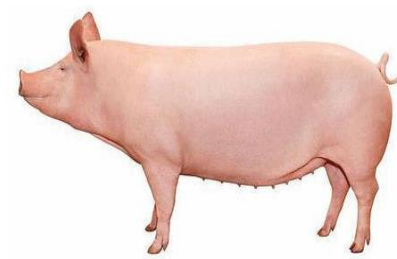
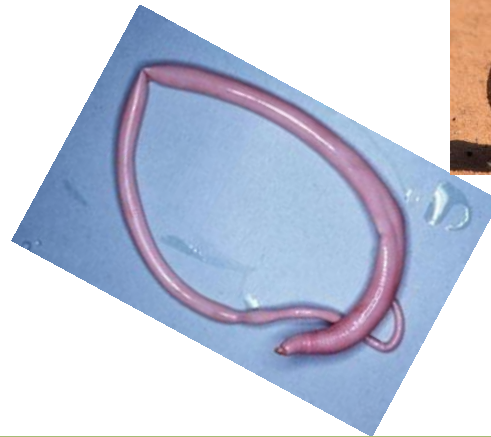




# *Macrocanthorhynchus*

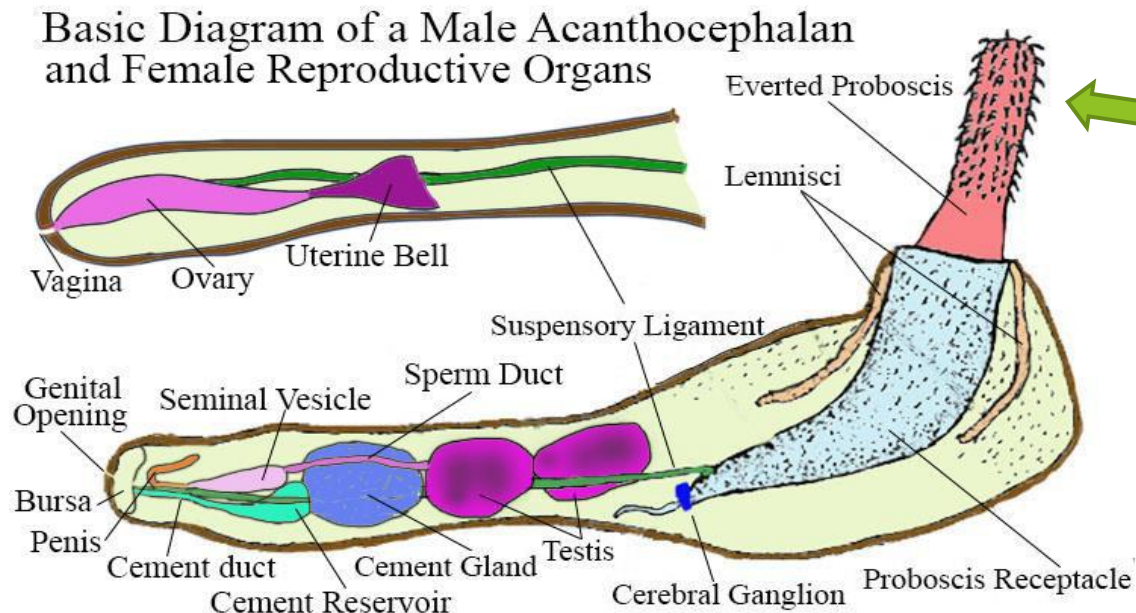


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**Patna-800014**

# *Macrocanthorhynchus*

## Phylum: Acanthocephala

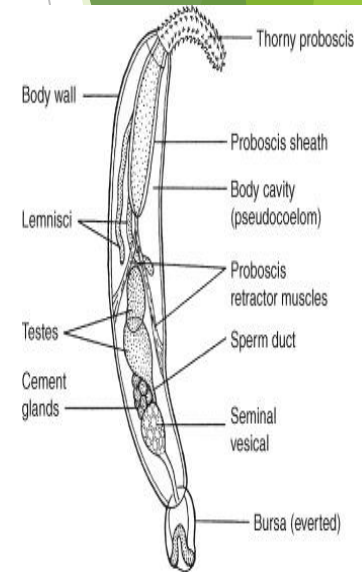
- ✓ Members are commonly called “Thorny – headed worms”.
- ✓ The name Acanthocephala is derived from the greek words ‘Akanthos’ means thorn and ‘Kephale’ means head.



# Phylum: Acanthocephala

## General Characters:

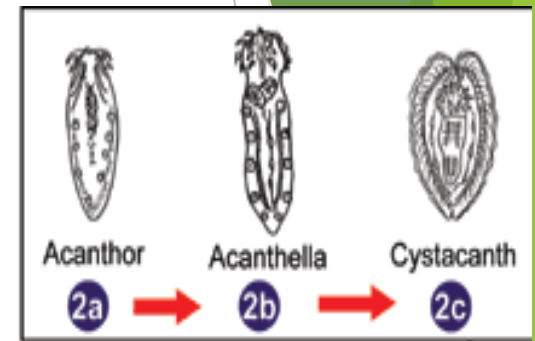
- Morphologically similar with nematodes.
- Body is cylindrical with thick cuticle like nematodes.
- A retractable proboscis at the anterior end and it is armed with hooks, hence they are called as thorny-headed worms.
- Body segmentation absent
- Sucker absent
- Alimentary canal absent.
- Unisexual



# Phylum: Acanthocephala

## Morphological Characters:

- Life-cycle: Indirect
- Females are ovo-viviparous.
- Females are longer than male.
- Eggs are spindle shaped with thickened shell containing a larva called acanthor which has an anterior circlet of hooks.
- Larvated eggs are ingested by the arthropod intermediate hosts and develop into cystacanth.
- Final hosts get infection by the ingestion of cystacanth infected arthropods.



# *Macrocanthorhynchus*

**Family:** Oligacanthorhynchidae  
**Species:** *Macrocanthorhynchus*  
*hirudinaceus*

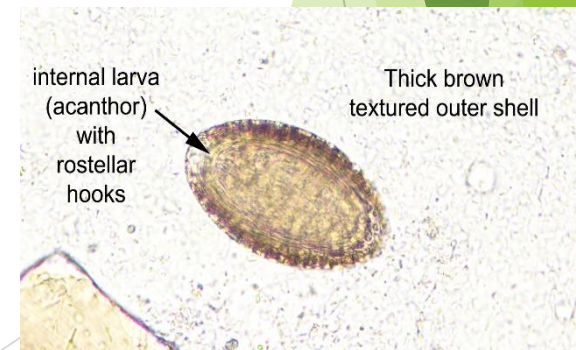




# Macrocanthorhynchus hirudinaceus

## Morphological Characters:

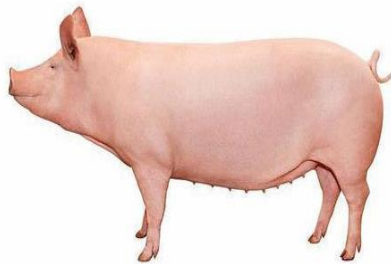
- ⌚ Adults similar to *Ascaris suum* but taper posteriorly. When placed in water spiny proboscis is protruded (differentiate from *Ascaris suum*).
- Body cuticle is wrinkled transversely
- Proboscis is covered with rows of hooks.
- Eggs are oval in shape with thick brown shell and contain acanthor.



# *Macrocanthorhynchus hirudinaceus*

**Final Host : Pig**

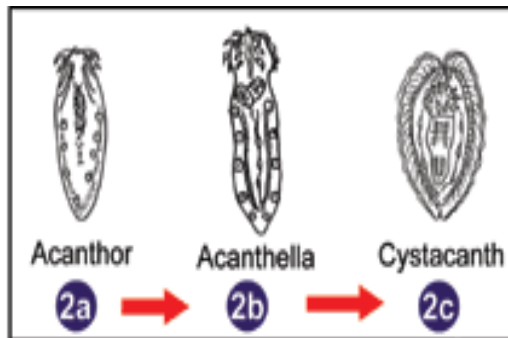
**Location: Small intestine**



# *Macrocanthorhynchus hirudinaceus*

## Life-cycle:

- ✓ Indirect life-cycle
- ✓ Intermediate host : Dung beetles
- ✓ Infective stage : Cystacanth (young worm)



Dung beetle



# *Macrocanthorhynchus hirudinaceus*

## Transmission:

- ⌚ Pig gets the infection by the ingestion of cystacanth (young worm) infected either the grubs or the adult beetles.



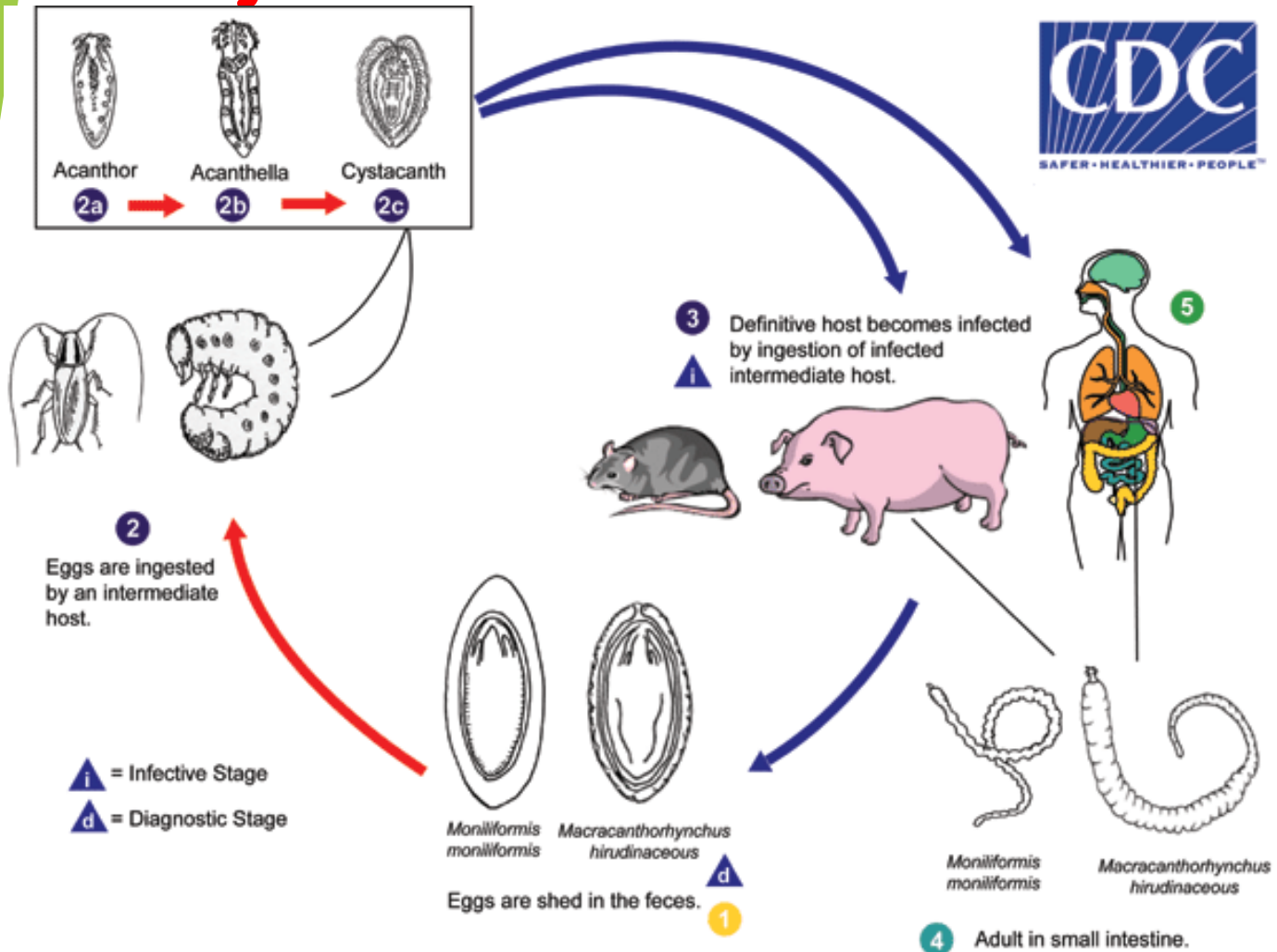
Dung beetle



Grub

# Macracanthorhynchus hirudinaceus

## Life-cycle:



# *Macrocanthorhynchus hirudinaceus*

## Pathogenesis & Clinical signs:

- 🕒 Worms produce inflammation and granuloma at the site of attachment.
- 🕒 Sometimes may cause peritonitis due to the perforation of intestinal wall leading to death.
- 🕒 Severe infections may cause slow growth or emaciation.

# *Macrocanthorhynchus hirudinaceus*

## Diagnosis:

- On the basis of symptoms.
- Microscopic examination of faeces reveals eggs of worm.
- Eggs are oval in shape with thick brown shell and contain acanthor larva.



Faeces



EGG

# *Macrocanthorhynchus hirudinaceus*

## **Treatment :**

✓ Levamisole, Ivermectin,  
CCl<sub>4</sub> and Nicotine  
sulphate are used in the  
treatment.



# *Macrocanthorhynchus hirudinaceus*

## Control:

- ❖ By controlling intermediate host i.e. dung beetle.





**THANK  
YOU**