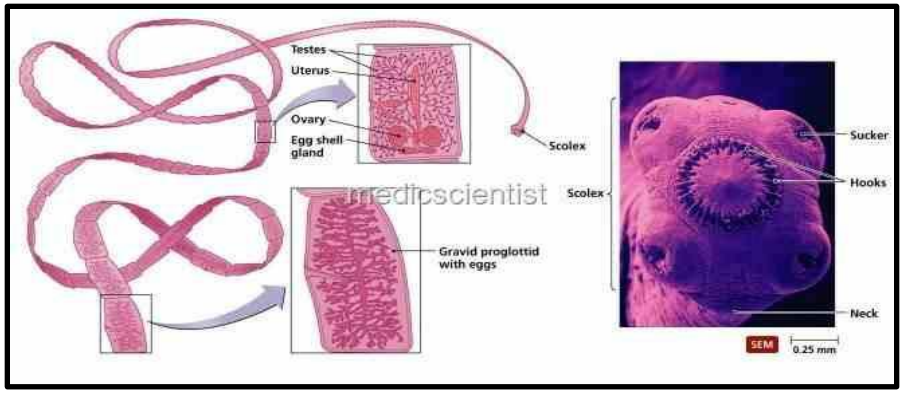


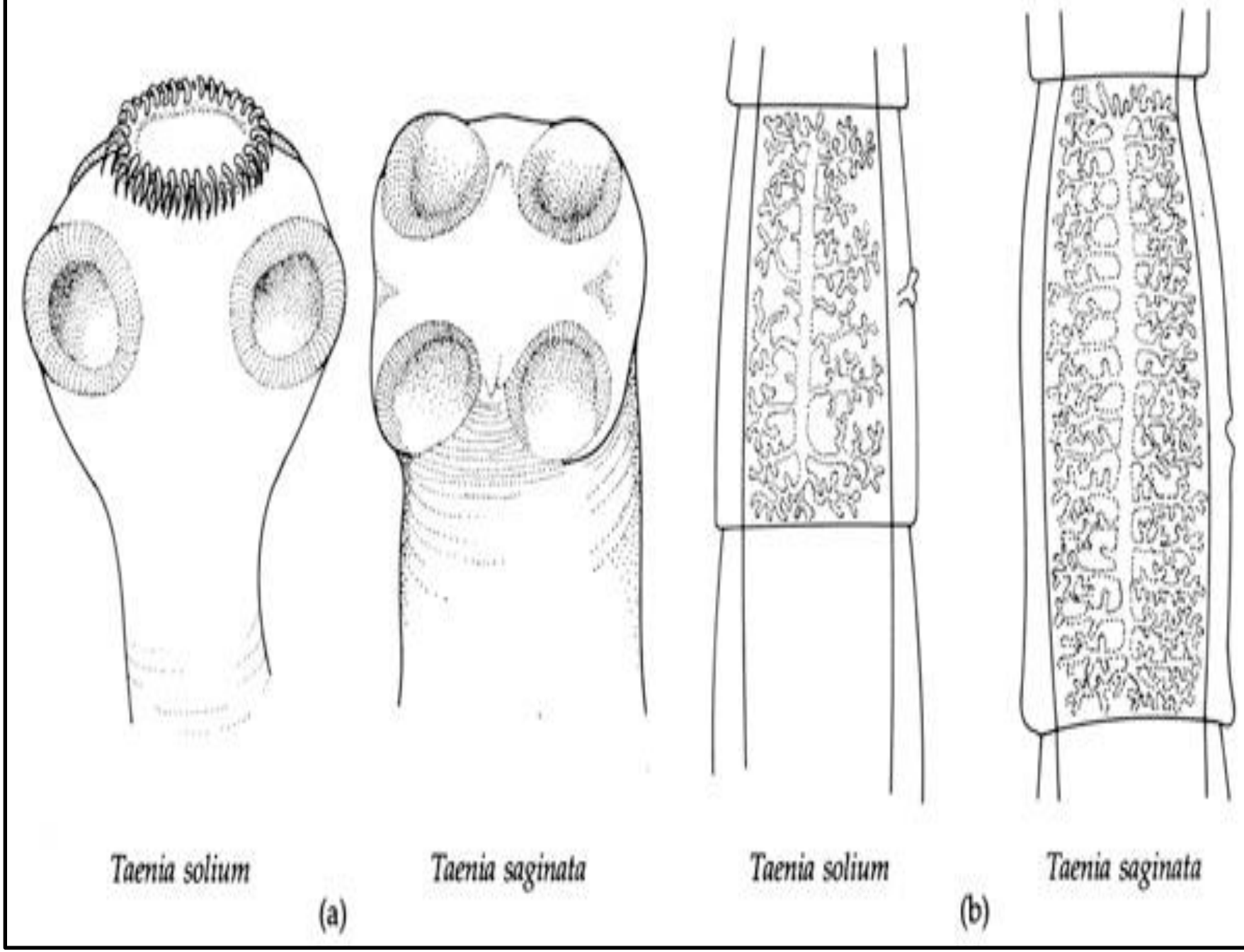
Worm

Taenia solium (Cestode)



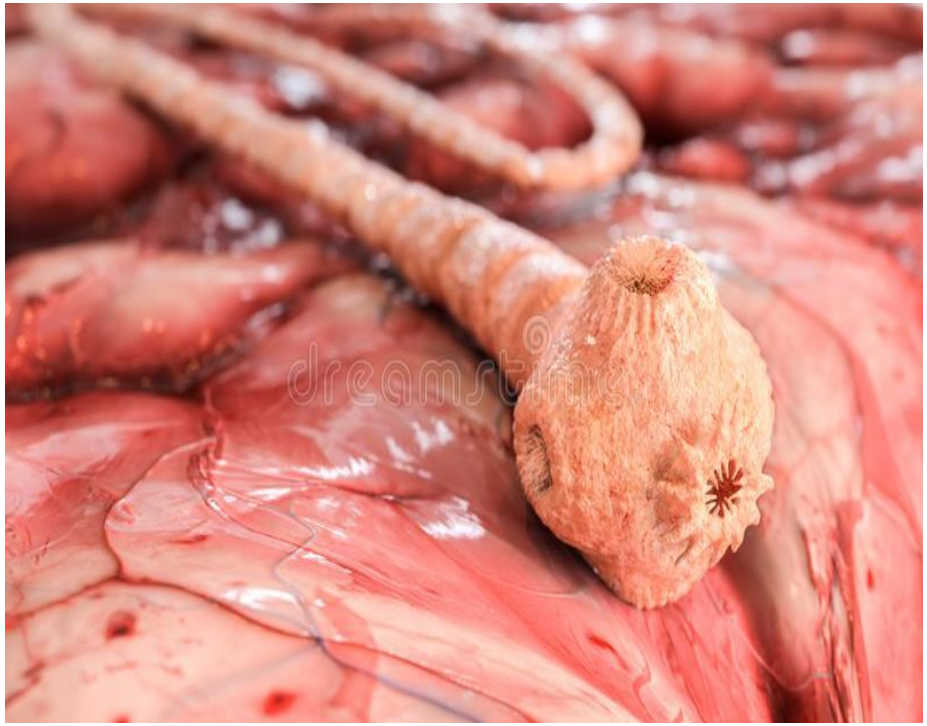
Taenia saginata (Cestode)

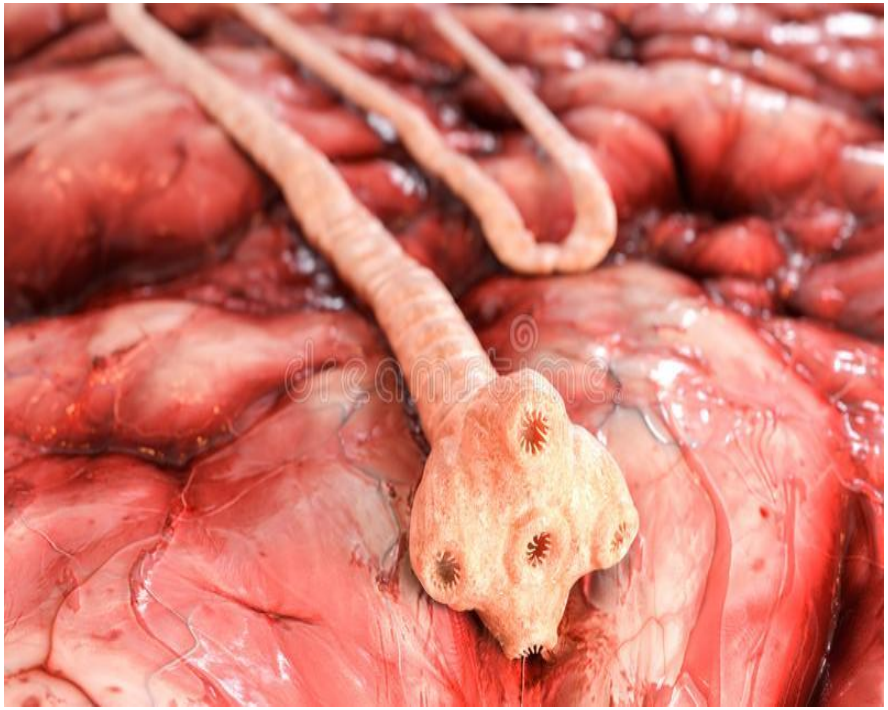



Taenia solium
Taenia saginata
(a)
Taenia solium
Taenia saginata
(b)

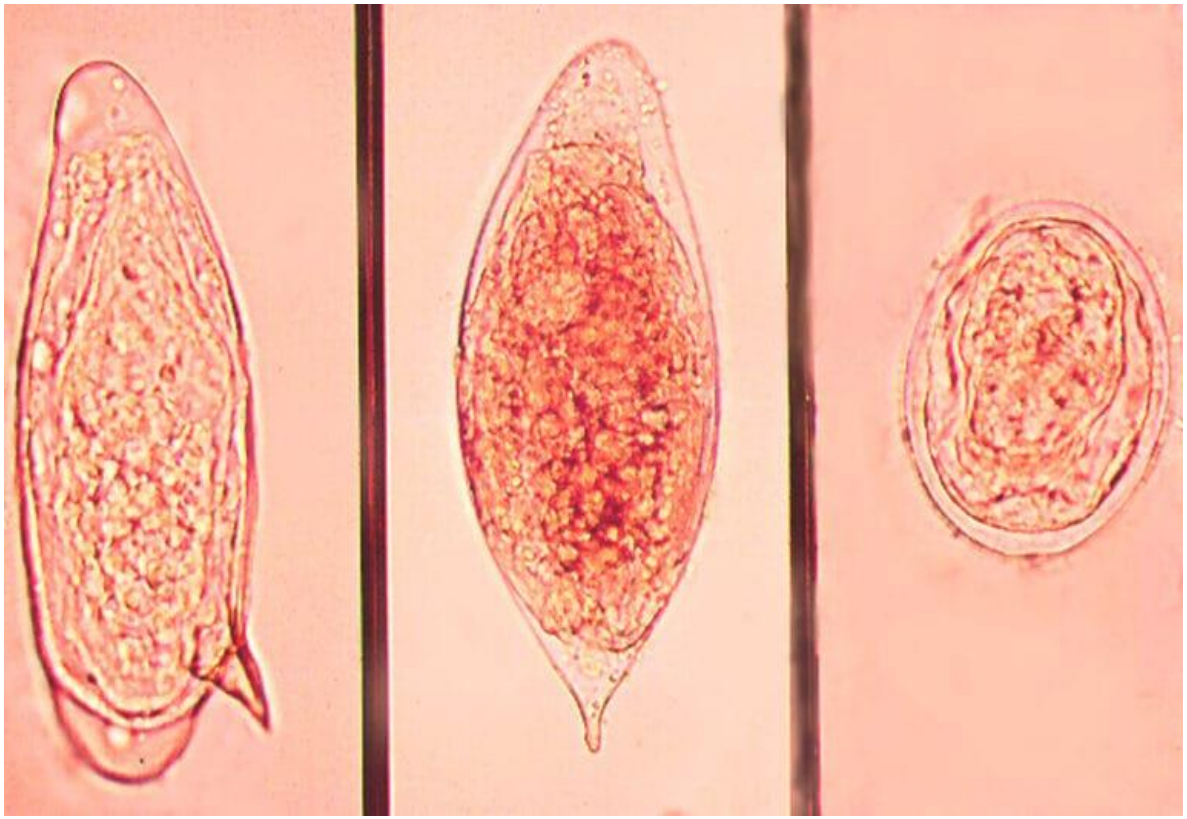
Taenia Solium

Taenia saginata





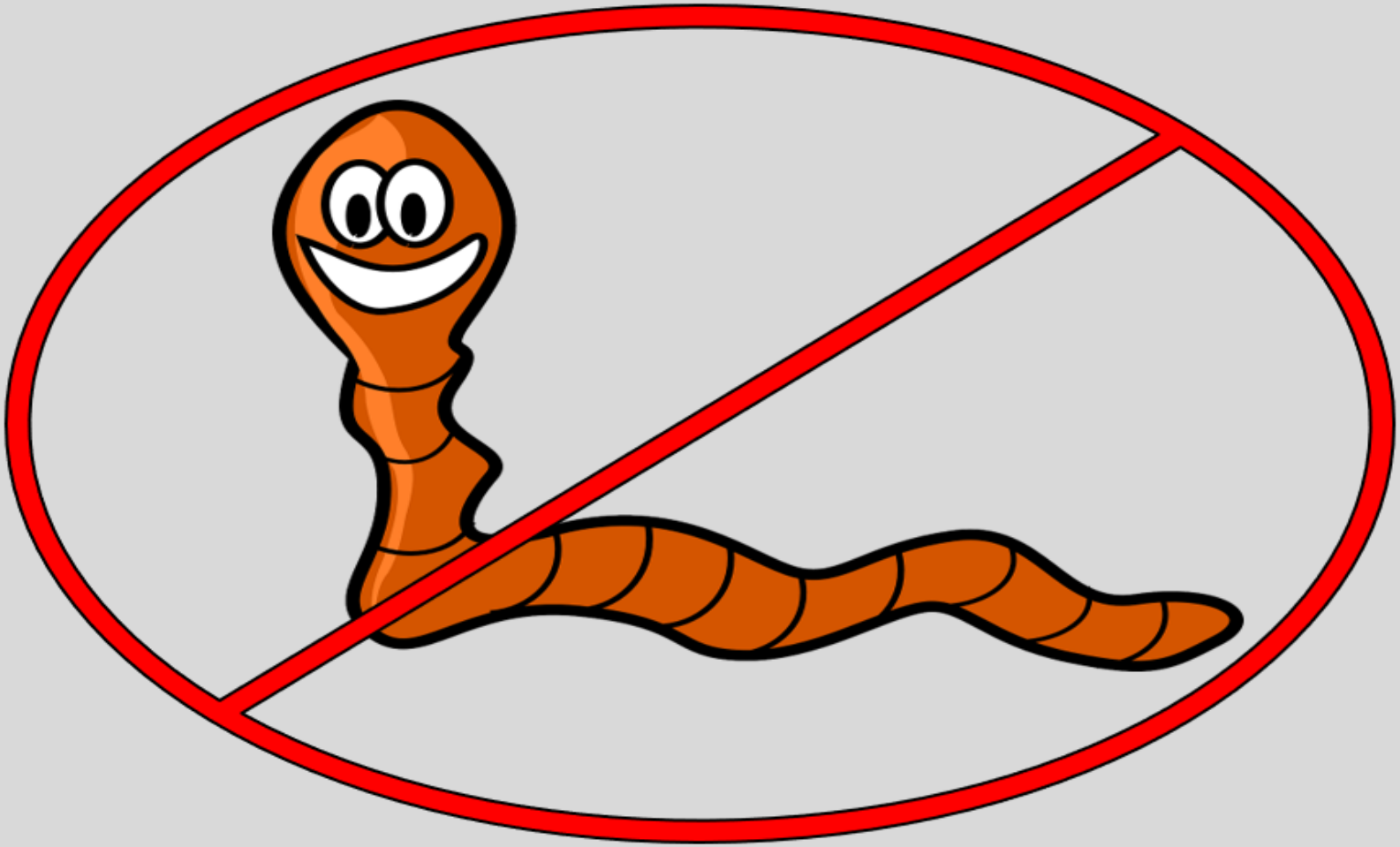
Schistosoma (Trematode)



Schistosoma mansoni (stool)

Schistosoma haemotobium (urine)

Schistosoma japonicum (stool)



Thank you for listening!

QUESTIONS?
ALWAYS WELCOME!