PRAKTIKUM PARASITOLOGI 1

Sodikin Kurniawan

www.sodiyc.my.id

PERTEMUAN 6

H. nana, H. diminuta, T. saginata. T. solium, D. caninum dan D. Latum

Lecture prepared by Sodikin Kurniawan, Muhammadiyah University of Semarang

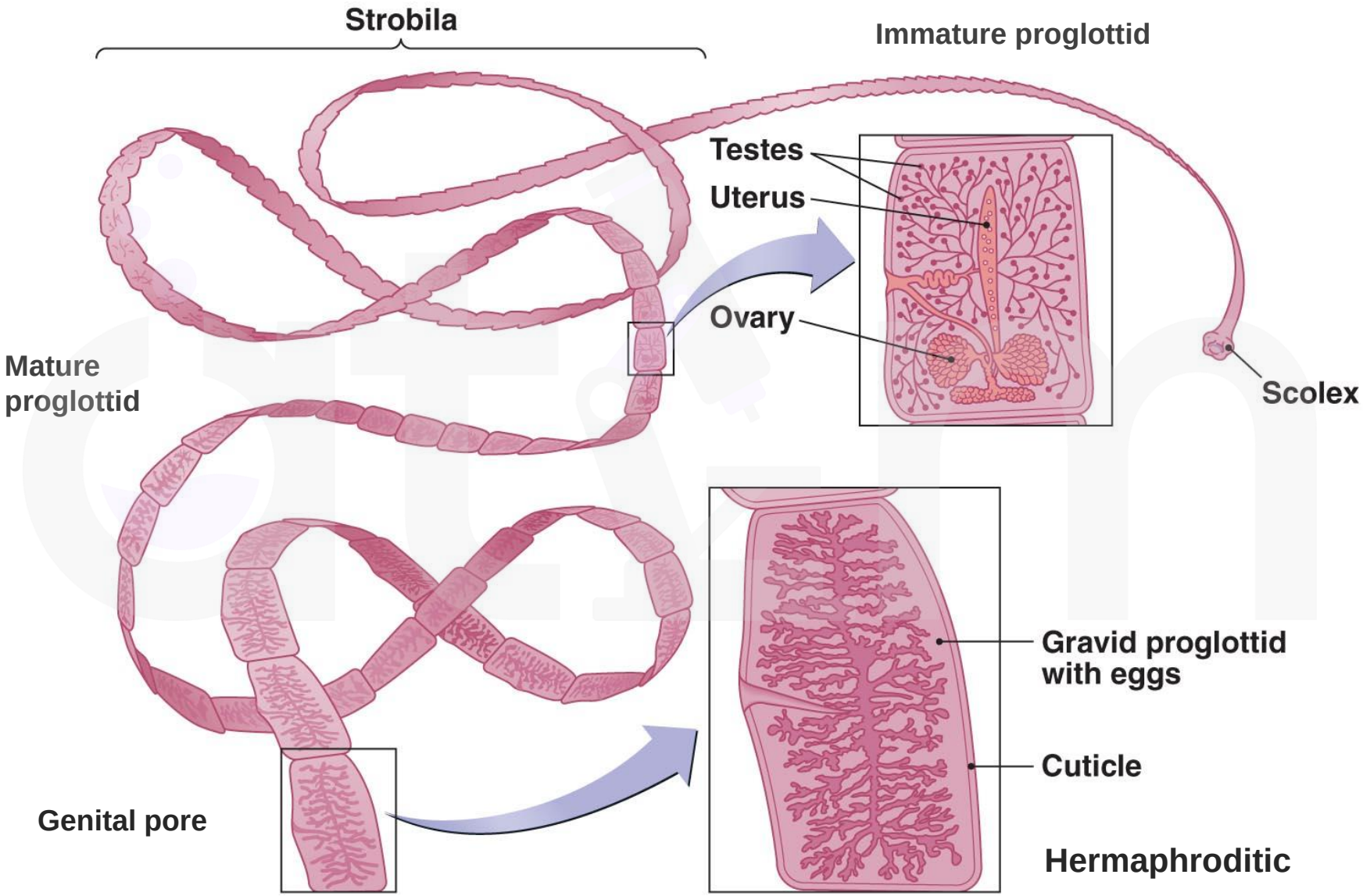
Cestode

Lecture prepared by Sodikin Kurniawan, Muhammadiyah University of Semarang

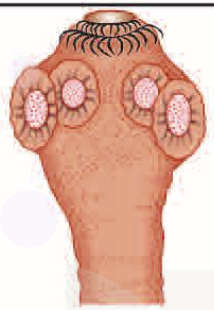
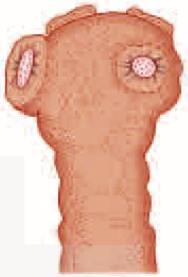
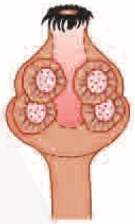
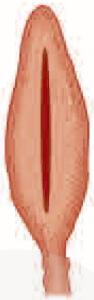
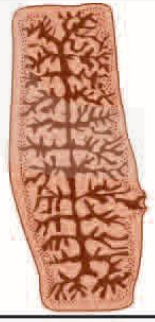
Classification of Cestodes - Man

Order	Adult worm seen in human intestine	Larval stage seen in humans
Pseudophyllidea	Diphyllobothrium latum, the fish tapeworm	• Spirometra mansoni
		• Spirometra theileri
		• Spirometra erinace
Cyclophyllidea	• Taenia saginata, the beef tapeworm	• Taenia solium, the pork tapeworm
	• Taenia solium, the pork tapeworm	• Echinococcus granulosus, the dog tapeworm
	• Hymenolepis nana, the dwarf tapeworm	• Echinococcus multilocularis
	• Hymenolepis diminuta, the rat tapeworm (rare)	• Multiceps multiceps and other species
	• Dipylidium caninum, the double-pored dog tapeworm (rare)	

Tapeworm Morphology



Cacing Pita - *Tapeworm*

	Taenia solium	*Taenia saginata*	*Hymenolepis nana*	*Hymenolepis diminuta*	*Diphyllobothrium latum*
Heads					
	4 suckers 2 rows of hooks	4 suckers No hooks	4 suckers single row of 20–30 hooks	4 suckers No hooks	2 Suctorial grooves or bothria No suckers, No hooks
Proglottids					
	Longer than broad 7–12 uterine branches on each side	Longer than broad 15–30 uterine branches on each side	Broader than long	Broader than long	Broader than long Uterus coiled

Taenia sp.

Tenia saginata & Taenia solium

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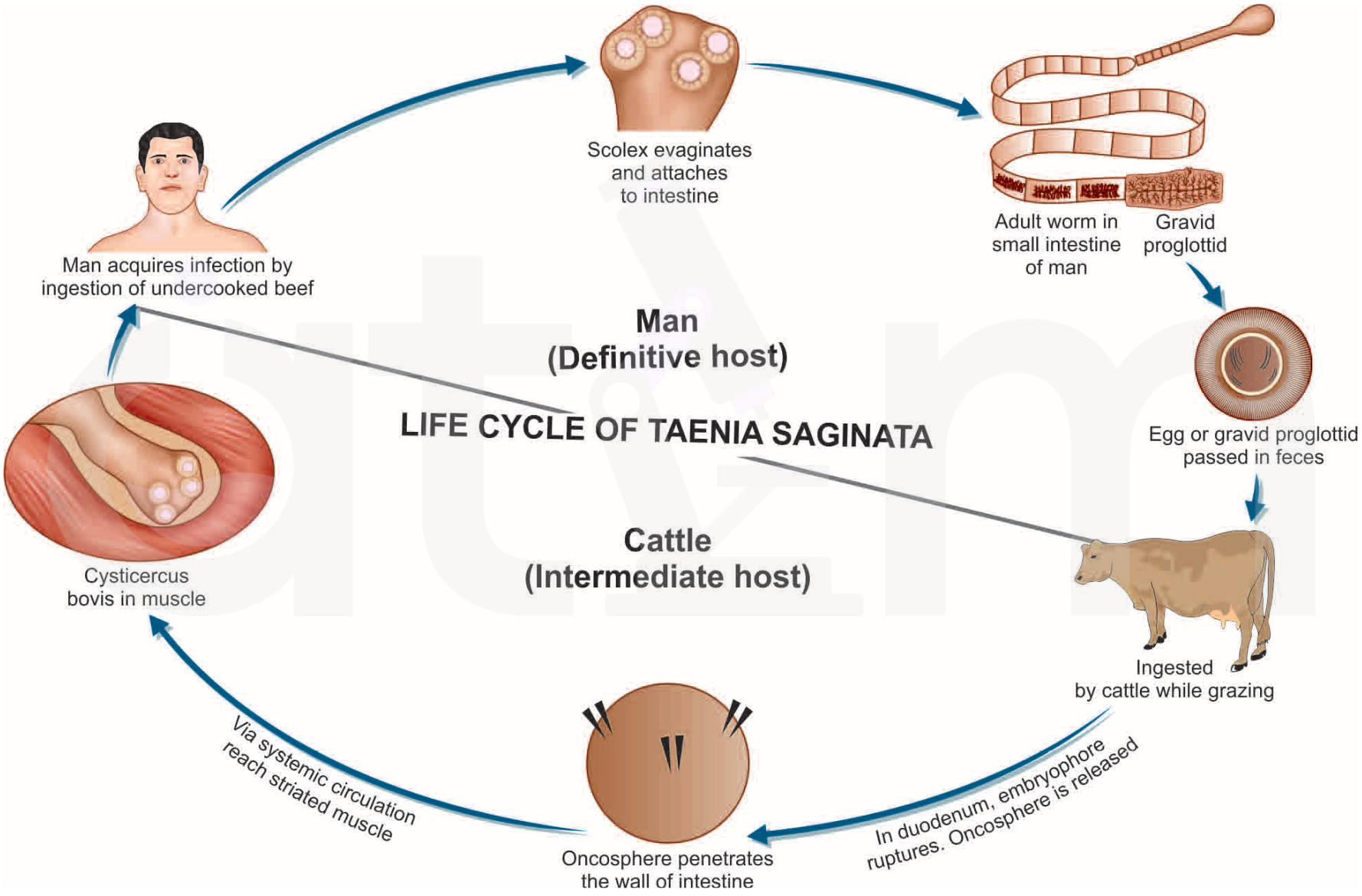
Taenia sp.

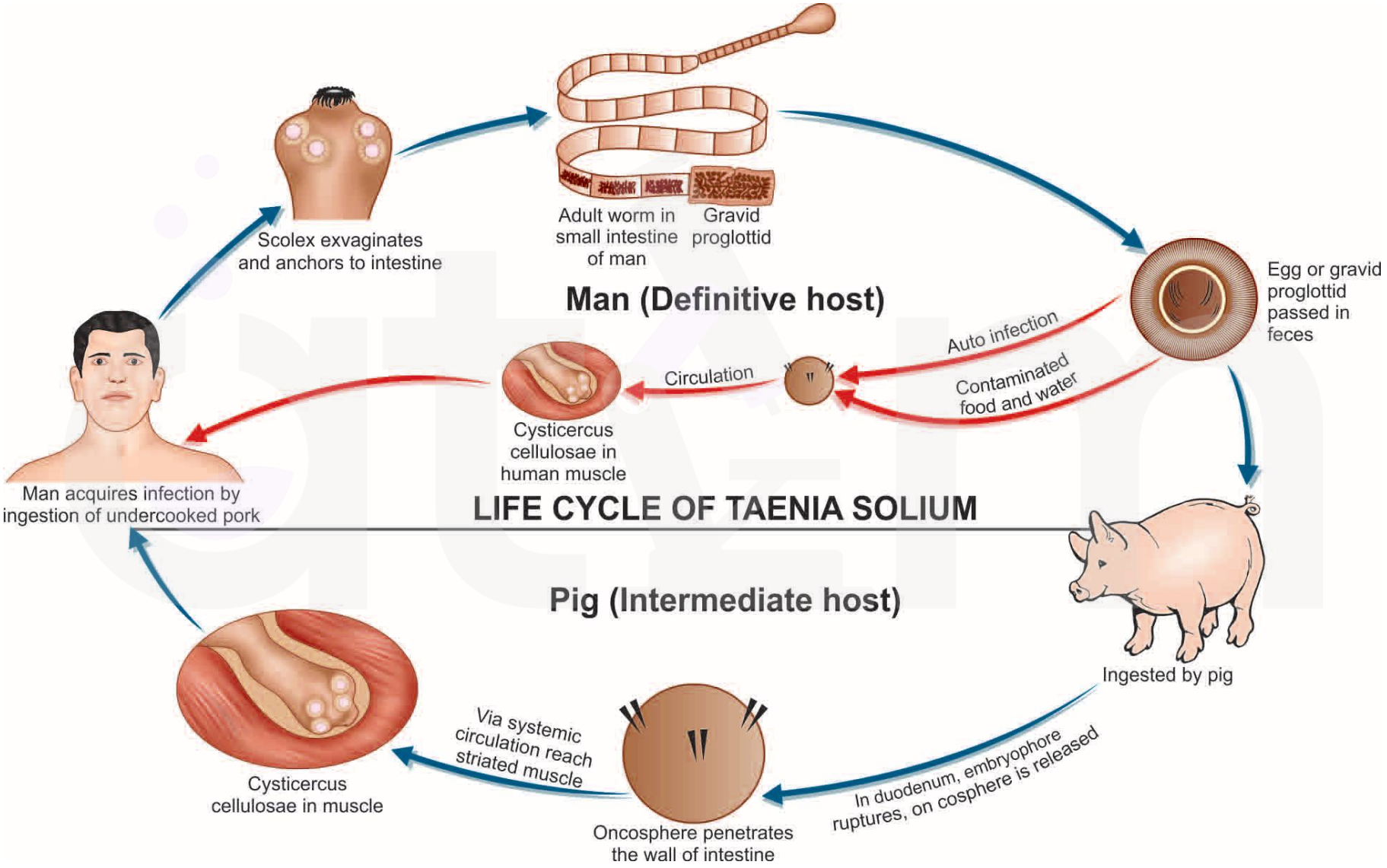
Taxonomy

- *Cestoidea*
- *Order Cyclophyllidea Lankester, 1877, sedis mutabilis*
- *Family Taeniidae Ludwig, 1886*
- *Subfamily Taeniinae*[T] *Ludwig, 1886*
- *Genus Taenia*[T] *Linnaeus, 1758*
    - *Taenia solium Linnaeus, 1758*
    - *[Taenia saginata] see Taeniarhynchus saginata*

Taenia saginata – Beef tapeworm

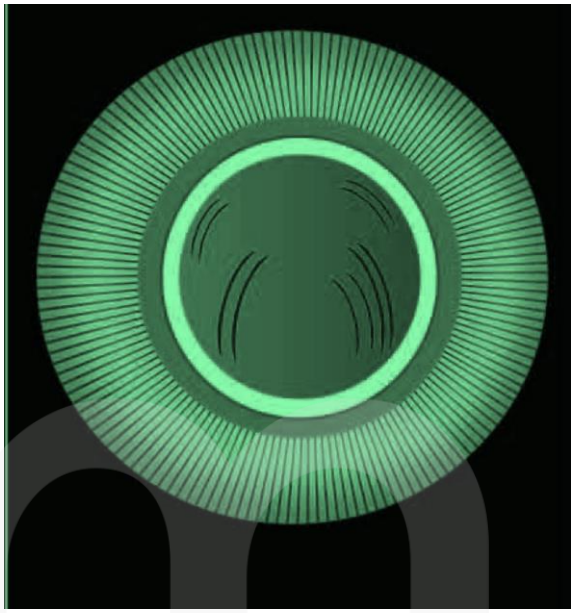


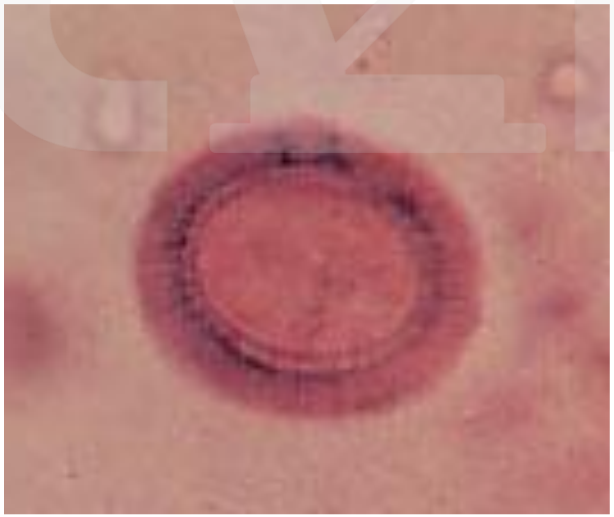
Taenia solium – Pork tapeworm

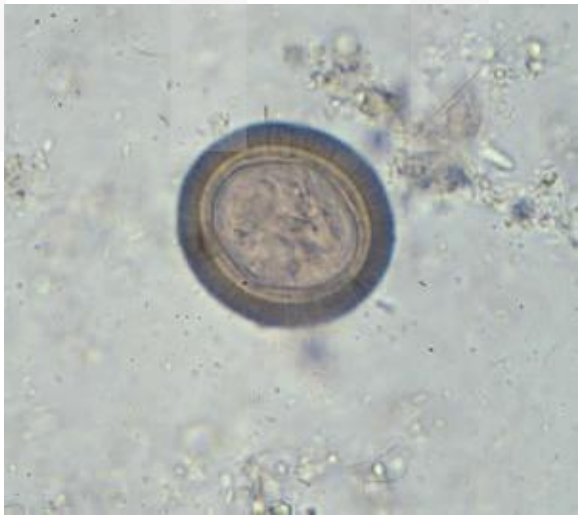


Telur *Taenia sp.*

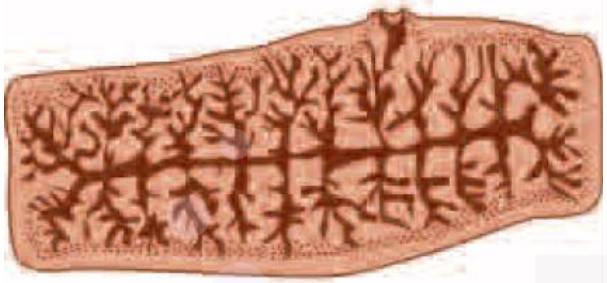
- Bentuk bulat
- Dinding tebal
- **Garis radier** pada dinding
- Berisi **embrio hexacanth**





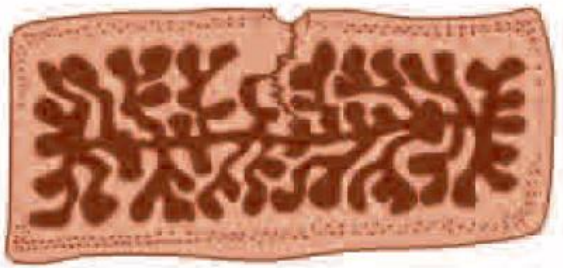


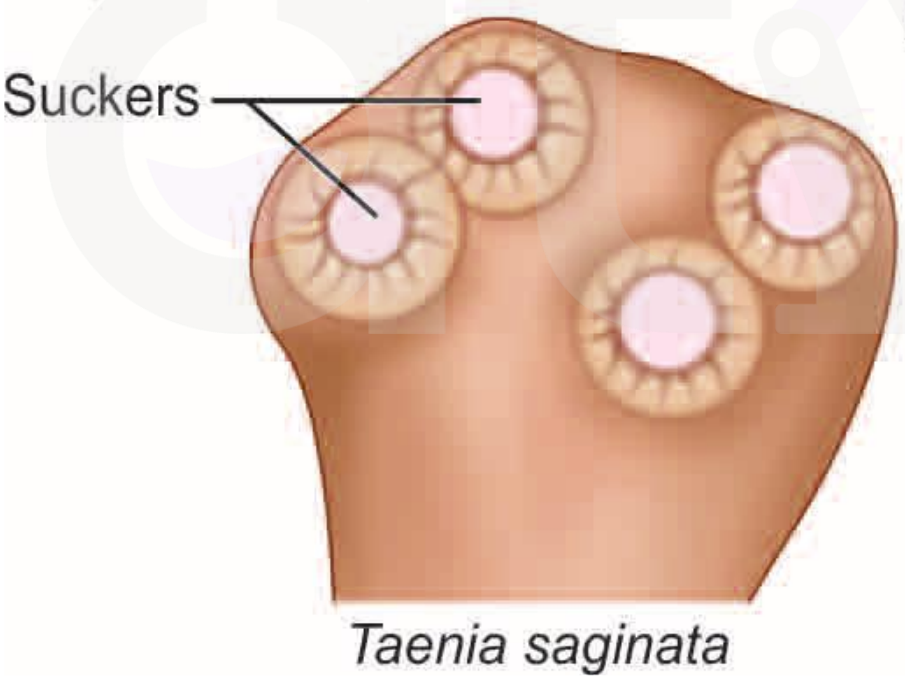
Scolex & Proglottids



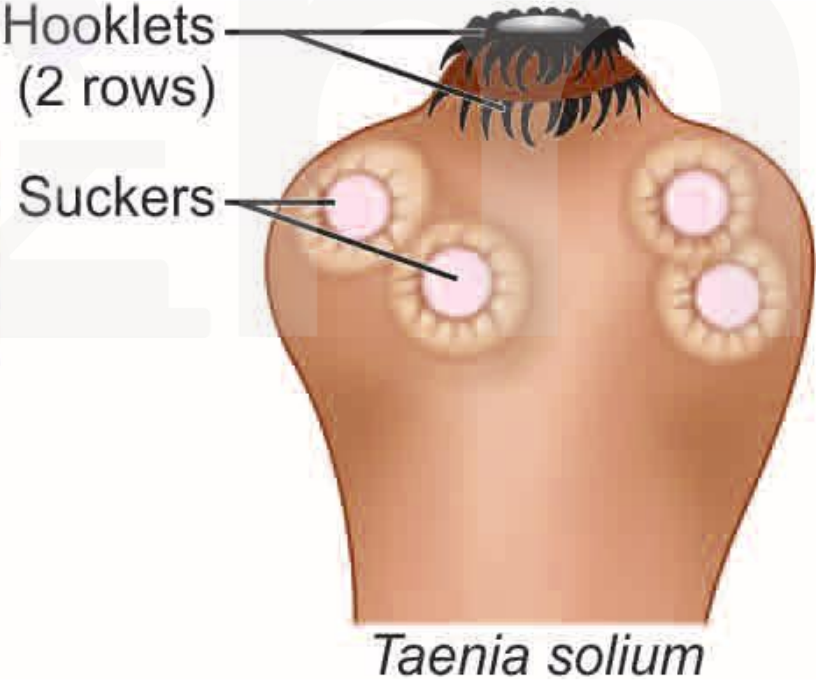
Uterus
15-30 vs 7-12

Genital pore





Taenia saginata



Taenia solium

Scolex & Proglottids

–	Rostellum	+
15 – 30	Uterus	7 – 12

Hymenolepis sp.

Hymenolepis diminuta & Hymenolepis nana

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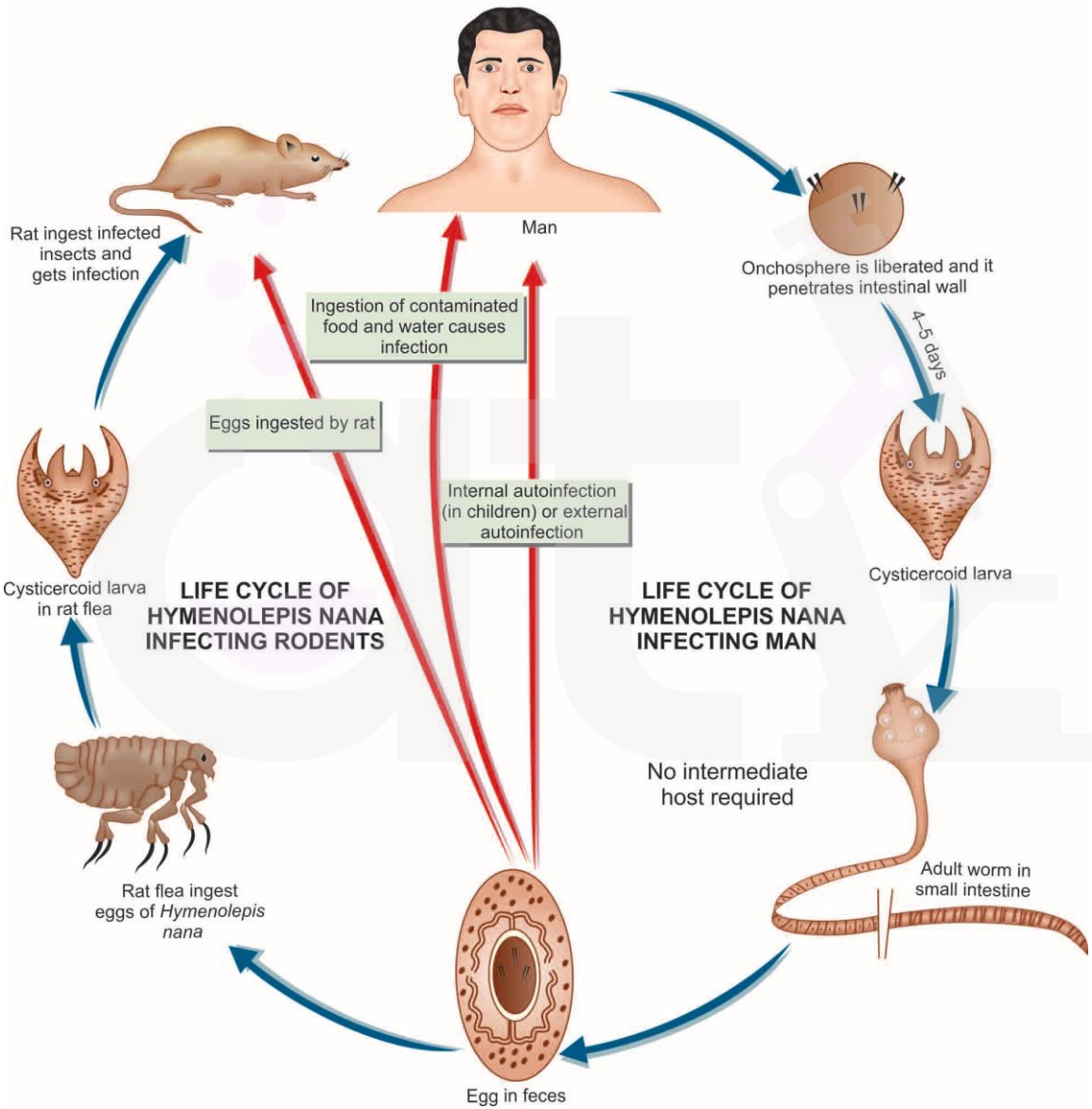
Hymenolepis sp.

Taxonomy

- *Cestoidea*
- *Order Cyclophyllidea Lankester, 1877, sedis mutabilis*
- *Family Hymenolepididae Perrier, 1897*
- *Genus Hymenolepis*[T] *Weinland, 1858*
  - *[Hymenolepis nana] see Vampirolepis nana*
  - *Hymenolepis diminuta*

Hymenolepis nana - *Dwarf tapeworm*

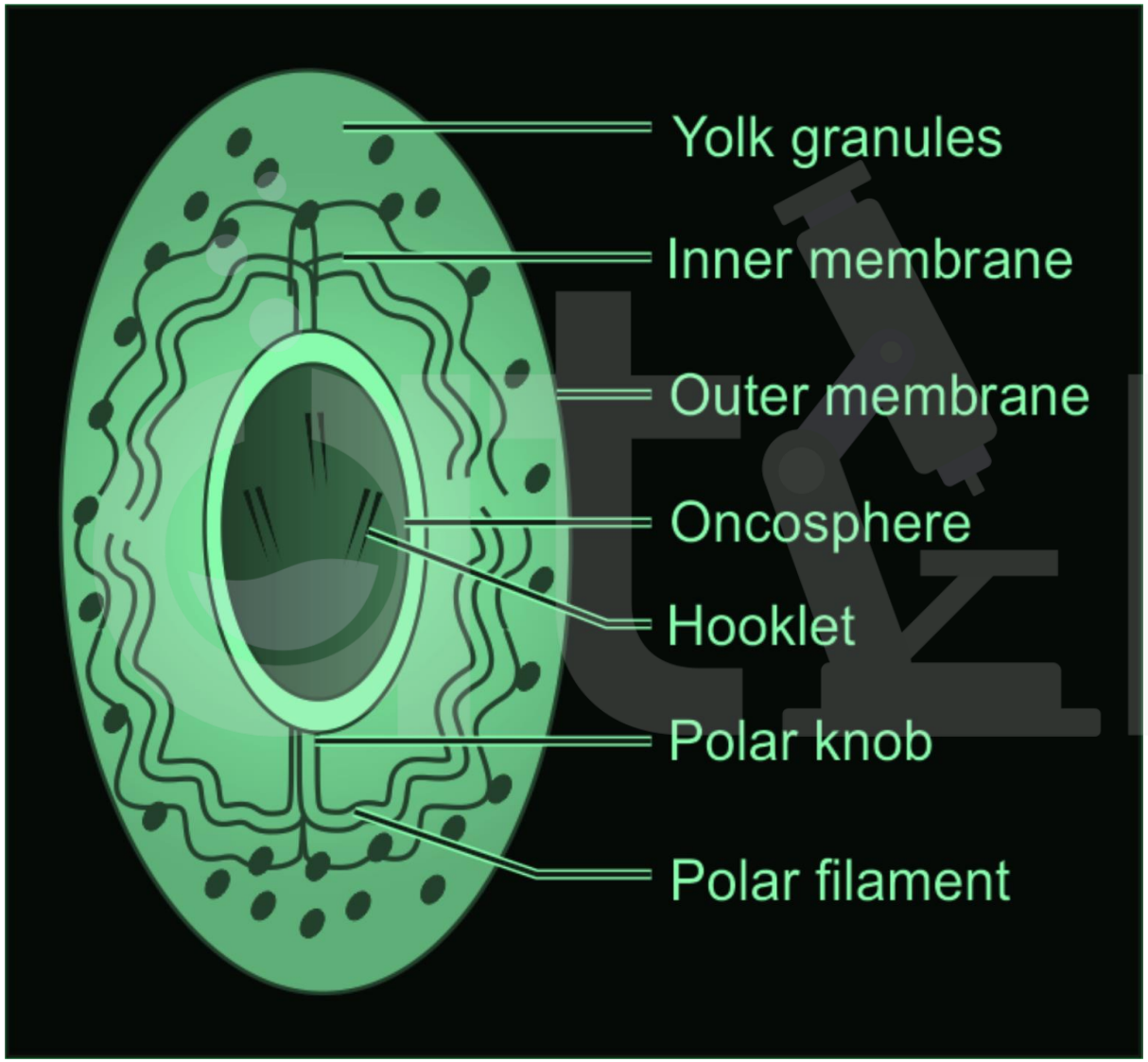


***H. Diminuta* –**

Rat tapeworm

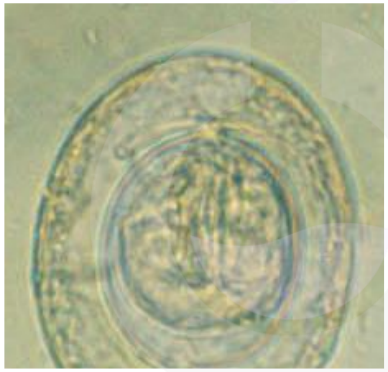
- lebih besar dari *H. nana*
- Siklus mirip *H. Nana*
- Infeksi tidak sengaja
- Tidak menimbulkan gejala

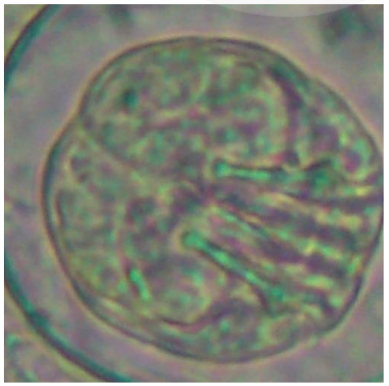
Telur *Hymenolepis sp.*



- Bentuk bulat atau sedikit oval.
- Ukuran *H. nana* 70 - 85 µm X 60 - 80 µm, *H. diminuta* dengan kisaran ukuran 30-50 µm.
- **H. diminuta 4-8 filamen polar** di antara kedua membran

Telur *Hymenolepis sp.*





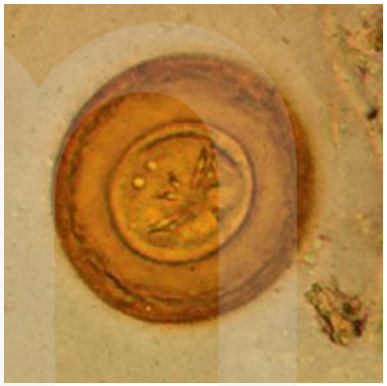
H. diminuta vs H. nana

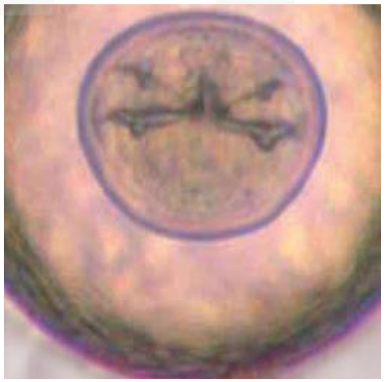
Membrane

Polar filaments (4-8 filaments)

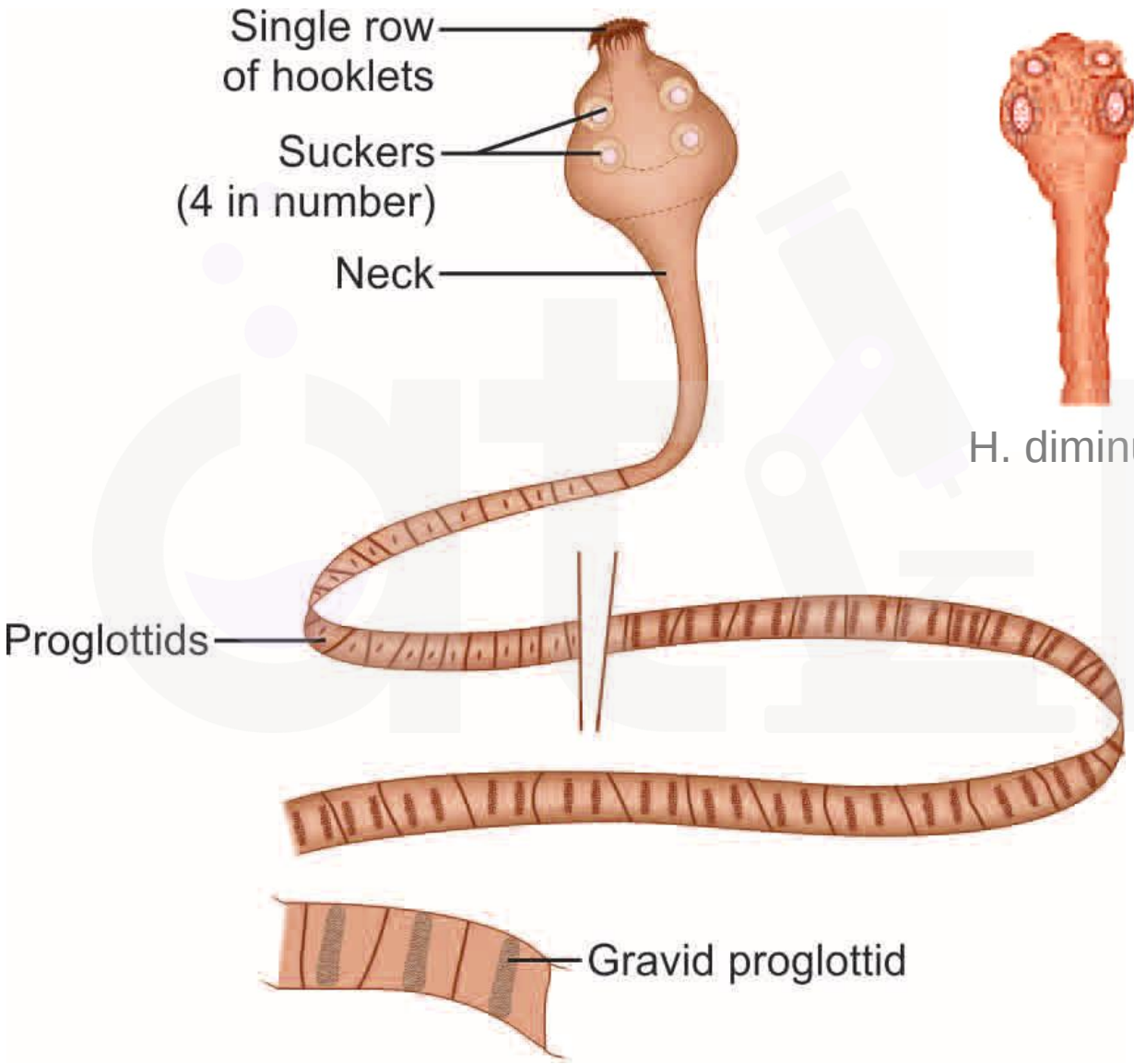
Kait (6-hooked)

Oncosphere / hexacanth embryo

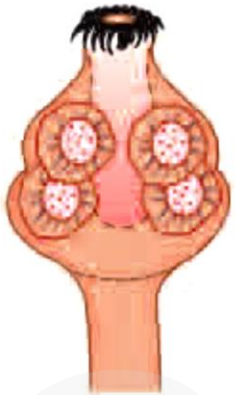




H. nana vs H. diminuta – *Scolex & Proglottid*



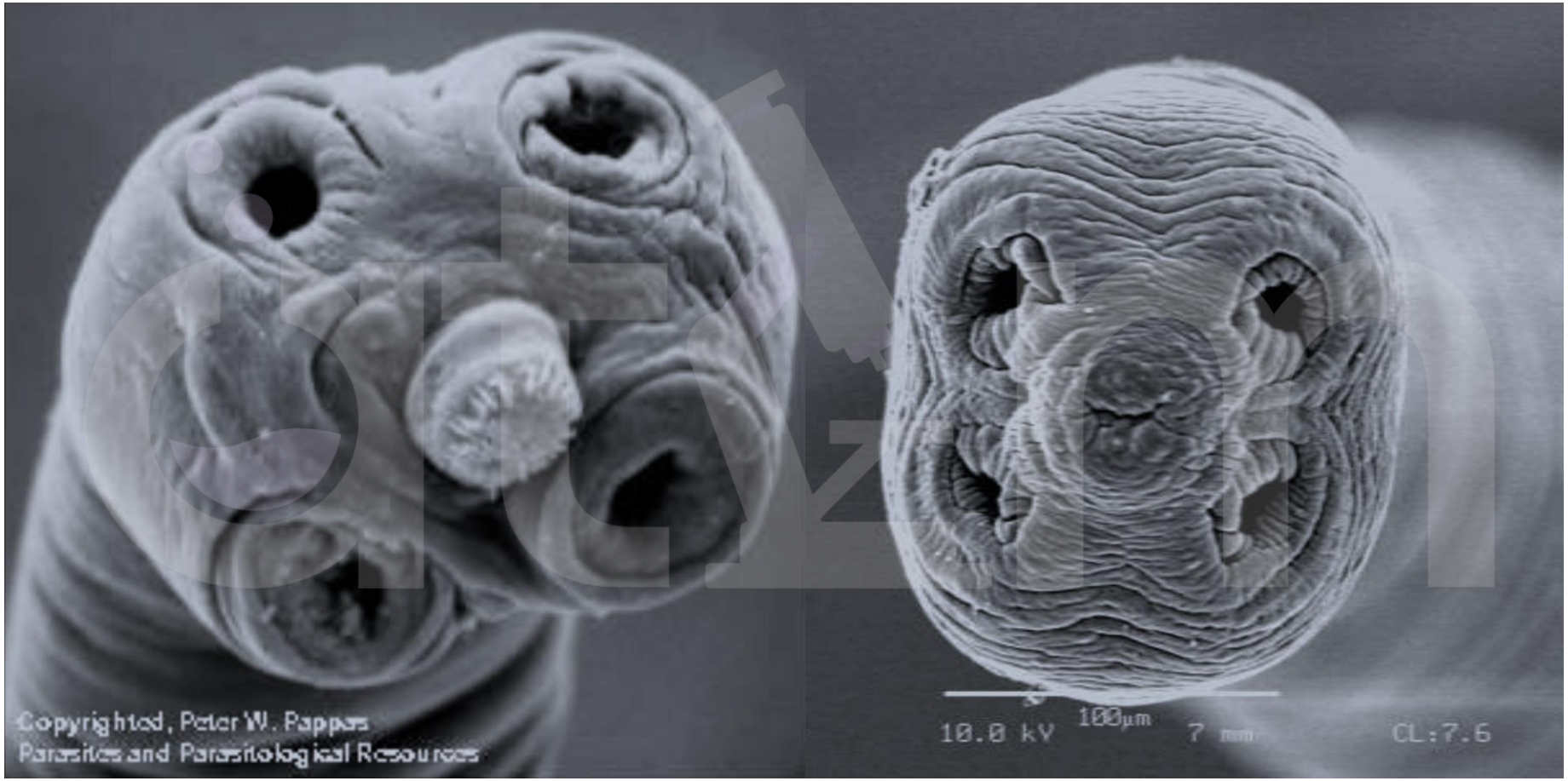
H. diminuta



H. nana

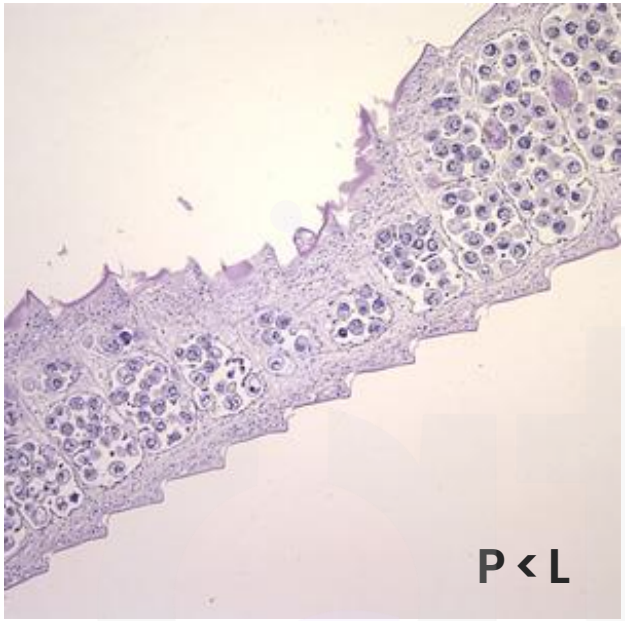
P < L

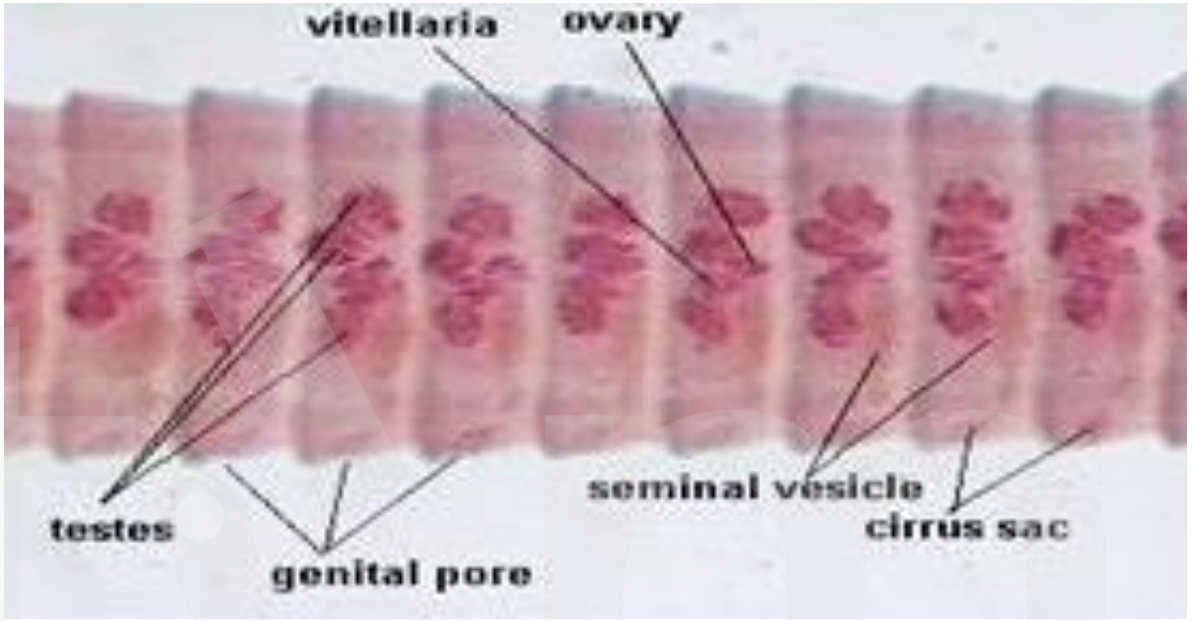
H. nana vs H. diminuta – Scolex

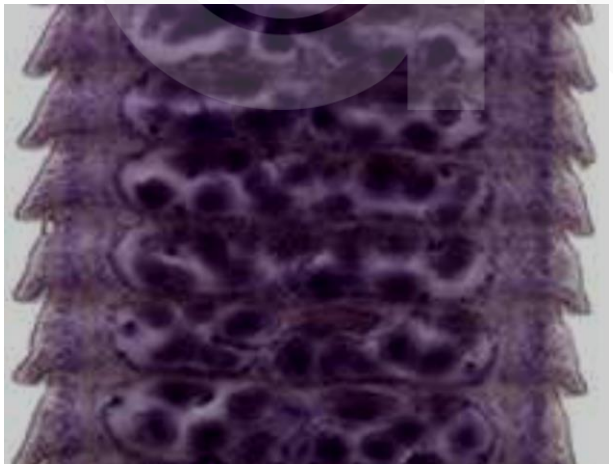


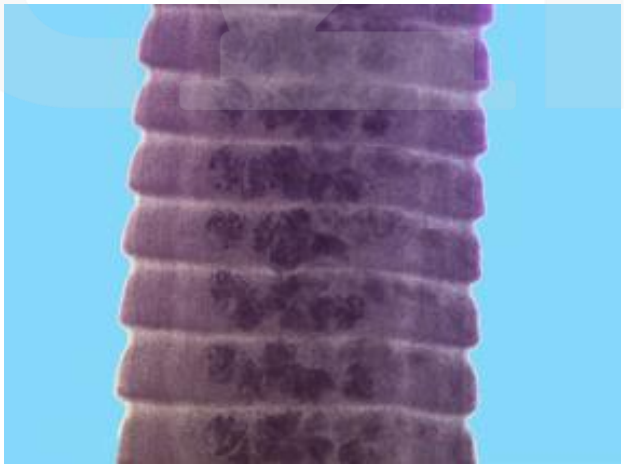
Rostellum

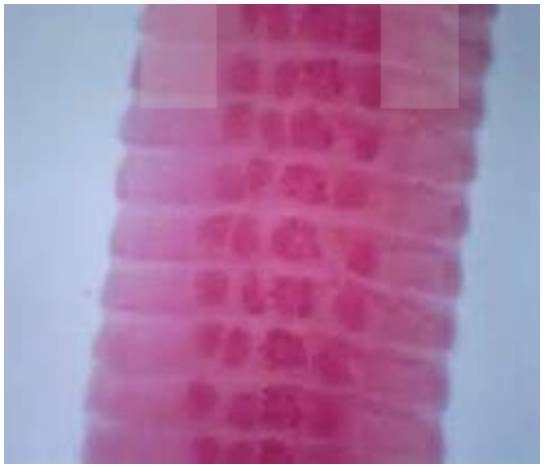
H. nana vs H. diminuta











Diphyllobothrium latum

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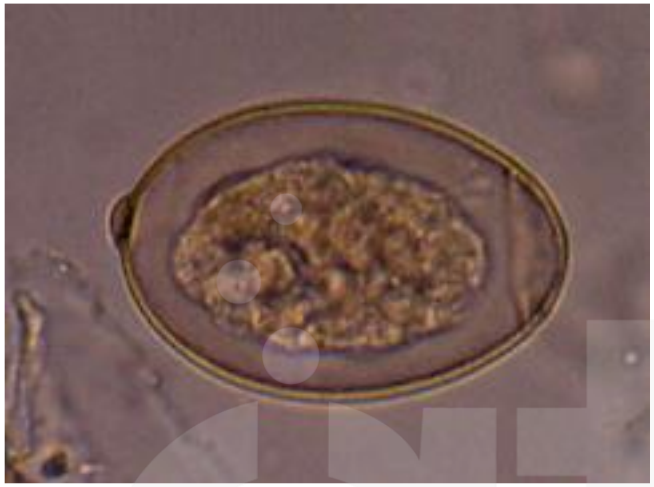
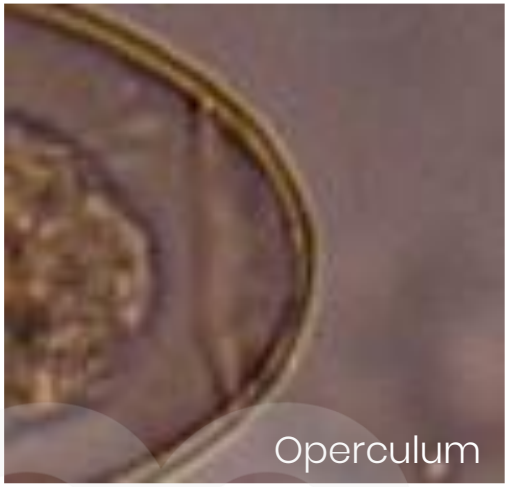
Diphyllobothrium latum

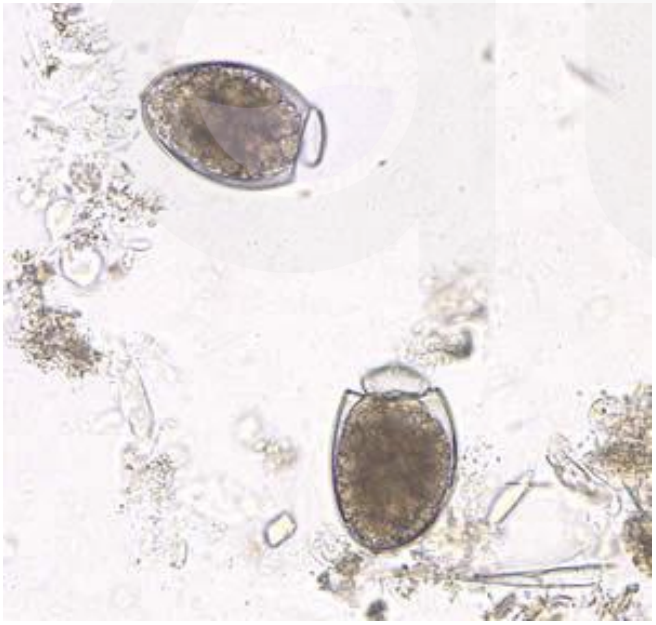
Taxonomy

- *Cestoidea*
- *Order Diphyllobothriidea Kuchta, Scholz, Brabec & Bray, 2008*
- *Family Diphyllobothriidae*[T] *Lühe, 1910*
- *Genus Diphyllobothrium*[T] *Cobbold, 1858*
- *Diphyllobothrium latum (Linnaeus, 1758)*

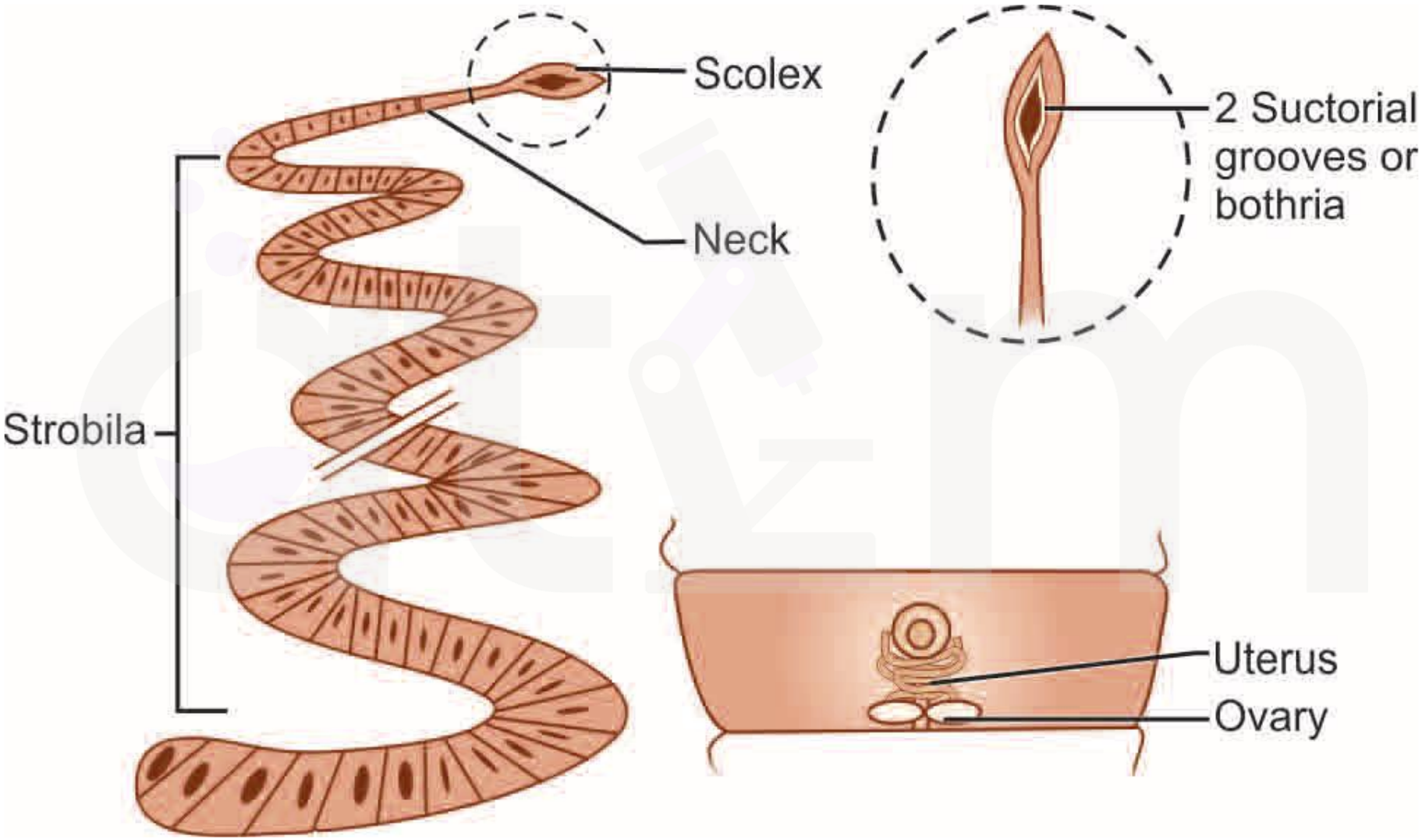
Telur D. latum



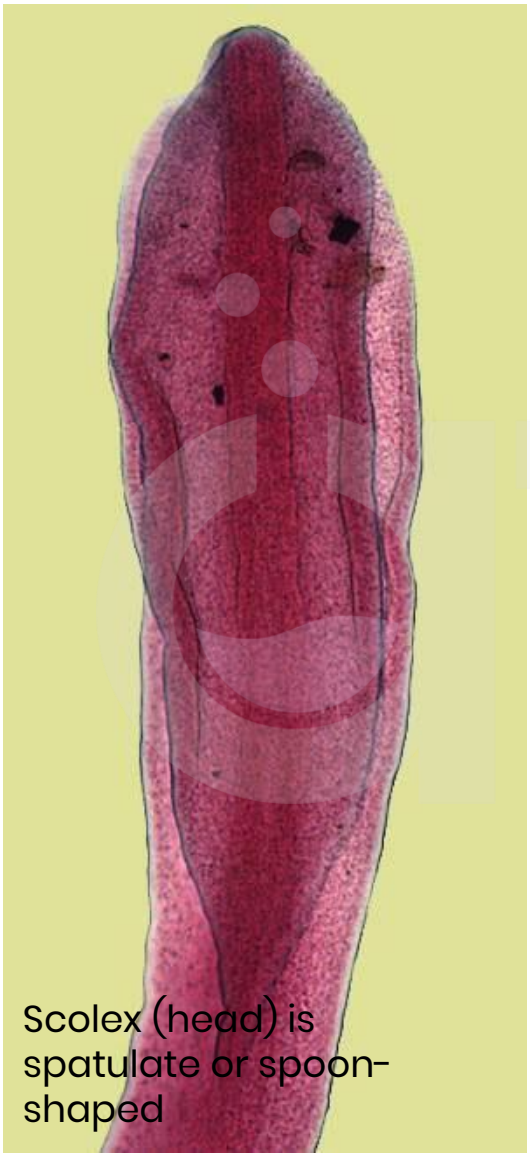




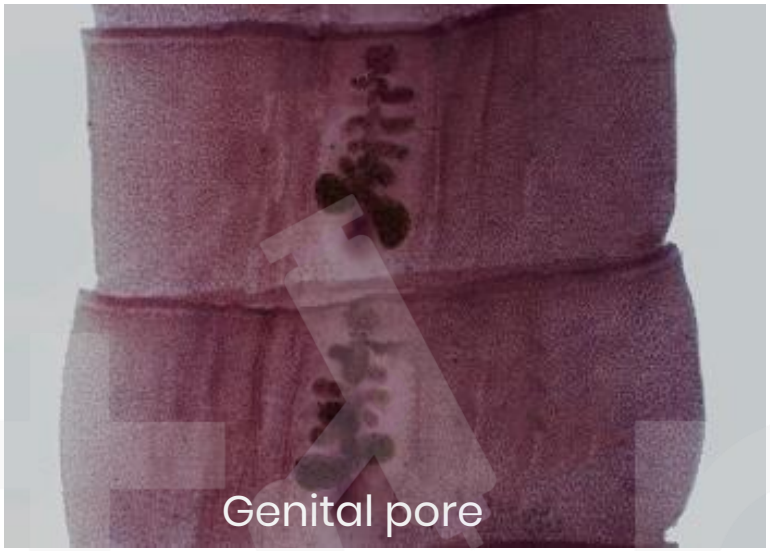
Diphyllobothrium latum



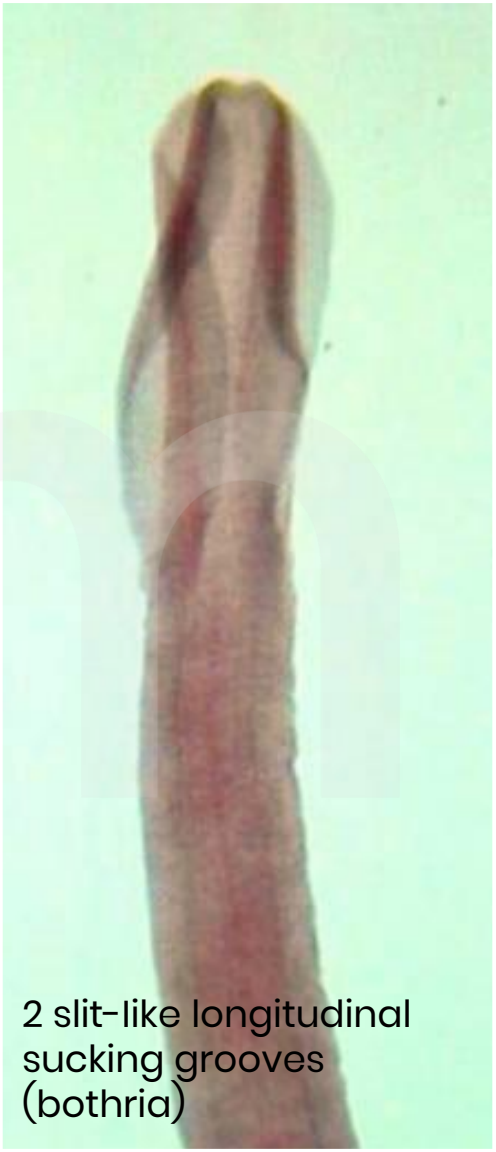
D. latum – Scolex & Proglottid



Scolex (head) is spatulate or spoon-shaped



Genital pore



2 slit-like longitudinal sucking grooves (bothria)

Dipylidium Caninum

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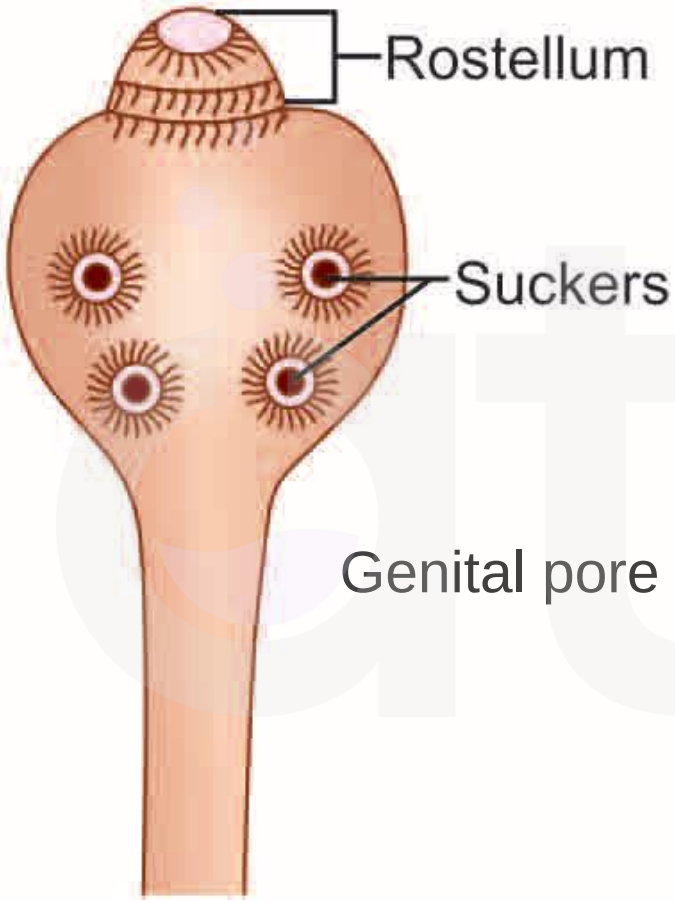
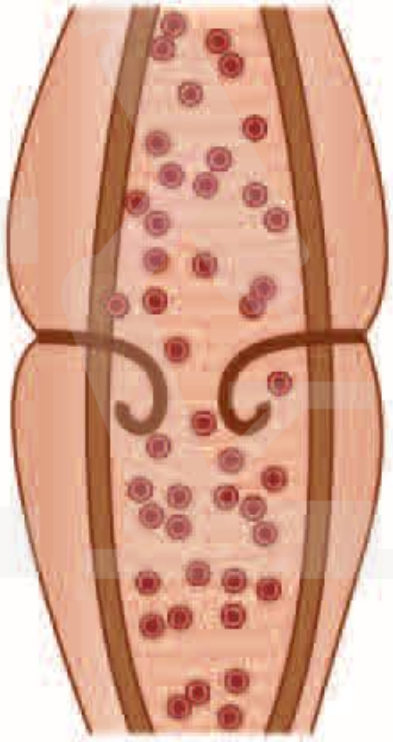
Dipylidium caninum

Taxonomy

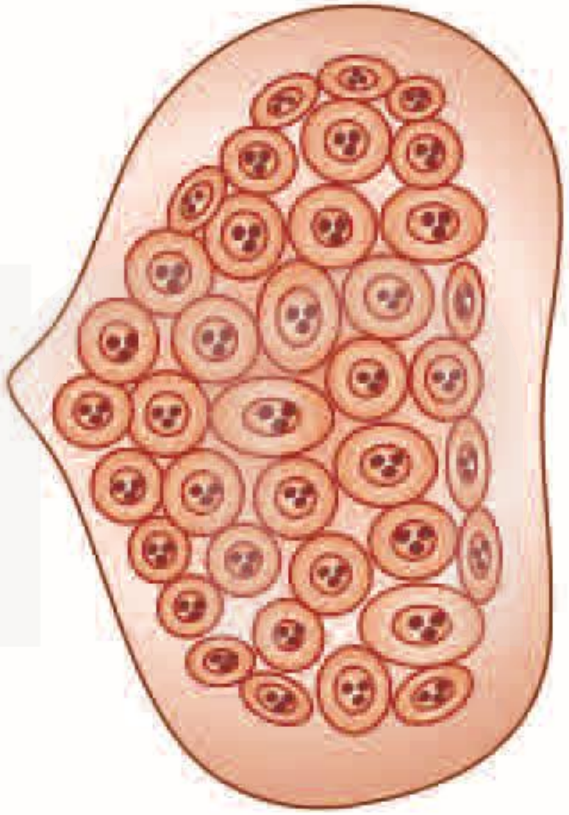
- *Cestoidea*
- *Order Cyclophyllidea Lankester, 1877, sedis mutabilis*
- *Family Dipylidiidae Railliet, 1896*
- *Genus Dipylidium*[T] *Leuckart, 1863*
- *Dipylidium caninum (Linnaeus, 1758)*

Dipylidium Caninum



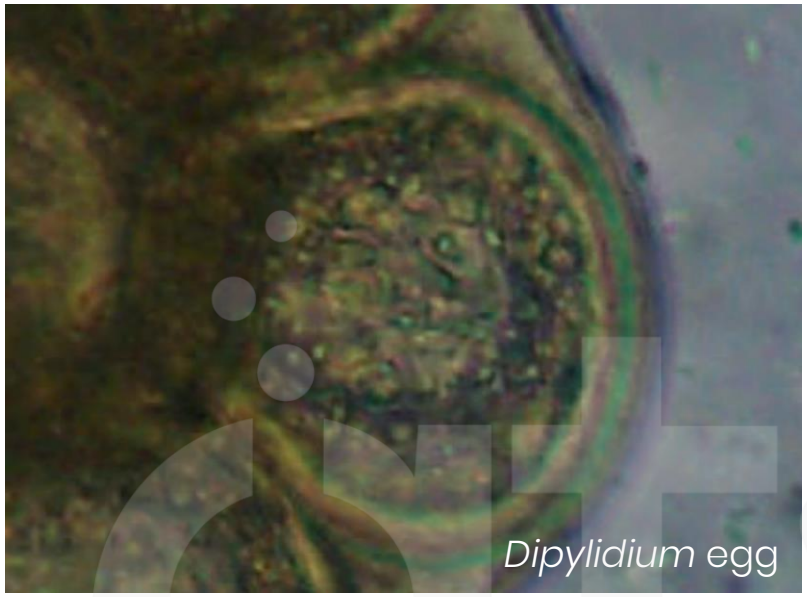


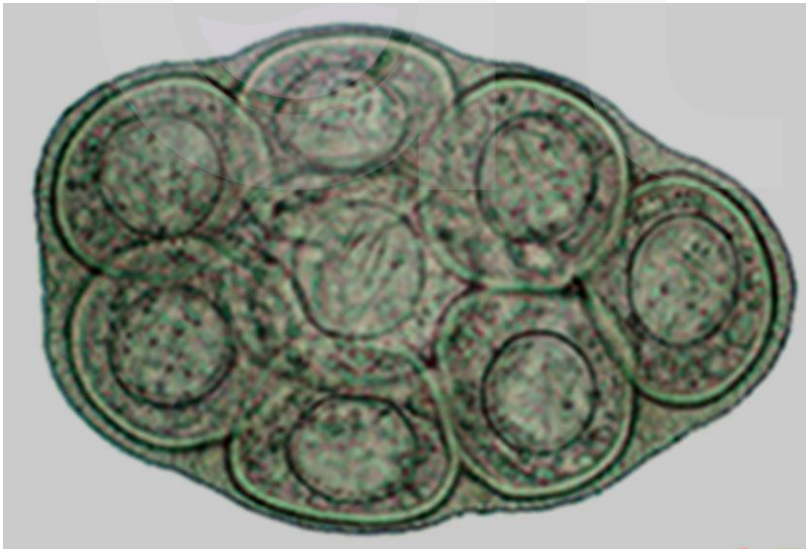
Mature proglottid

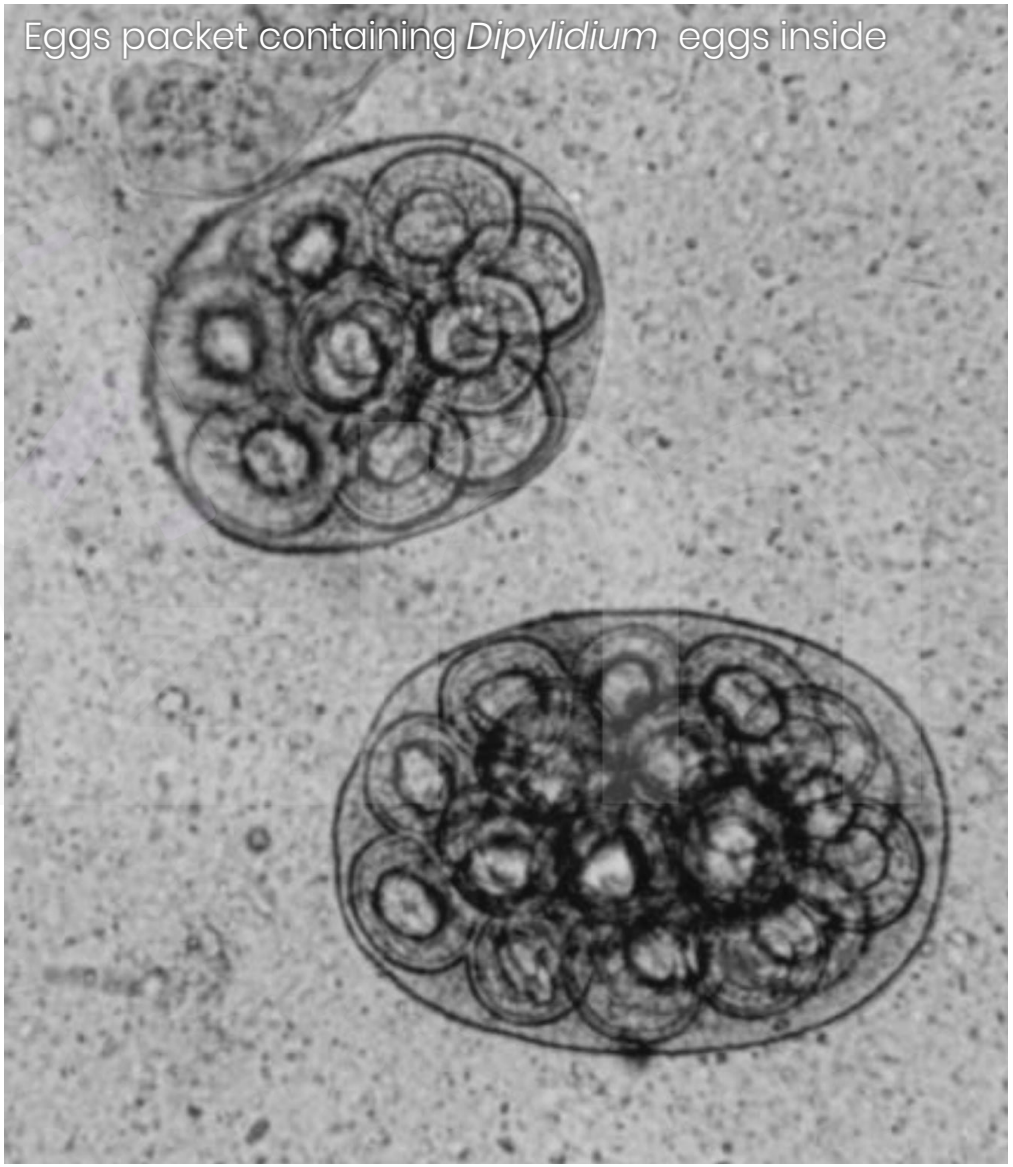


Egg

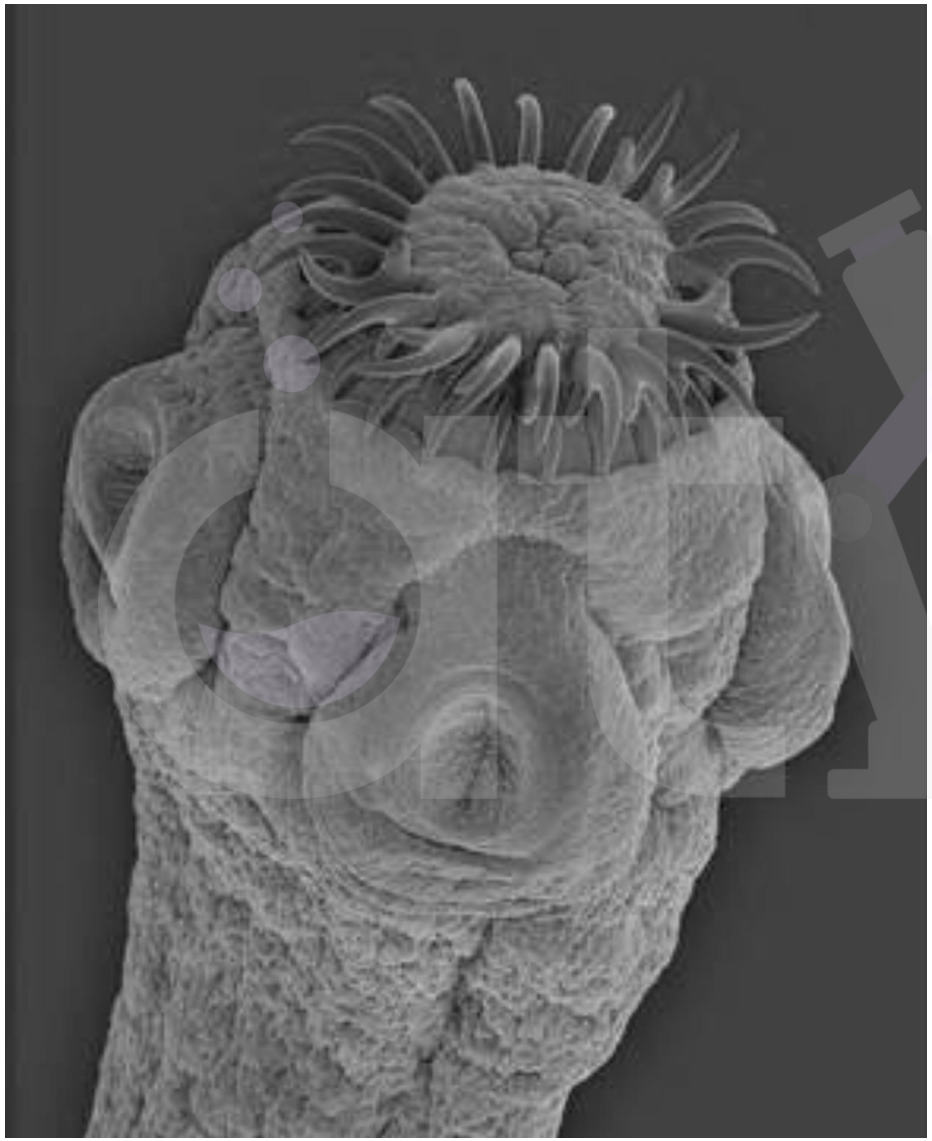
Dipylidium Caninum



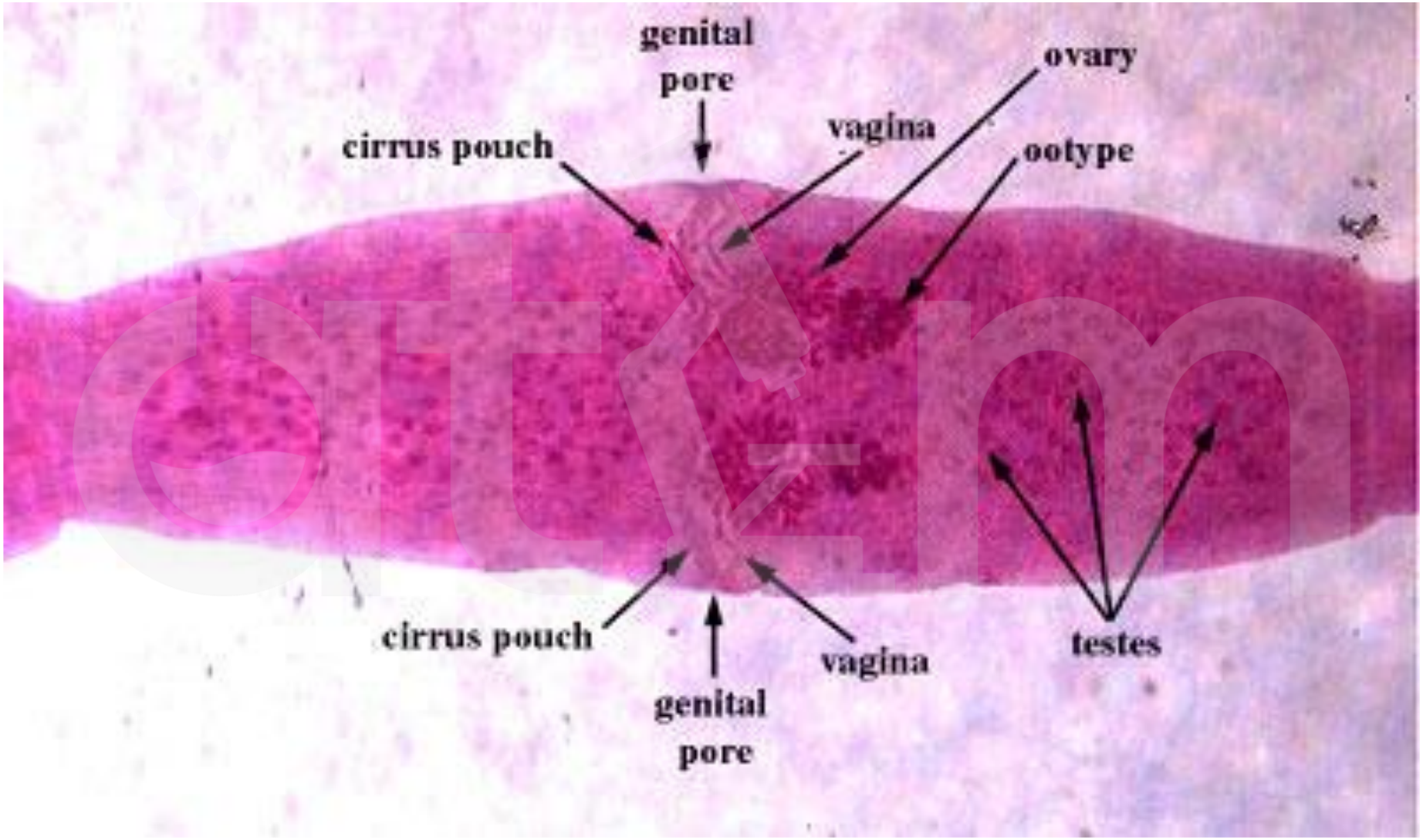




D. caninum – Scolex



Dipylidium Caninum



TERIMA KASIH

Sodikin Kurniawan

www.sodiyc.my.id

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