CESTODA

MORPHOLOGY:

• Hermaphrodite
• Endoparasite with an elongate flat body and without a body cavity or alimentary canal
• The body consist of a head or scolex-→this is usually followed by a short unsegmented portion called neck and the body (strobila)
• The body or strobila consist of a number of segments or proglottids. Each proglottid contains 1 or 2 sets reproductive organs
The scolex is usually globular and in the Eucestoda, normally provided with four suckers (*acetabula*).

- The suckers may be armed with *hooks*.
- A protusible part, the *rostellum*, often armed, may be present.
- In the Cotyloda, the scolex may lack true holdfast organs or may have long, narrow, weakly muscular grooves (*bothria*) on the scolex.
• Embryonation: Cotyloda eggs ~ Trematoda eggs → having operculum.

• Larvae stage ~ oncosphere → coracidium.
Cestoda Larvae

Types of Metacestode

- Cysticercus
- Coenurus
- Cysticercoid
- Hydatid
- Strobilocercus
- Tetraphyriidium
- Plerocercoid
TAXONOMY

- Phylum: Platyhelminthes
- Class: Eucestoda
- Ordo: Davaineidea
- Family: Davaineidae
Morphology:

- Adults are microscopic (0.5-3 mm) with only 4-9 proglottids
- The rostellum and suckers are armed with hooks
- Genital pores alternate regularly
- The eggs (28-40 μ in diameter) lie singly in parenchymatous capsules in the gravid proglottid
Genus *Raillietina*
Species *Raillietina tetragona*

- Occurs in the posterior half of the small intestine of the chicken, guenia fowl, pigeon and other birds.
- Cosmopolite distribution
- It’s one of the largest of the fowl tapeworms.
Raillietina
small int is inf by Raillietina
small int is inf by Raillietina
Raillietina egg
MORPHOLOGY

- The adult worms reach up to 25 cm in length
- The scolex is smaller than that of *R. echinobothrida*
- The rostellum is armed with one or two rows of hooks
- The suckers are oval and armed
- The genital pores are usually unilateral and the eggs are found in egg capsules each containing 6-12 eggs
- The eggs are 25-50 μ in diameter
The Life cycle of *Raillietina sp.*
LIFE CYCLE

• Cysticercoids occur in ants of the genera Pheidole and Tetramorium

• The prepatent period in the chicken is 13 days to 3 weeks.
Raillietina echinobothrida

• Also occurs in the small intestine of the chicken and turkey in the most part of the world.
• In the shape and size it resembles R. tetragona
• It is distinguished by a more heavily armed rostellum with 2 rows of hooks and the suckers are circular in outline
LIFE CYCLE

- The ants *Tetramorium* sp and *Pheidole* sp serve as intermediate host.
- The prepatent period is 20 days.
**Raillietina cesticillus**

- This worm is very common throughout the world in domestic poultry.
- It is 4 cm, rarely 15 cm, long.
- It has a large scolex with a wide rostellum armed with 400-500 small hooks.
- The sucker are inconspicuous and unarmed.
- The eggs 75-88 μ in diameter, occur in egg capsule.
LIFE CYCLE

- The intermediate hosts are: beetles of genus Calathus, Amara, Pterostichus, Bradycellus, Harpalus, Poecilus, Zabrus etc
- Development in the fowl takes 20 days
TAXONOMY

- Phylum: Platyhelminthes
- Class: Eucestoda
- Ordo: Anoplocephalide
- Family: Anoplocephalidae
- Genus: Moniezia
- Species: Moniezia expansa
  
  Moniezia benedeni
Family: Anoplocephalidae

- **General characters:**
  - Rostellum & hooks
  - Usually proglotids are broader than length
  - Hermaprodit
Family: Anoplocephalidae ......

• Egg:
  → Outside layer : vitteline membrane
  → Middle layer : albuminous membrane
  → Inside layer : chitine membrane

• The eggs containing a well developed *pyriform apparatus*

• Intermediate Host: mites family Oribatidae
Moniezia expansa

- Habitat: small intestine
- Definitive host: sheep, goat, cattle and several other ruminants in the most parts of the world
The testes are distributed throughout the central field.

At the posterior border of each proglottid there is a row of a rosette-like interproglototidal glands extend almost across the width of the proglottid.

The uterus become sac-like when filled the eggs.

The eggs are somewhat triangular shape, containing a well developed pyriform apparatus, measure 56-67 μ in diameter.
M. expansa

M. benedeni
Moniezia benedeni

- Occurs in ruminants, chiefly cattle, and differs from *M. expansa* in being broader (up to 2.6 cm) and having the interproglototidal glands arranged in a short, continuous row close to mid-line of segment.

- The eggs are somewhat quadrangular shape and the measure up to 75 μ in diameter.
TAXONOMY

- Phylum: Platyhelminthes
- Class: Eucestoda
- Ordo: Dilepididea
- Family: Dipyliidiidae
- Genus: Dipylidium
- Species: Dipylidium caninum
Genus Amoebotaenia
Species A sphenoides

Habitat & Def host: small intestine of domestic fowl

Morphology:
• It is small, up to 4 mm long, roughly triangular shape
• The rostellum is armed
• The genital pores usually alternate irregularly at the extreme anterior end of the proglottid margin
• The uterus is sac-like and slightly lobed
Fig 1.49 Scolex of *Dipylidium caninum*.

Fig 1.50 Mature proglottis of *Dipylidium caninum*. 
The life cycle of *D. caninum*
The life cycle of Diphyllobothrium sp
Fig 1.49  Scolex of *Dipylidium caninum*.

Fig 1.50  Mature proglottis of *Dipylidium caninum*.
- Thank You -

See you next week

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