Lab 3

Kingdom: Animalia
Phylum: Nematoda
1-Class: Secernentea
Order: Ascaridida
Family: Toxocaridae
Genus: Toxocara canis
2-Class: Adenophorea
1-Order: Rhabditida
Family: Trichostrongylidae
Genus: Trichostrongylus
2-Order: Trichocephalida
1-Family: Capillariidae
Genus: Capillaria philippinensis
3- Order: Trichinellida
1- Family: Trichuridae
***Genus:* Trichuris trichiura**
2-family:Trichinelloidea
Genus: Trichinella spiralis

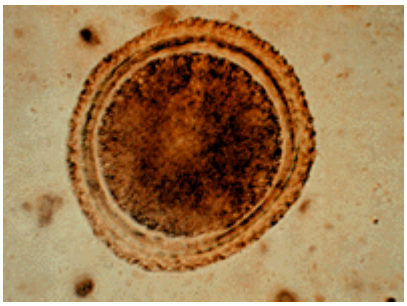
Toxocara Canis

Comman name: Dog Round Worm
Disease name: Toxocariasis
Site of infection: liver, lung, brain, heart, muscle, or eye

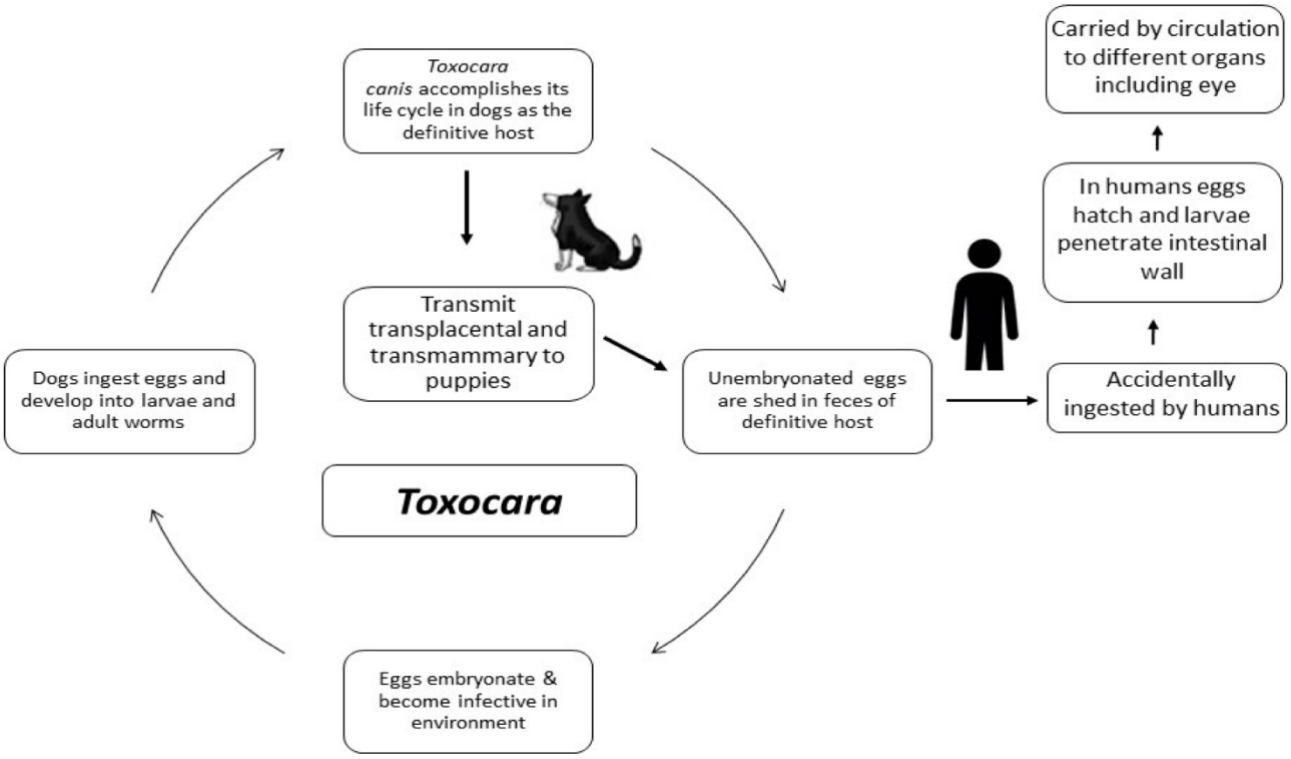
Morphology:

Toxocara canis is smaller than most of the other species in the family ascardidae, both males and females have three prominent lips bearing teeth. Males are smaller than females. The male's posterior end is curved ventrally and the tail is bluntly pointed. The male has has simple spicules. The female worms are generally around 6.5 cm but can be as long as 15 cm long. In the female the vulva is about one-third the body length from the anterior end.

The uteri contain up to 27 million eggs at a time, The eggs are brownish and almost spherical with thick brown shell



Life Cycle:



Definitive Host: Dogs,

Intermediate Host: None
Accidental Host: Humans and other mammals Children more susceptible than adults.
Infective stage: Embryonated egg with larvae
Diagnostic stage: larva

Symptoms: AbdominalPain ,Restlessness , Fever

Diagnonsis:

1- ELISA 2- Anti-Toxocara antigen IgE Level 3-CT scans 4- Ultrasound .

Trichostrongylus

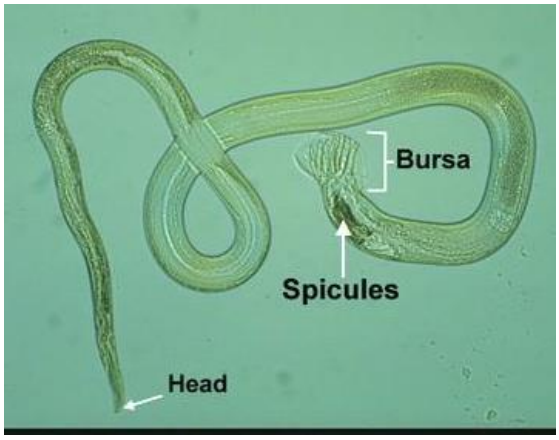
Disease name: Trichostrongyliases

Site of infection**:** in small intestine

Morphology:

The egg : They are already segmented when laid and develop into infective larvae.

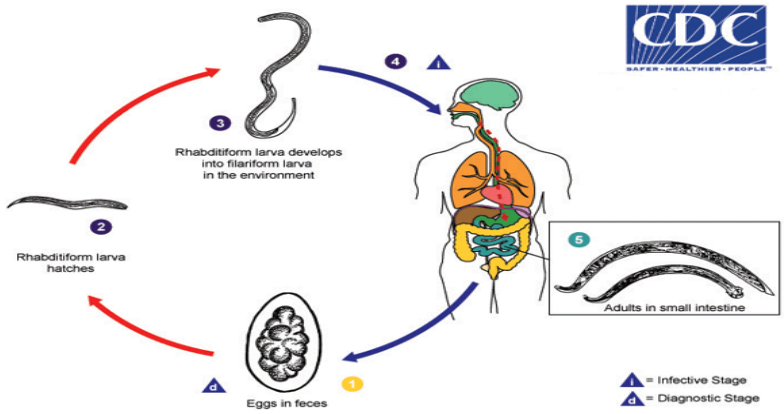
Adult worms : The worms are slim, with small anterior ends and no buccal cavity. Male worms can be recognized by their asymmetrical dorsal ray and two short nearly equal spicules. The female has a vulva of about 1 mm near the tip of the tail.



Trichostrongylus male

Trichostrongylus female

Life cycle: Direct life cycle



infective stage:L3 larva from feces contaminated food or soil; contact with herbivore feces.

Symptoms: It cause abdominal pain associated with diarrhea **.**

Diagnosis: is made by finding eggs (or sometimes larva) in stool examination

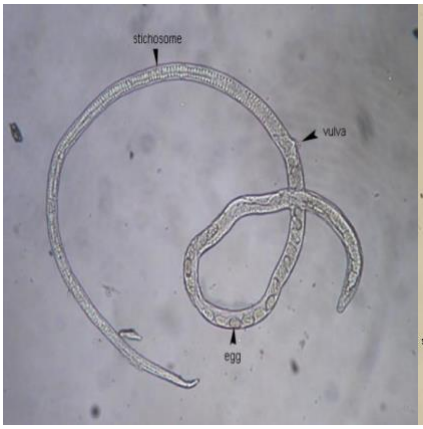
Capillaria philippinensis

Morphology :

Adult Male 2.3-3.2 mm long, Spineless spicule sheath

Adult Female :2.5-4.3 mm long, Esophagus is half as long as body

Egg: Peanut shaped ,Striated shell



Capillaria philippinensis Female

Capillaria philippinensis male

Capillaria philippinensis egg

Life cycle

Definitive host: fish-eating birds

Intermidiate host: Fish

Acciedental host: Human Acquire by eating small species of raw infected fish

Direct and Indirect Life Cycles

Site of infection:small intestine

Infective stage: larvae

Diagnostic stage: unembyronated egg

Symptoms:

- Damages cells of intestinal wall
- Watery diarrhea, Abdominal pain ,Weight loss ,weakness

Diognosis

- Finding eggs, larvae, and/or adults in:
- Stool samples
- Intestinal biopsies

Order: Trichinellida

There are two families with medical importance, the first one is:

Family: Trichuridae

Trichuris trichiura

Common name: Whip-worm

Site of infection: Adult worms found in the large intestine and cecum of man

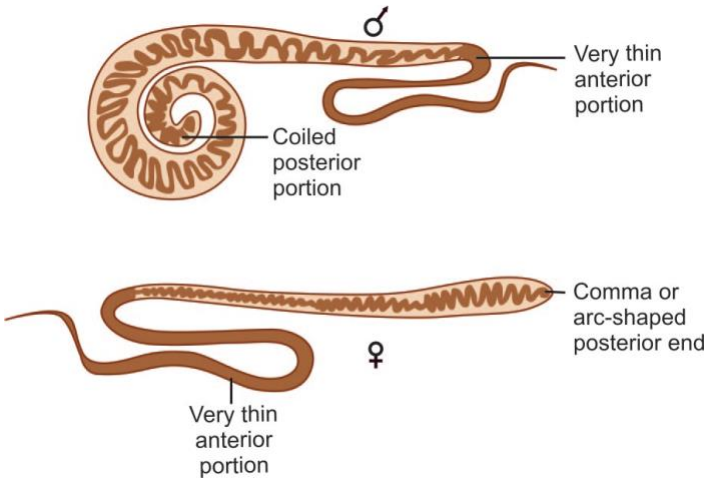
Morphology

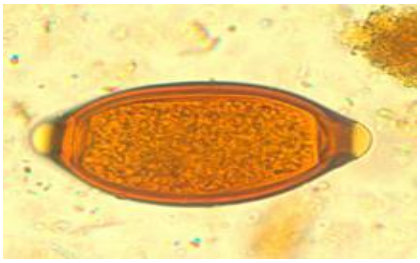
The worms are distinguish by Mouth without lips and there is no tail, worms resemble a whip, being composed of a hair-like anterior part.

* The male measures about 4 cm in length, and the posterior extremity is spirally coiled have one copulatory spicules with a sheath

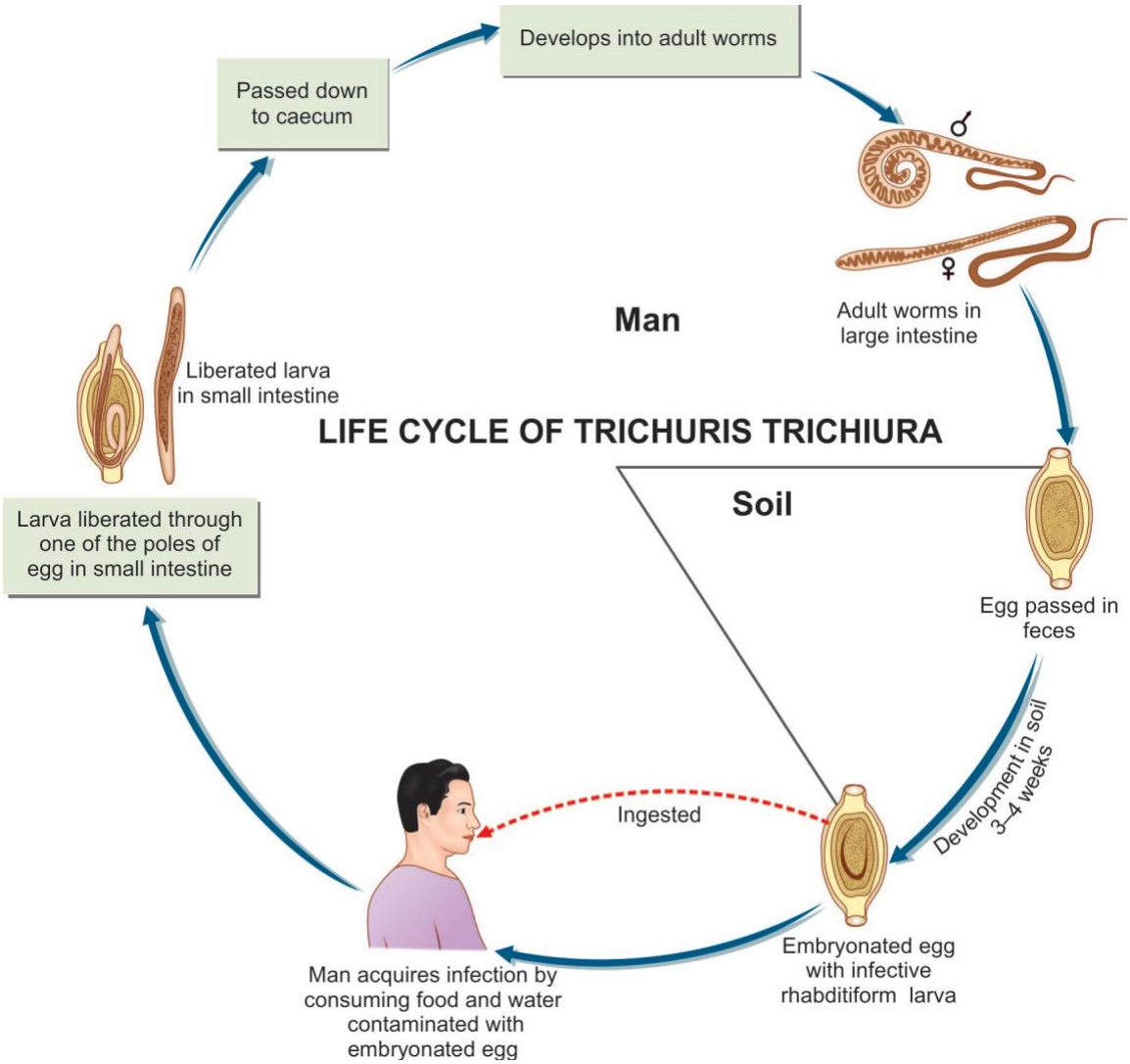
* The female measures up to 5 cm in length and are oviparous the vulva are situated near the junction of the two parts of the body.

* The eggs are brown color, barrel-shaped, with a mucoid plug at each pole


♂
Very thin anterior portion
Coiled posterior portion
Comma or arc-shaped posterior end
♀
Very thin anterior portion



Life cycle



* Infective stage: Embryonated egg(larvae found in eggs) in soil, water and on green vegetables.
* Diagnostic stage: Unembryonated egg

Symptoms:

* Damage of intestine and peritonitis.
* Diarrhea and mild gastric disturbances sometimes occur.
* In heavy infections, bloody diarrhea and rectal prolapsed have been reported.

[Diagnosis]

* Recovery of the characteristics eggs in the stools of the patient.
* Proctoscopy to see worms suspended from inflamed mucosa.

The second family of order Trichinellida is:

2- Family: Trichinellidae

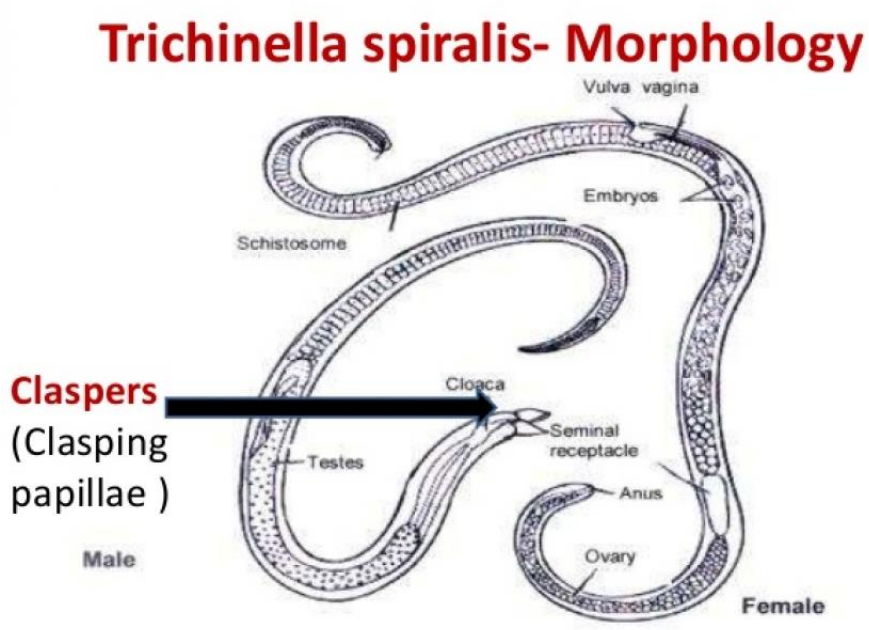
Trichinella spiralis

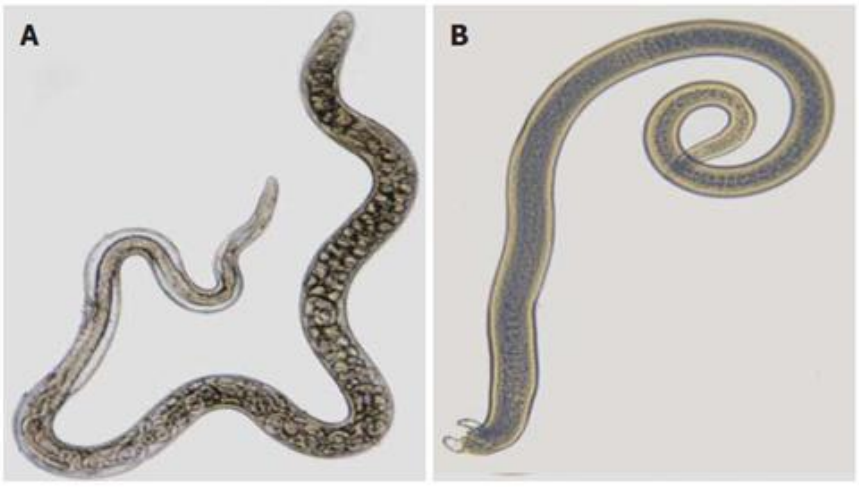
Disease name:Trichinellosis

Site of infection: The adult worms live in the duodenum and jejunum.

Morphology:

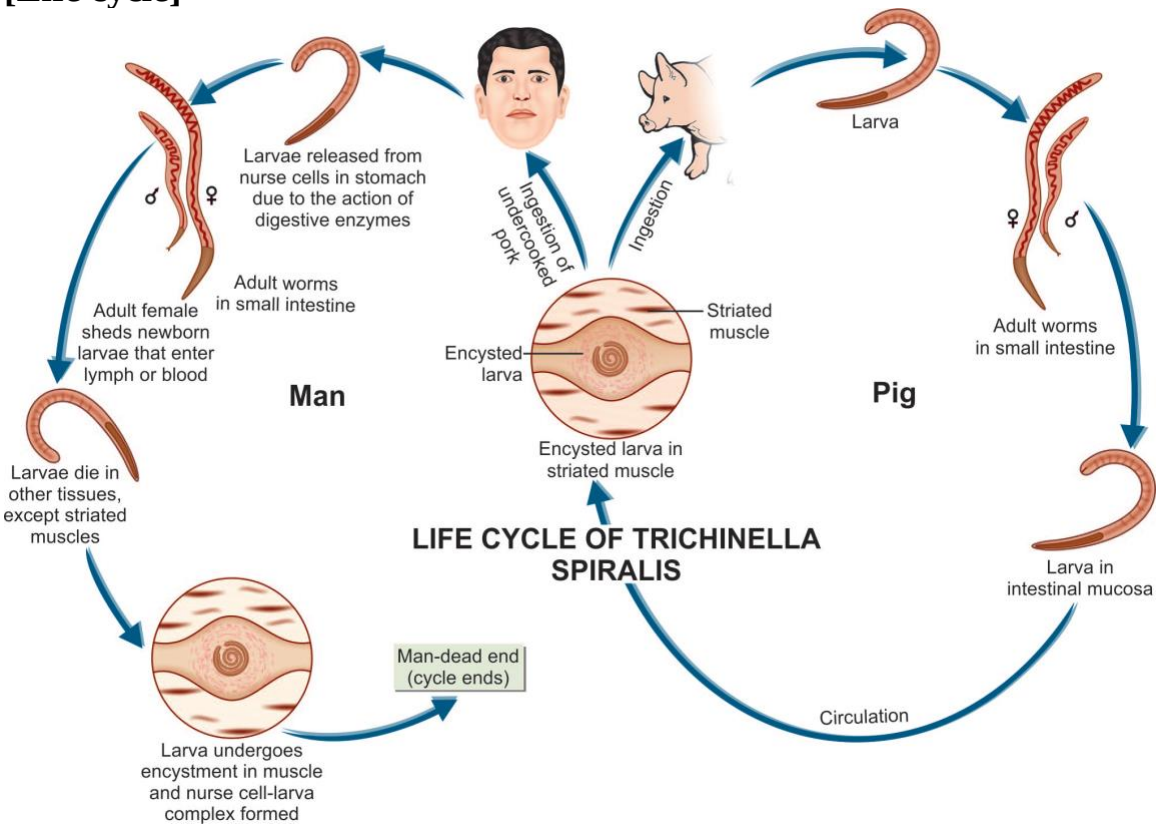
* Males have no copulatory spicules The posterior end bears a pair of minute, conical flaps or papillae helping in copulation.
* The female which is oviparous(laying eggs)
* The tapering anterior end and the thick posterior half are diagnostic for both sexes





Trichinella spiralis female *Trichinella spiralis* male

[Life cycle]



* Infective stage: larvae found encysted in the flesh of the rats, pigs and man

Symptoms:

***** nausea, vomiting, colic and diarrhea sometimes with haemorrhage, which oedema of the orbit, headache, an increasing eosinophilia, severe pain

* Myocarditis is the most serious manifestation, it may cause heart failure.

Diagnosis

1-Finding the larvae

* In blood during circulation
* In the muscles after encystment by muscles biopsy either by:

- Pressing a strip of muscle between 2 slides and examined microscopically
- Digestion the muscle and incubated at 37 °C, then centrifugalize, examination
of deposit reveals larvae.
2- Finding the adult worms especially males in stools in the early days of infection.
3- Immunological test.
4- X-ray examination reveals calcified cysts.