



# CESTODA

**Practical parasitology**

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# *Taenia pisiformis*



## Introduction

The tapeworm *Taenia pisiformis* is one of most common parasite of carnivores

like dogs, foxes, wolves and sometimes of cat as a final host. It is common where

rabbits and hares serve as a source of food, it is found all over the world .

## Morphology

1- The worm growth to 200 cm In length, a short neck region

2- The adult worm consists of a scolex with four suckers and the rostellum bear

34-38 hooks arrange in two row

3- A series of immature proglottids with undeveloped reproductive organs the

length of segment reach at 8-10mm , width reach 4-5 mm

series of mature proglottids with fully developed male and female reproductive organs

5- A series of gravid proglottids with an expanded uterus filled with eggs and have 8-14 branch of uterus.

6- *Cycticercus pisiformis* each of it has an invaginated scolex with size resembling that of pea size .

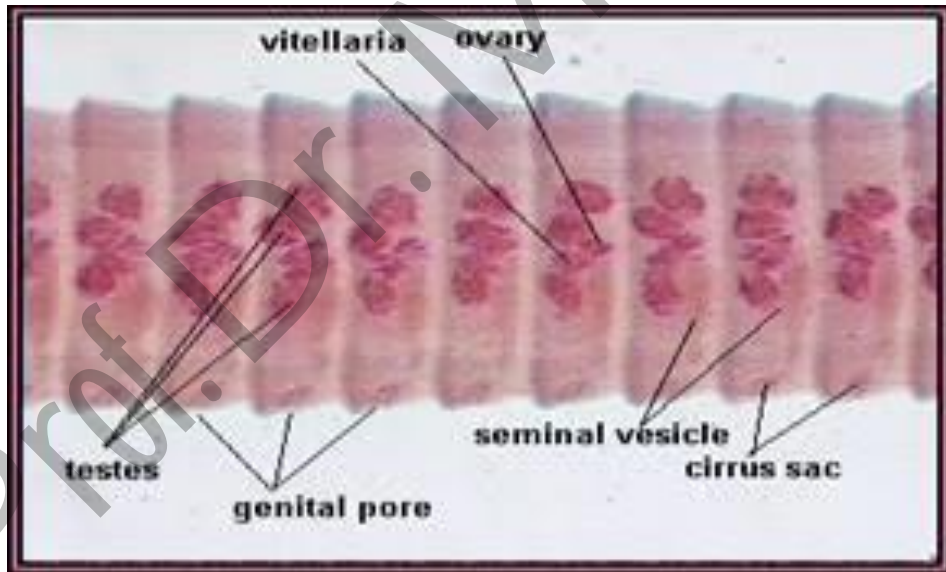
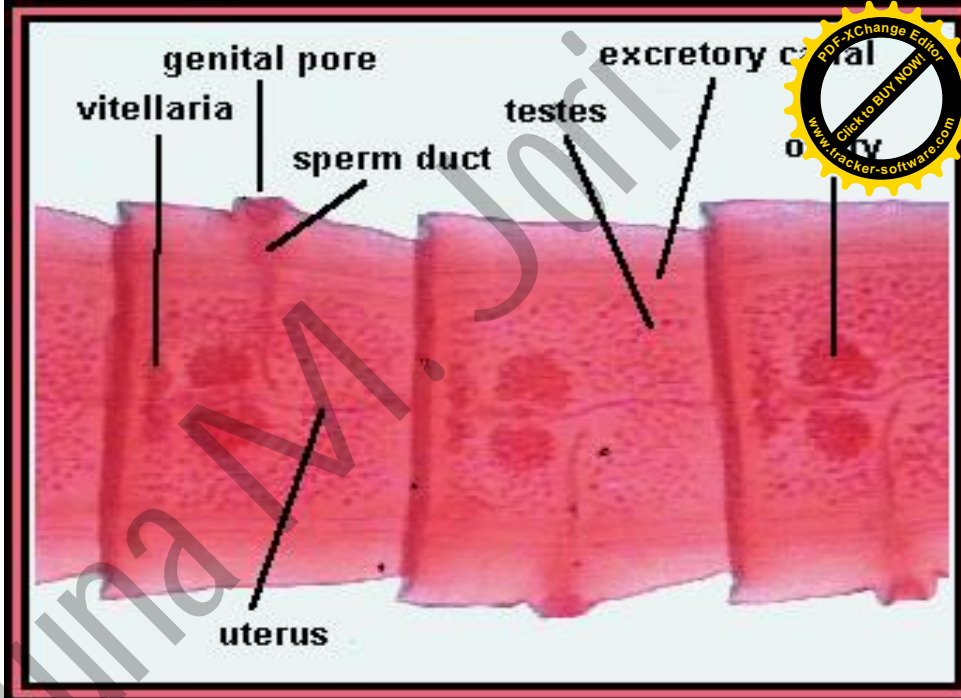
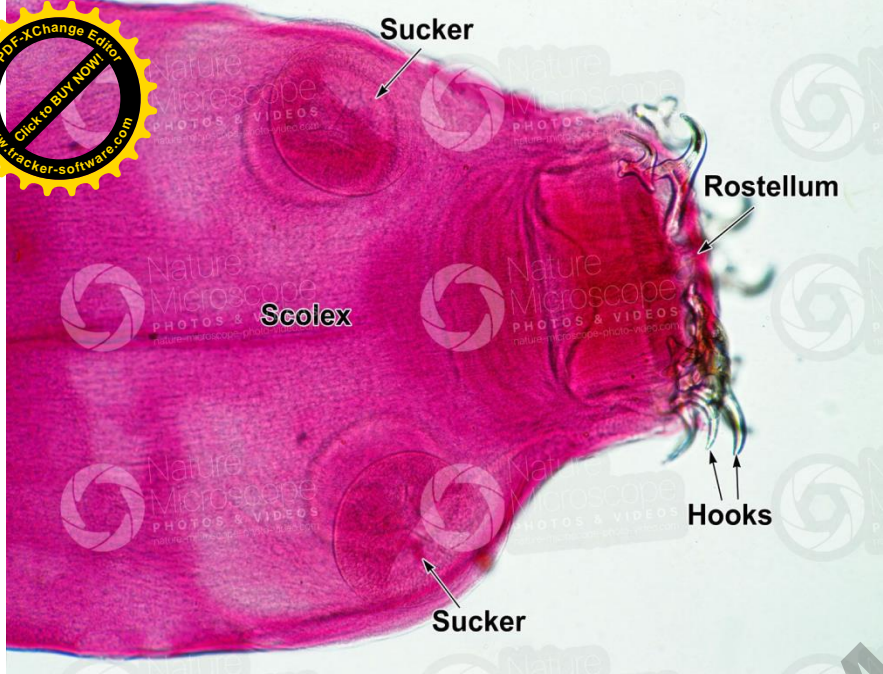
7- Egg of *Taenia pisiformis* are spherical , yellowish brown , the shell is thick and radially striated.

### **Site of infection**

The adult worm were find in small intestine of dog .

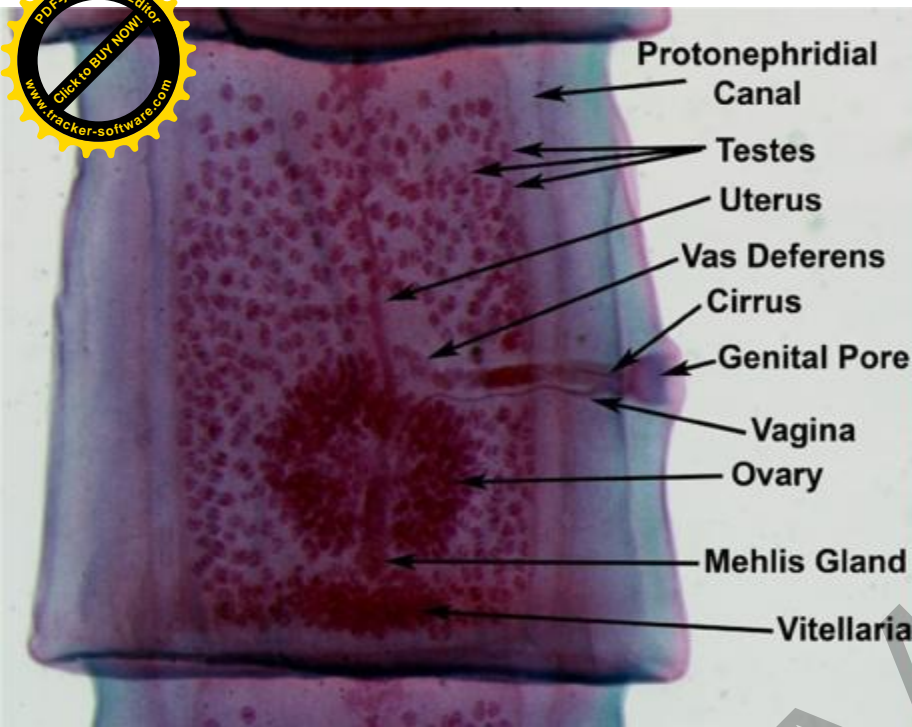
### **Intermediate host**

Rodents chiefly rabbits and hares in the peritoneal cavity attached to the viscera



***Taenia pisiformis***





***Taenia pisiformis (mature segment)***

***Taenia pisiformis (scolex)***



***Taenia pisiformis (egg)***



# *Taenia hydatigena* (thin-necked bladderworm)

Tapeworms in small intestine of dogs, wolves and wild Carnivores, the larval stage, *Cysticercus tenuicollis*, found in the sheep and other ruminants, pigs and occasionally primates.

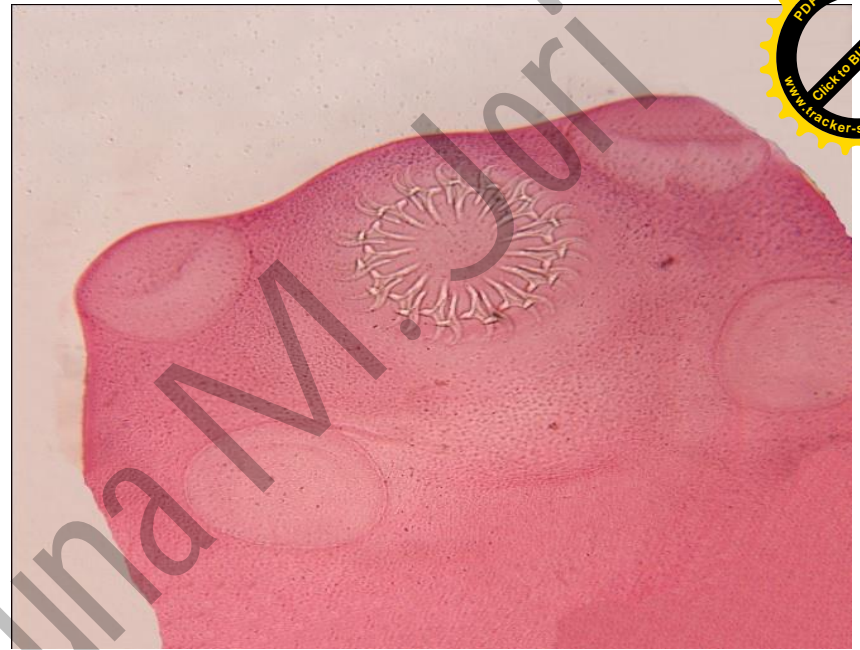
**Definitive hosts:** Dogs, wolves and rarely cats

**Intermediate hosts:** Sheep, goats, cattle, pigs, reindeer and other domestic and wild cloven-hoofed animals.

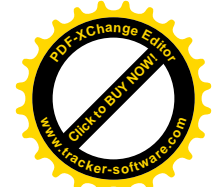
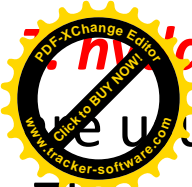
• Rabbits, rodents and humans are rarely infected.

## **Morphology:**

- 1- The adult worm 75cm-5m In length .
- 2- A scolex with rostellum provided by hooks.
- 3 –Gravid proglottids filled with eggs and have (5-10) branch of uterus 4-
- Genital pore rotate without regularity.
- 5-Gravid proglottids filled with eggs and have -10 branches.



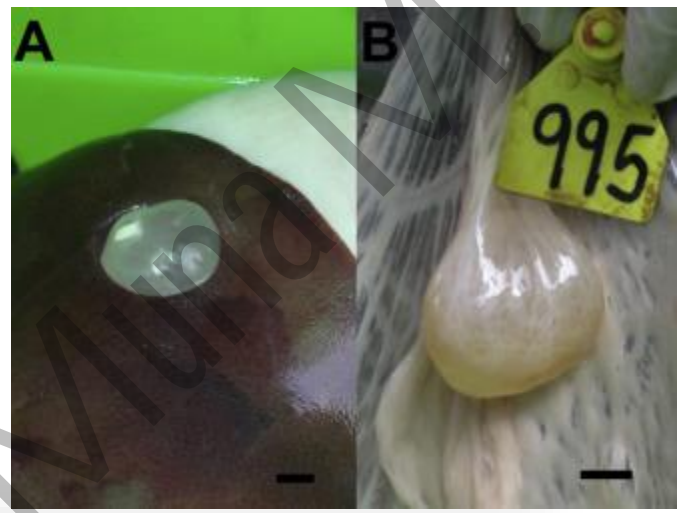




# *Paratigena cysticerci* (*Cysticercus tenuicollis*)

They are usually found in the abdominal cavity.

They are generally attached to the omentum, mesentery and occasionally the surface of the liver



**Larval Stage**

Prof. Dr. M. Vigneshwari





**Family: Hymenolepididae**  
**Genus: *Hymenolepis***  
**sp.1: *H. nana***

-The dwarf tapeworm. It does occur worldwide and its incidence is higher in children. Requiring an intermediate host.

**intermediate host:** Arthropods (various species of beetles and fleas).

**Final host:** humans or rodents.

**An alternate mode of infection:** consists of internal autoinfection.

- It is a short worm, growing only about one and one-half inches, complete with about 200 segments.
- The tapeworm infects humans only when the eggs are ingested.
- Eggs can be transmitted by infected food handlers, grain beetles and other insects that infest grains, as well as rodent contamination of foods.
- The life span of adult worms is 4 to 6 weeks, but internal autoinfection allows the infection to persist for years.



## Morphology of *H.nana*



**Scolex** is small, 0.3 mm in diameter, globular (rounded), cup-like.

Scolex situated at the anterior end, has four suckers and retractile rostellum with a single row of 20–30 hooks.

Genital pores are unilateral (side of the segment)

Each mature segment contains three testes



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## Morphology of *H.nana*

*H. nana* egg is colourless, almost transparent, round to oval, 30–50  $\mu\text{m}$  in diameter, has polar filaments.

When shed in stool they are immediately infective and survive up to 10 days in the external environment,

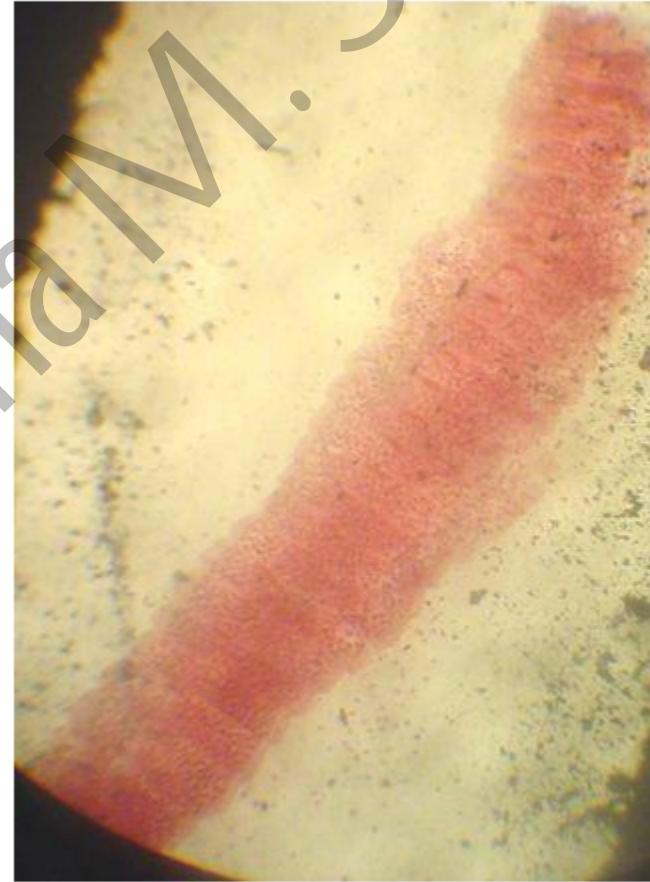
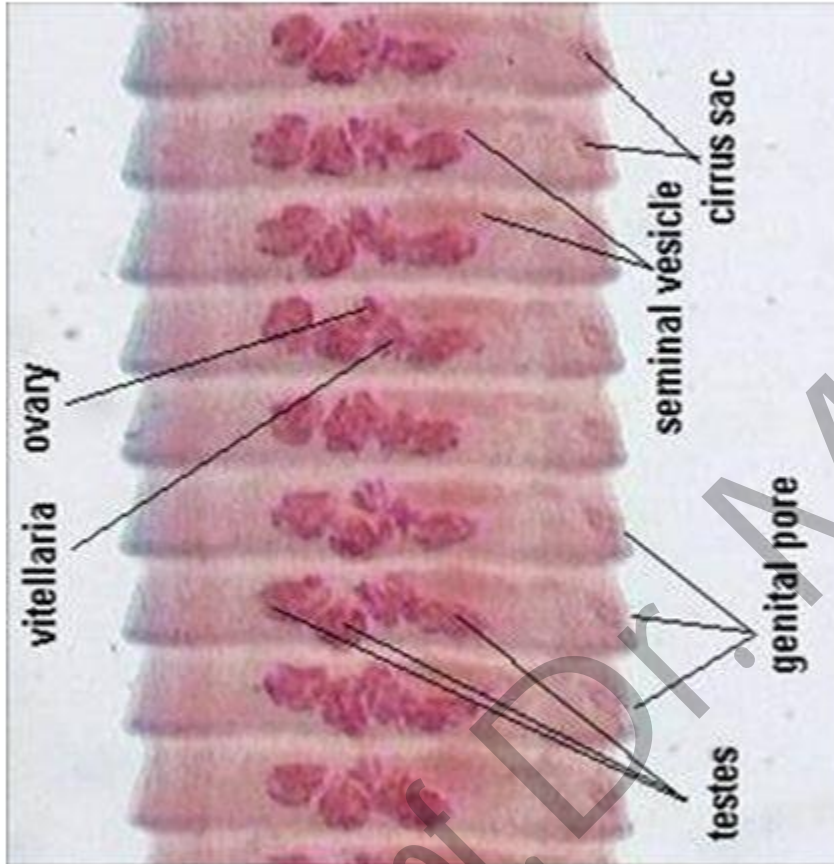
they are embryonated and have a 6-hooked oncospheres inside the shells.

Shell consists of two distinct membranes. On inner membrane there are two small “knobs” or poles from which 4–8 filaments arise and spread out between the two membranes.





# *Hymenolepis nana*



Mature segments: broad than long characterized by 3 testis and one ovary in each segment (L.P)

Gravid segments : broad than long, enlarged uterus containing eggs (L.P)



## sp.2: *Hymenolepis diminuta*

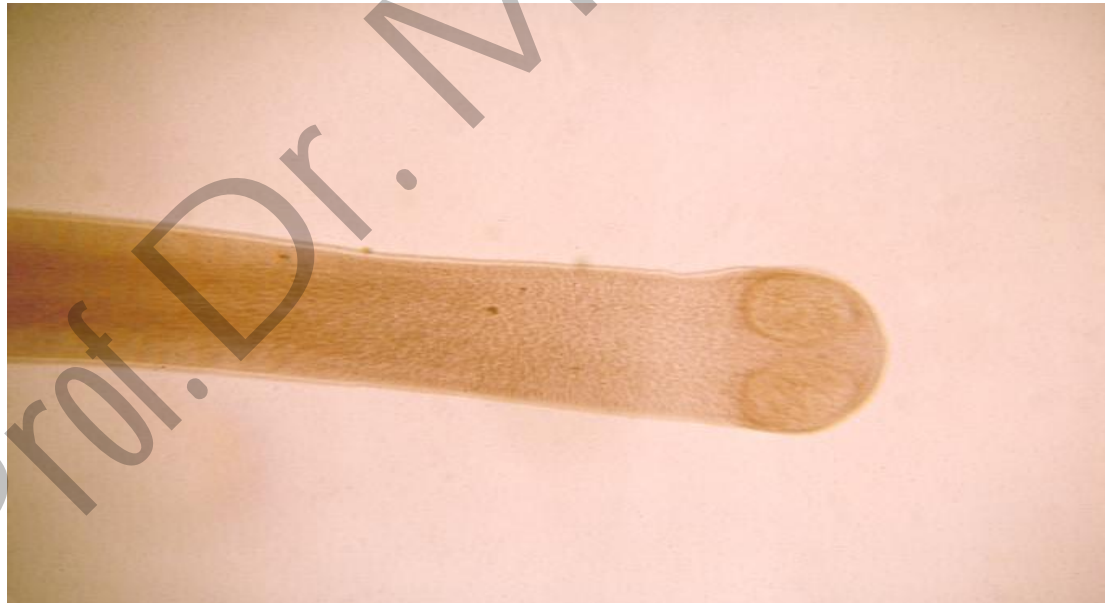


-*Hymenolepis diminuta* (**rat tapeworm**). Is a cestode of rodents infrequently seen in humans and frequently found in rodents.

-Adults measuring 20 to 60 cm in length).

-**Intermediate host:** various arthropod adults or larvae.

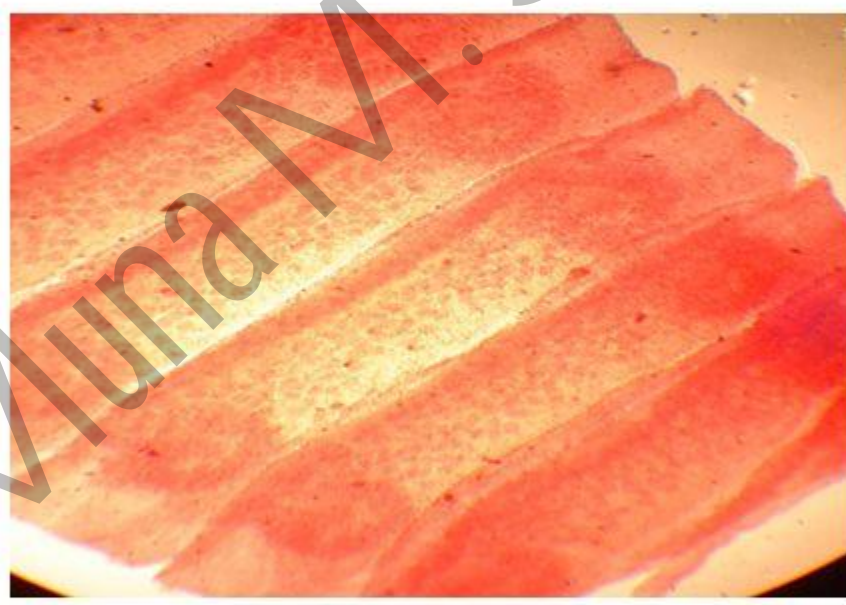
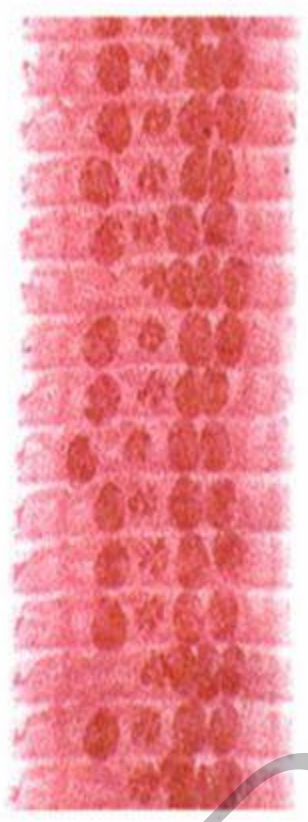
-**Geographic Distribution:** less frequent than *H. nana*, has been reported from various areas of the world.



**scolex**



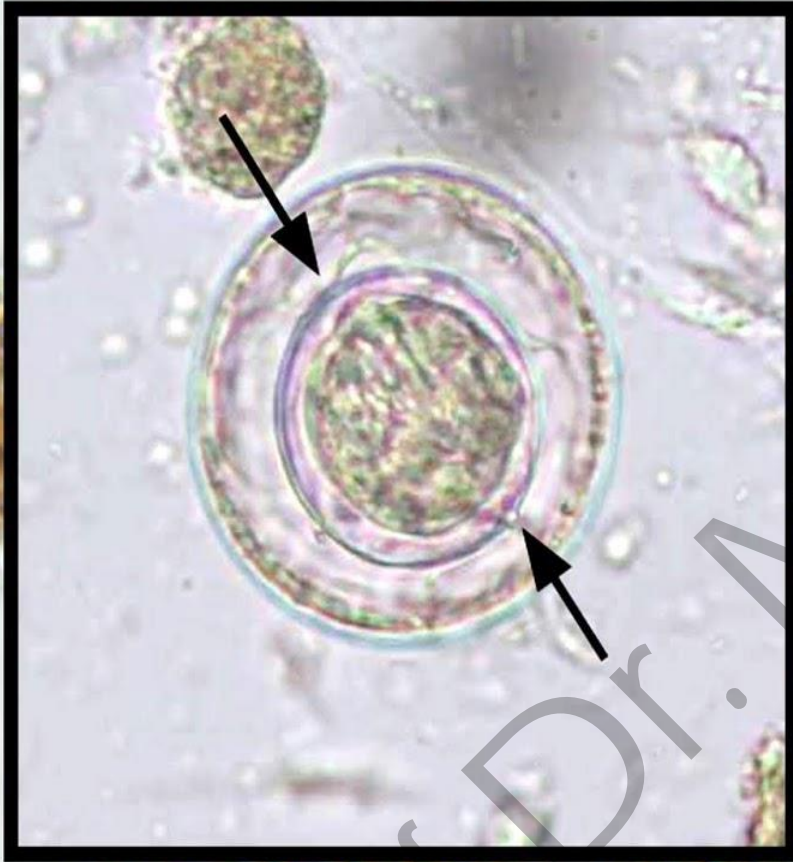
# *Hymenolepis diminuta* (rat tape worm)



Mature segments: broad than long characterized by 3 testis and one ovary in each segment (magnifier)

Gravid segments : broad than long, enlarged uterus containing eggs (magnifier)





*H. nana*



*H. diminuta*

**Differences between eggs**



THANK  
YOU

Prof. Dr. Mustafa M. Jolani