



# Tapeworms of Livestock and Poultry

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# Tapeworms of Livestock and Poultry

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4. Tapeworms of equines
5. Tapeworms of dogs



# INTRODUCTION

- ▶ 'Cestus' – Tape like structure.
- ▶ Tapeworms are hermaphrodite.
- ▶ Endoparasites, elongate and flat in nature.  
Few millimeter to several centimeter in length.

▶ Body cavity, digestive, respiratory circulatory systems are absent.

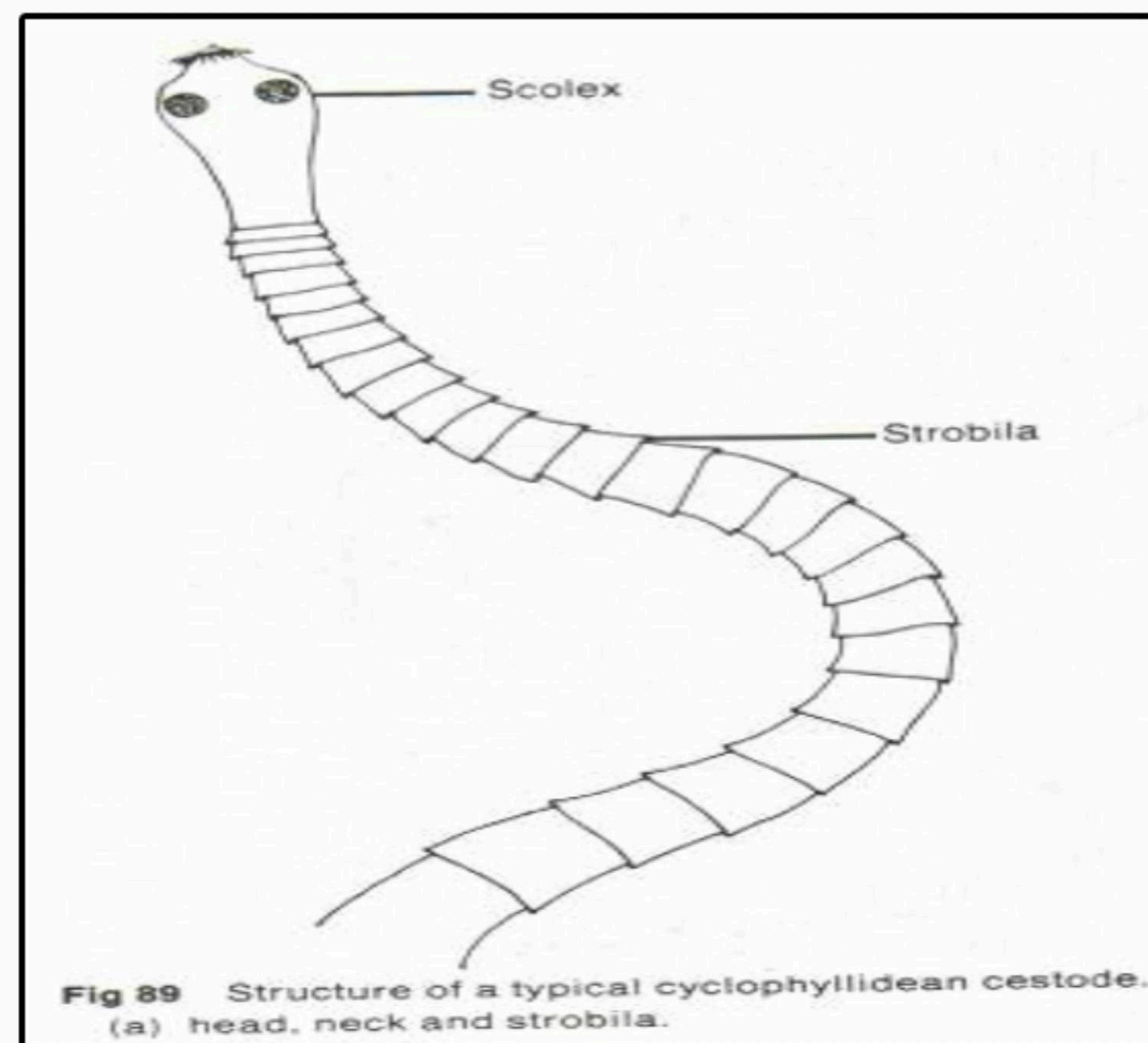
▶ Saprozoic nutrition.

Tape worms have 3 important parts,

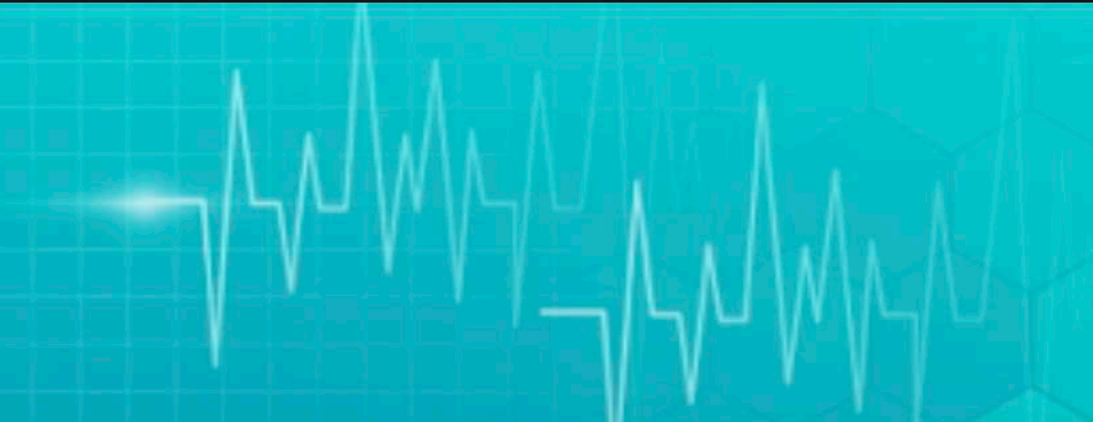
-Head or scolex

-Neck

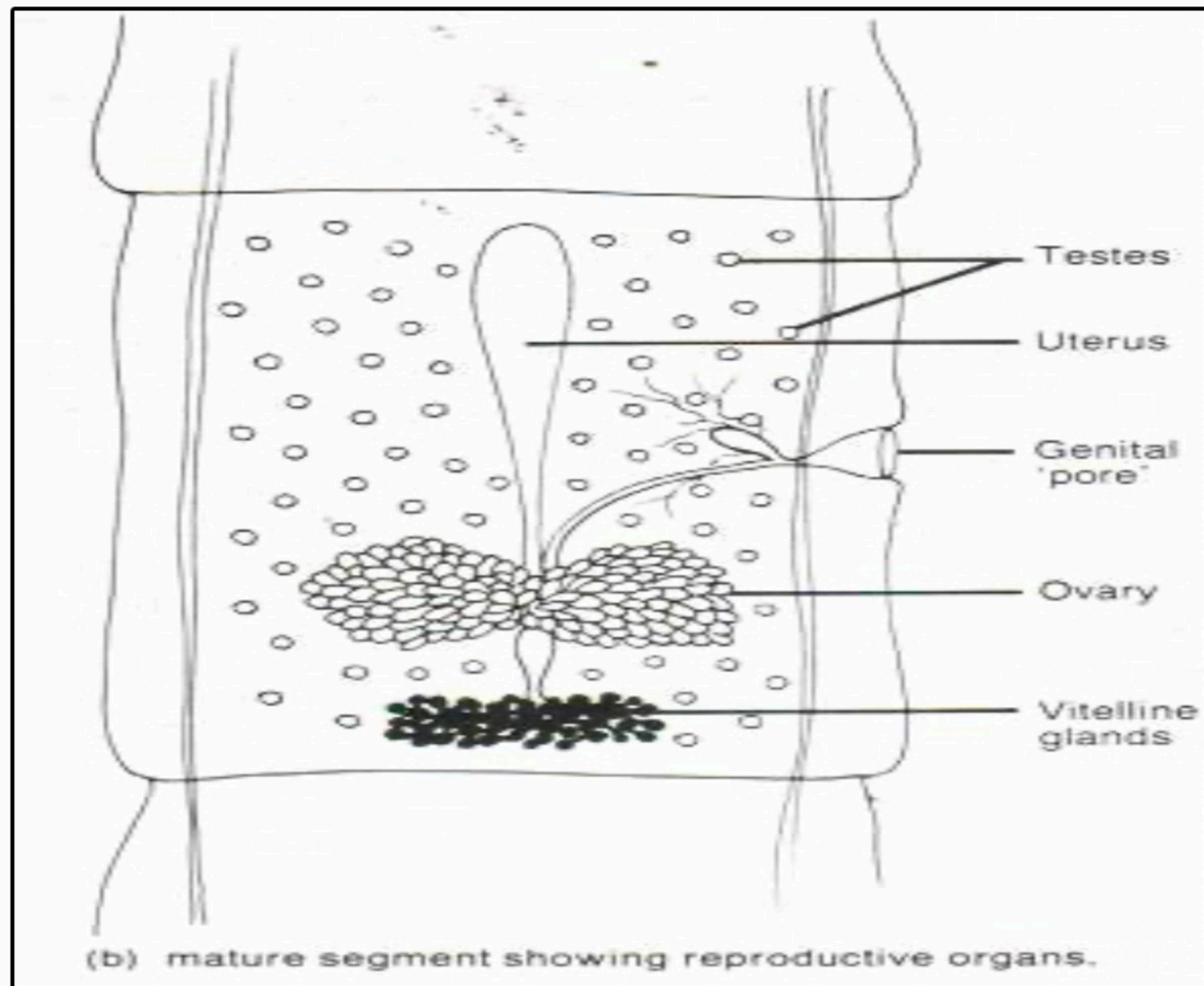
▶ Body or strobila







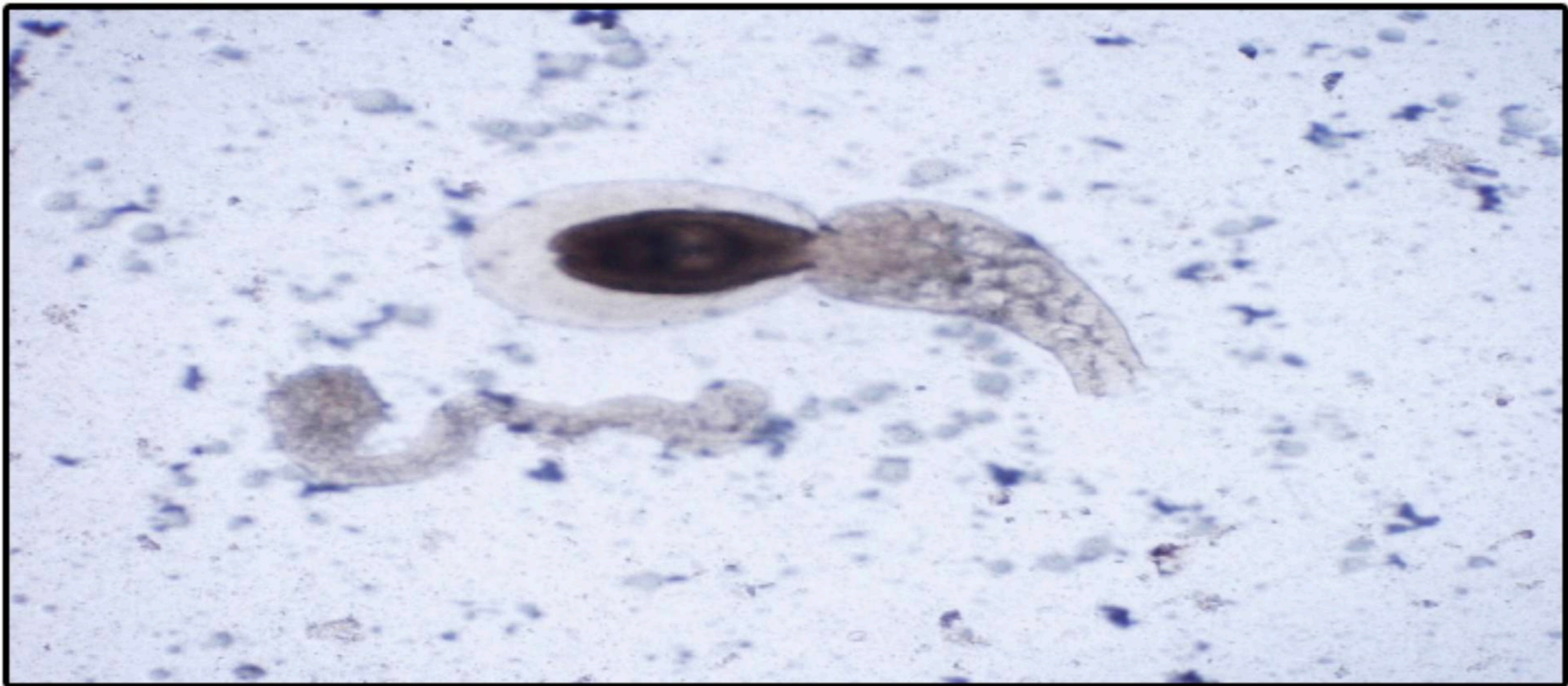
# Reproductive system of cestodes







# Bladder worm stages of cestodes



*Cysticercoid with tail*

*Cysticercus  
cysts in sheep*





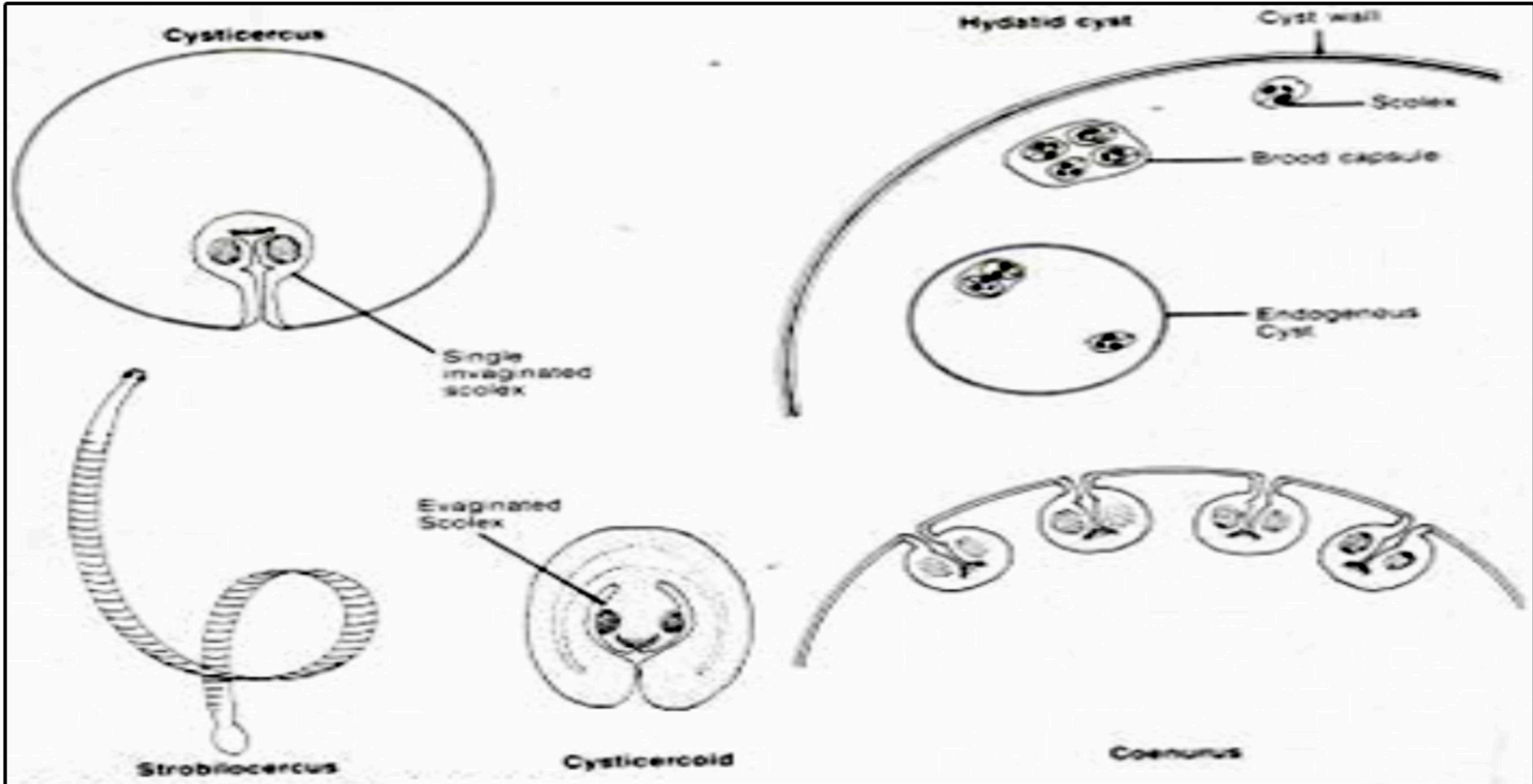
# LIFE CYCLE

- ▶ Eggs are embryonated or unembryonated when laid. If the eggs are embryonated it contains oncosphere or hexacanth embryo. The oncosphere is bilaterally symmetrical and has 3 pairs of hooks.
- ▶ Eggs having 4 layers.
  - Outer capsule.
  - Outer envelope.
  - Inner envelope.
  - Oncosphere membrane.
- ▶ In Eucestoda the eggs hatch out within the I/H (only after ingestion by I/H) and develops into larval stage. In cotyloda eggs are hatch out in water and releases the larval stage known as “Coracidium”.
- ▶ The larval stage of tapeworm is called as metacestode or bladder worm stage.

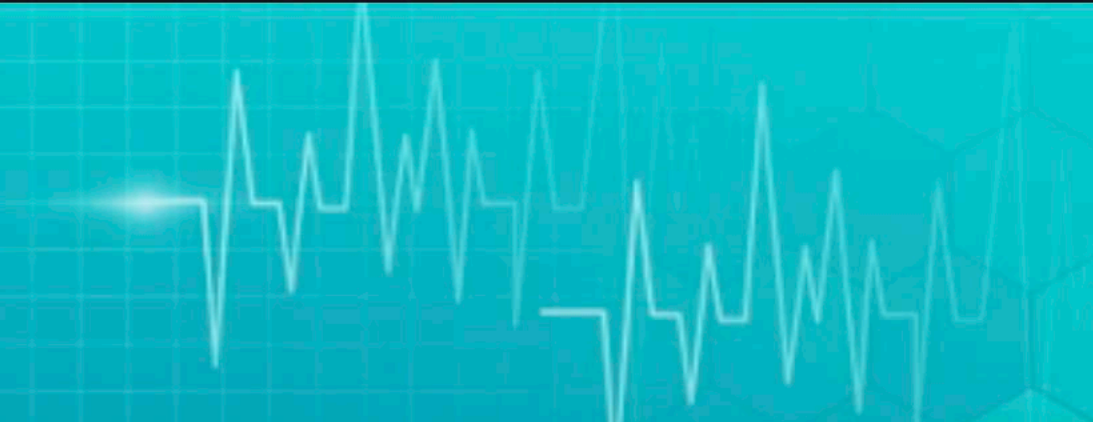




# Bladder worms



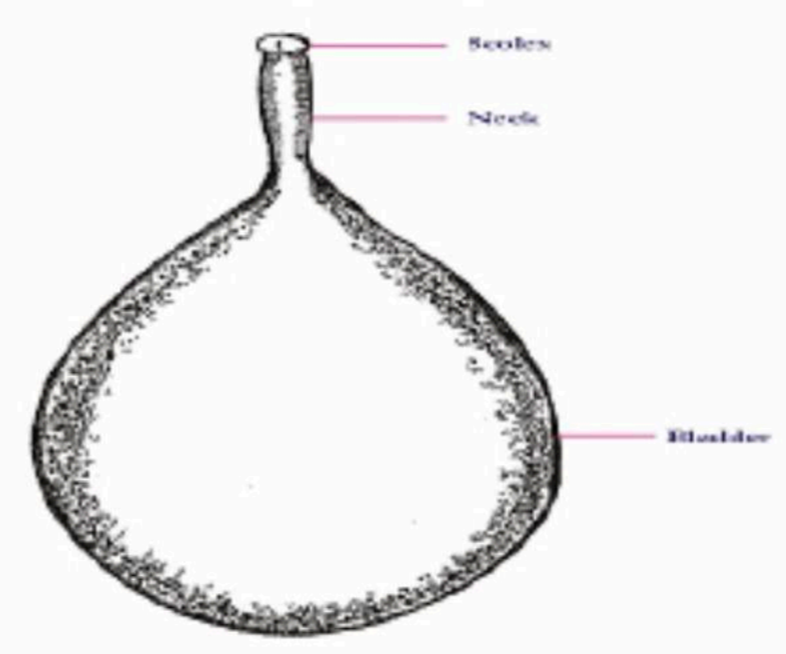




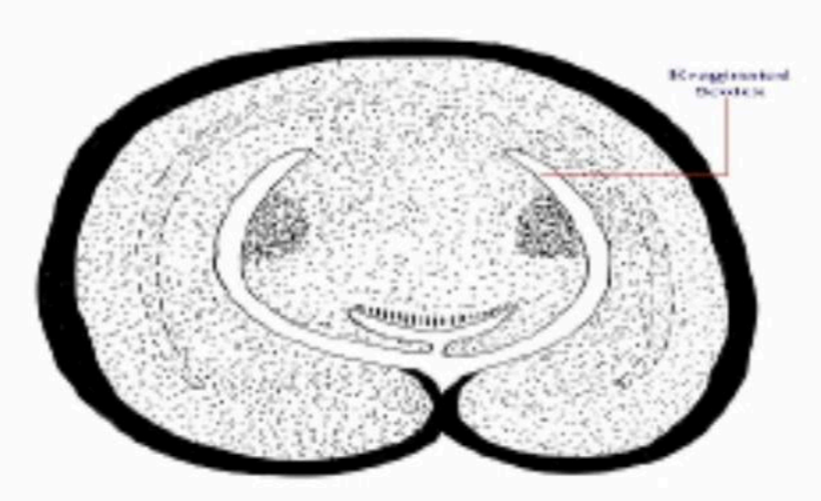
# LARVAL TAPEWORMS or BLADDER WORMS

- ▶ **Cysticercus**  
Single invaginated scolex with cavity filled with fluid.
- ▶ **Cysticercoid**  
Single non-invaginated scolex with drawn into a small vesicle. Practically no cavity.
- ▶ **Strobilocercus**  
A single scolex which is not invaginated when fully developed and attached with the bladder by a long neck.
- ▶ **Coenurus**  
A large fluid containing bladder in which number of invaginated scolex attached to the wall.

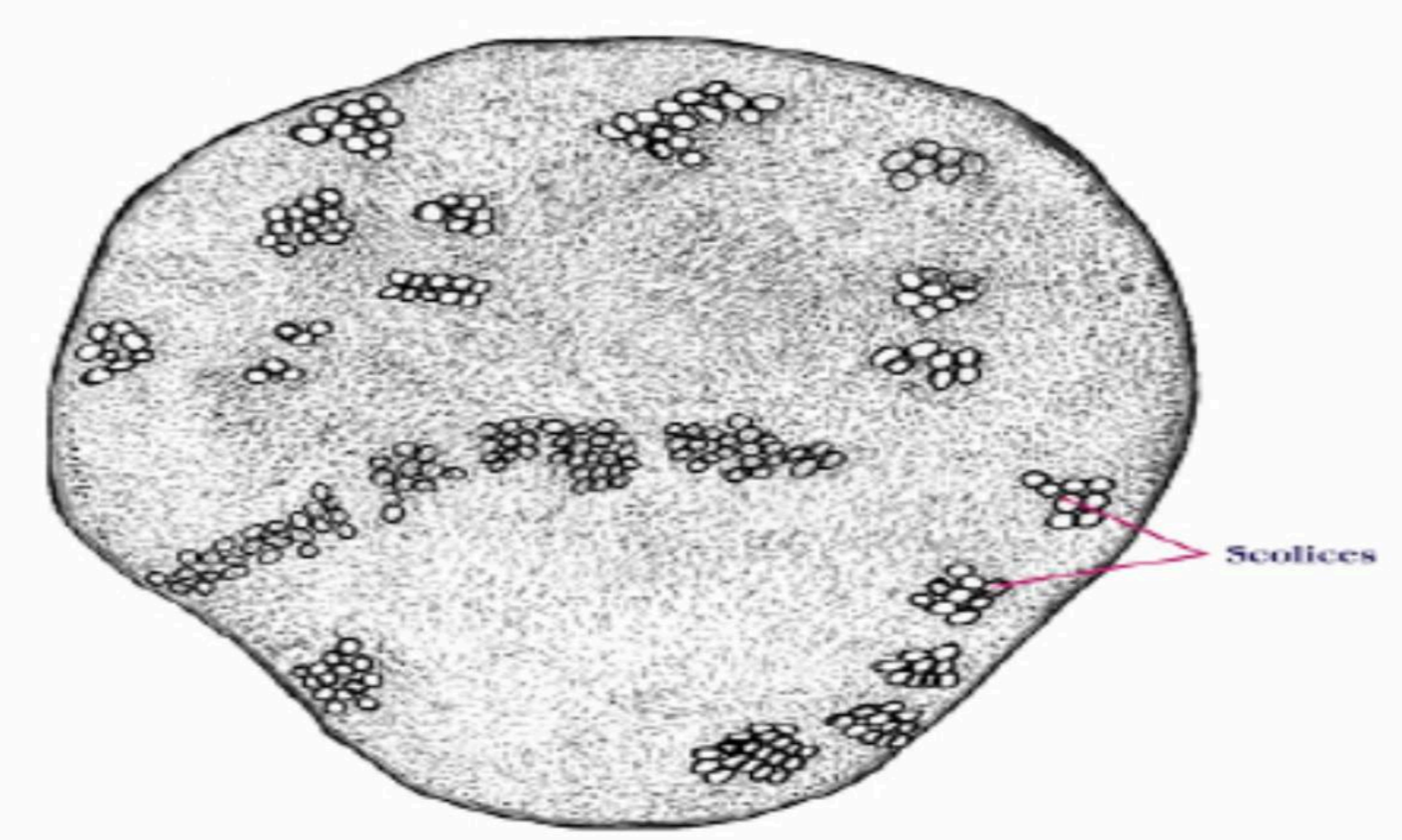
*Cysticercus tenuicollis*



CYSTICERCOID



*Coenurus cerebralis*







# TYPES OF LARVAL TAPEWORMS or BLADDER WORMS

## ▶ *Hydatid cyst*

Large fluid containing bladder it can produce daughter cyst is called as “Brood capsule” in which the scolices are develop. The mature brood capsule detached and float free in the fluid is called as “hydatid sand”.

## ▶ *Proceroid*

Is the larval stage of Cotylodan tapeworms which occurs in the first I/H. Proceroid is solid body and possess hooks on the posterior region.

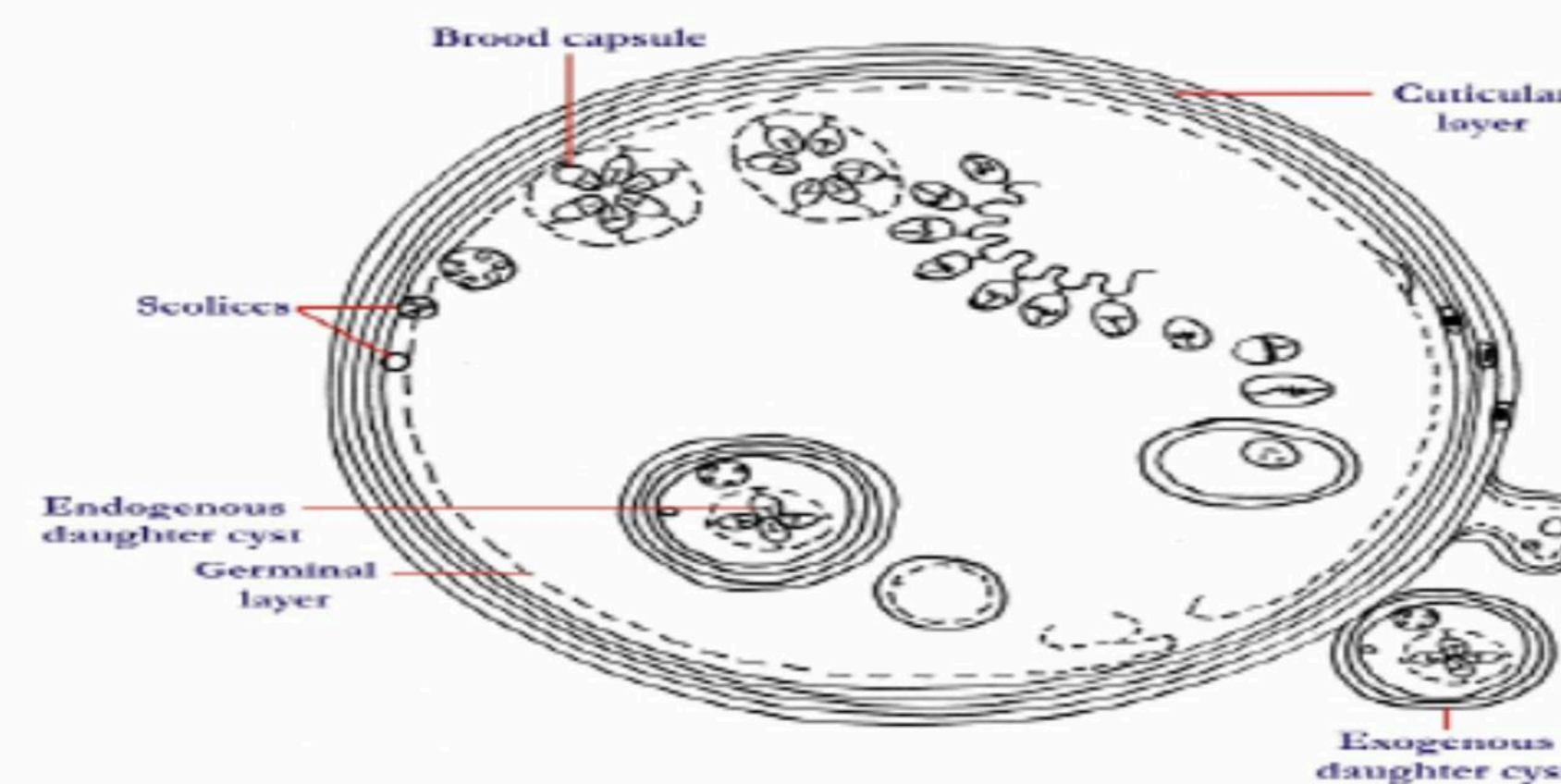
## ▶ *Plerocercoid*

Larval stage of Cotylodan tapeworms which occurs in the 2nd I/H. It is elongated, solid and has a scolex like in adults.

## ▶ *Tetrathyridium*

It is a larval stage of *Mesocostoides lineatus*. The body is elongate, solid and has a deeply invaginated Scolex.

### Hydatid cyst







# ***EUCESTODA***

- ▶ Hold fast organ is known as **suckers**.
- ▶ Suckers may be armed or unarmed and 4 in numbers.
- ▶ Segmentation is present.
- ▶ Genital pore is present on the lateral aspect.
- ▶ Eggs are embryonated when laid and hatch out within I/H.
- ▶ eg. *Taenid* egg
- ▶ It requires only one I/H
- ▶ Apolysis is present.





# COTYLODA

- ▶ Hold fast organ is known as **Bothria**, two longitudinal weak muscular groove.
- ▶ Segmentation is absent.
- ▶ Genital pore is on ventral aspect.
- ▶ Eggs are unembryonated, operculated and hatch out in the water.
- ▶ eg. *Diphyllbothrium latum* egg
- ▶ It requires two I/H.
- ▶ Apolysis is absent.





*Thank you*