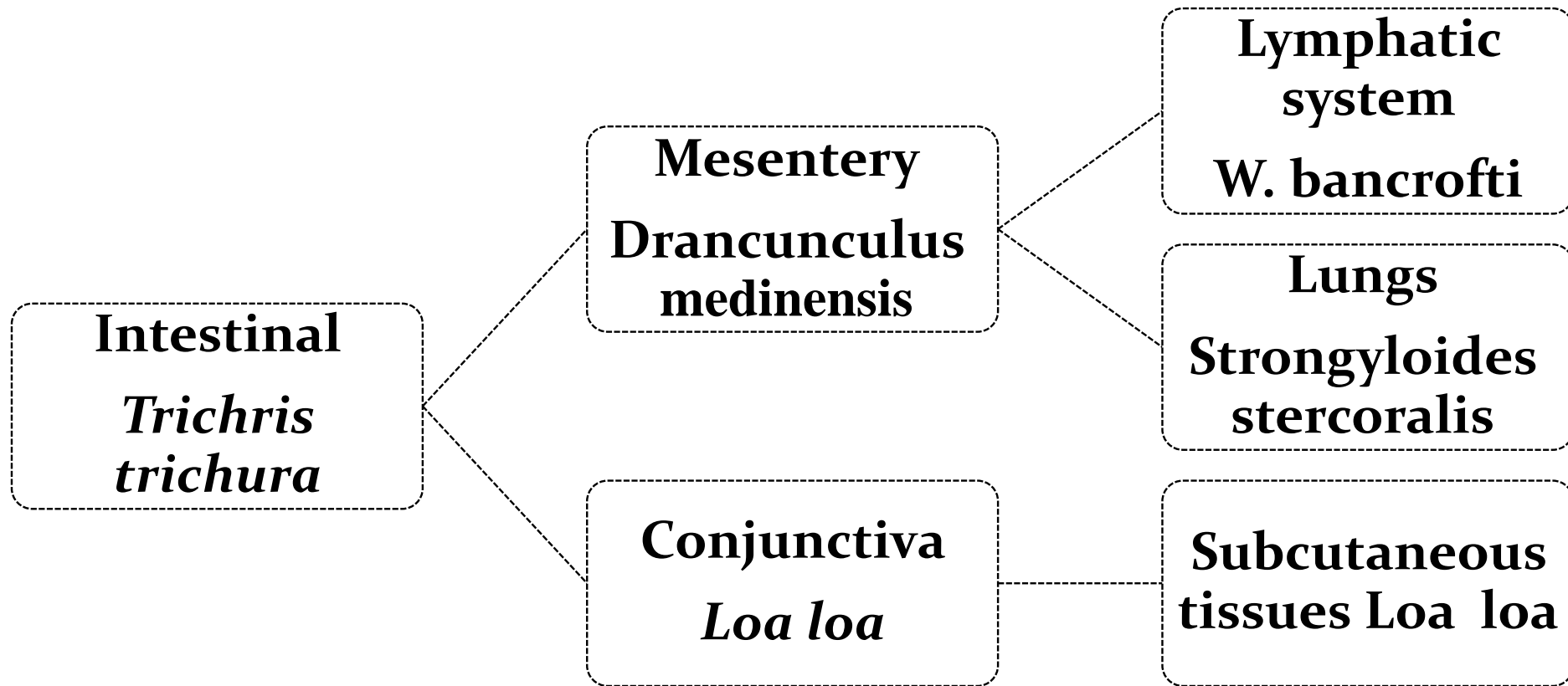


GENERAL FEATURES.....

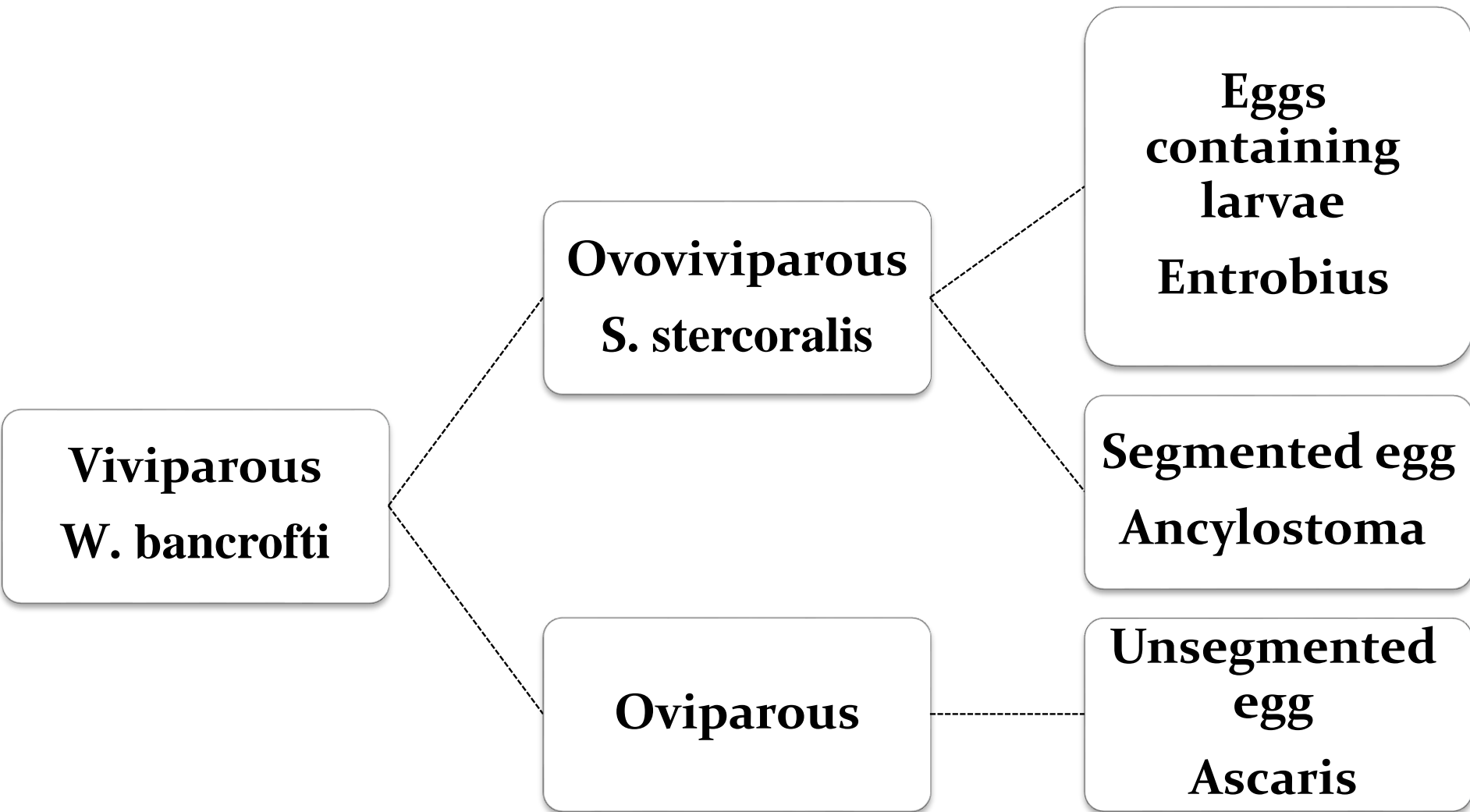
- ❑ ☺ The body is elongated...cylindrical...Bilaterally symmetrical & tapering at both end.
- ❑ ☺ Digestive system consist of buccal cavity (mouth part) (may or may not contain teeth) ... esophagus...Intestine and finally anus.
- ❑ ☺ Sexes are separated...Male & female (male smaller than female).
- ❑ ☺ Nervous system consist of a nerve ring around esophagus & sensory papillae (A phasmid and phasmid).
- ❑ ☺ The female may lay eggs (oviparous)....or larvae (viviparous)....or (ovoviviparous) lay eggs containing larvae which immediately hatch .

CLASSIFICATION OF NEMATODES

According to location of nematodes



According to laying of eggs / Larvae



LARGE INTESTINAL NEMATODES

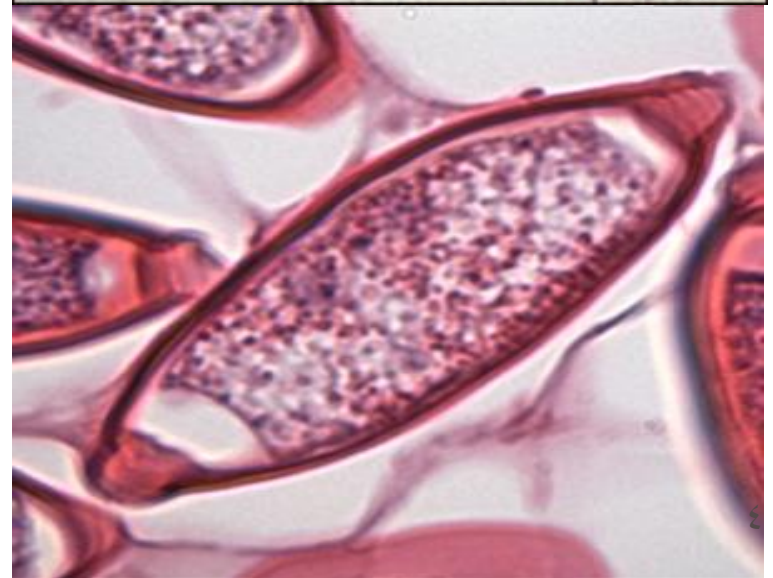
- Trichuris trichiura

Common name..... Whip worm

Disease...Trichuriasis or whipworm infection

Egg:

- Barrel – shape measure 50 x 25 μm .
- Contain undeveloped unicellular embryo surrounded by smooth yellow shell.
- A prominent hyaline polar plug is visible at each end.



LARGE INTESTINAL NEMATODES

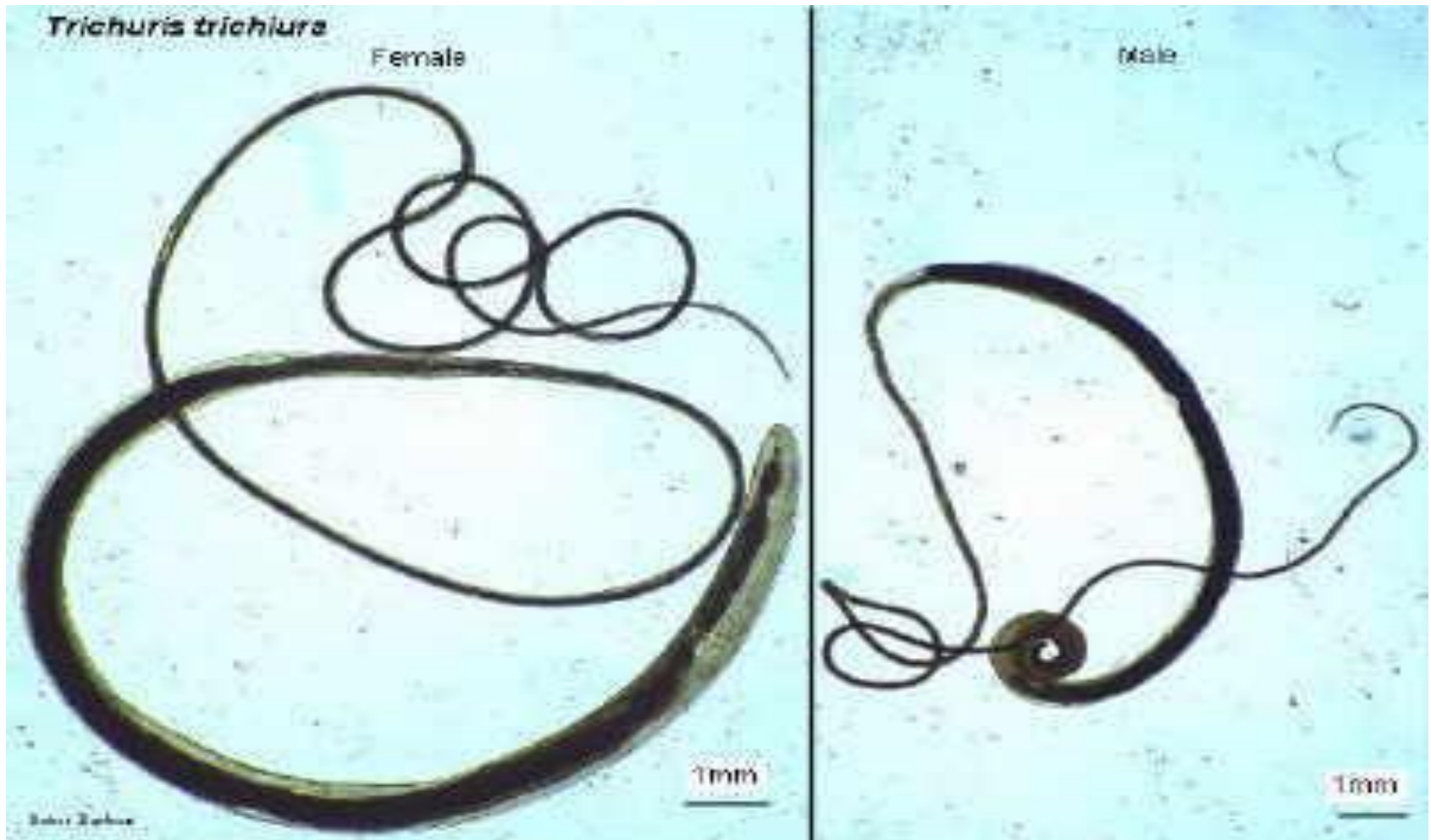
- Trichuris trichiura

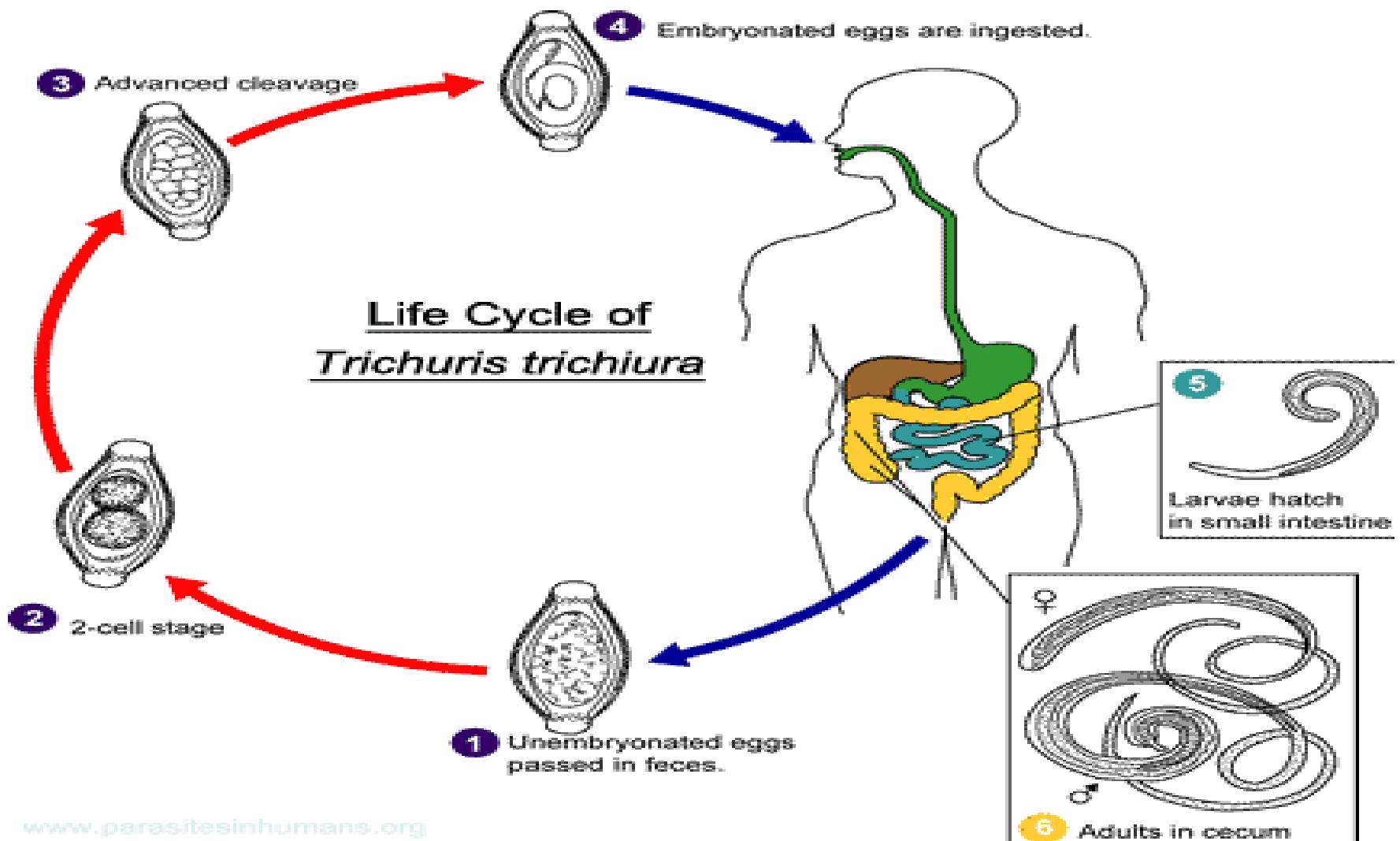


Adult:

- Typical adult measure 2.5-5 cm.
- The anterior end colorless contain esophagus.
- The posterior end pinkish to grey contain intestine.
- The posterior end is large resemble whip handle while the anterior end smaller & look like whip itself so name whip worm.
- Male smaller than female and possesses curled tail.

Trichuris trichiura Male & Female





The life cycle is completed in one host (human).
 Infective stage....Embryonated egg.
 Life span of adult in untreated infections may be 4-8 years.
 Undeveloped egg passed outside with faeces.

Laboratory Diagnosis.....

The specimen Stool.

The Method..... Zinc sulfate flotation method.

1. Added 1 ml of specimen to 10 ml of tap water.
2. Pour the mix in funnel equipped with two layers of wet gauze , use test tube to catch specimen.
3. Added water to the top & centrifuge.
4. Added 2.5 ml of tap water to the sediment & centrifuge.
5. Added 2.5 ml of zinc sulfate solution & centrifuge.
6. Remove amount from the floating material , stain with iodine & exam microscopically.

Zinc sulfate flotation method

1

Measure 3 grams of fecal material into a 3-5 oz. paper cup



2

15ml sugar solution is added to fecal matter



3

Stir solution and fecal matter until material has even consistency



4

Pour mixture into tea strainer and collect in 3-5 oz. cup



5

Use a tongue depressor to press as much material through strainer as possible



6

Pour strained mixture into a conical/graduated 15 ml centrifuge tube

Place tube into centrifuge at 800-1000 rpm for 5-7 mins



7

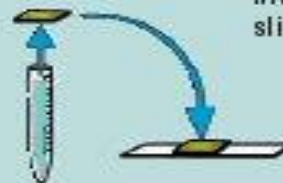
Place tube in rack and top off with sugar solution (forms a meniscus)

Cover with 22x22 mm cover slip and set aside for 2-4 mins



8

Lift cover slip directly upward and immediately place on microscope slide



9

Use microscope to scan entire cover slip for egg count



LARGE INTESTINAL NEMATODES

- **Entrobis vermicularis**

Common name..... Pin worm, thread worm.

Disease...Enterobiasis.

Egg:

- The typical egg measure 20 x 35 μm .
- It is flattened on one side.
- Contain developing larvae surrounded by a conspicuous double layered.
- May be seen as Unembryonated, immature embryonated and mature embryonated egg.



LARGE INTESTINAL NEMATODES

- **Entrobium vermicularis**

Adult Female:

- Measure (7-14) x 0.5 mm in length.
- Yellowish to white in color equipped with pointed tail like pin head, hence called the *pin worm*.

Adult Male:

- Rarely seen...Smaller than female (2-4) x 0.3 mm in width.
- Yellowish to white in color , the posterior end is curves possesses a sharply curved conspicuous terminal Copulatory spicule.



Enterobius vermicularis

Female

Male

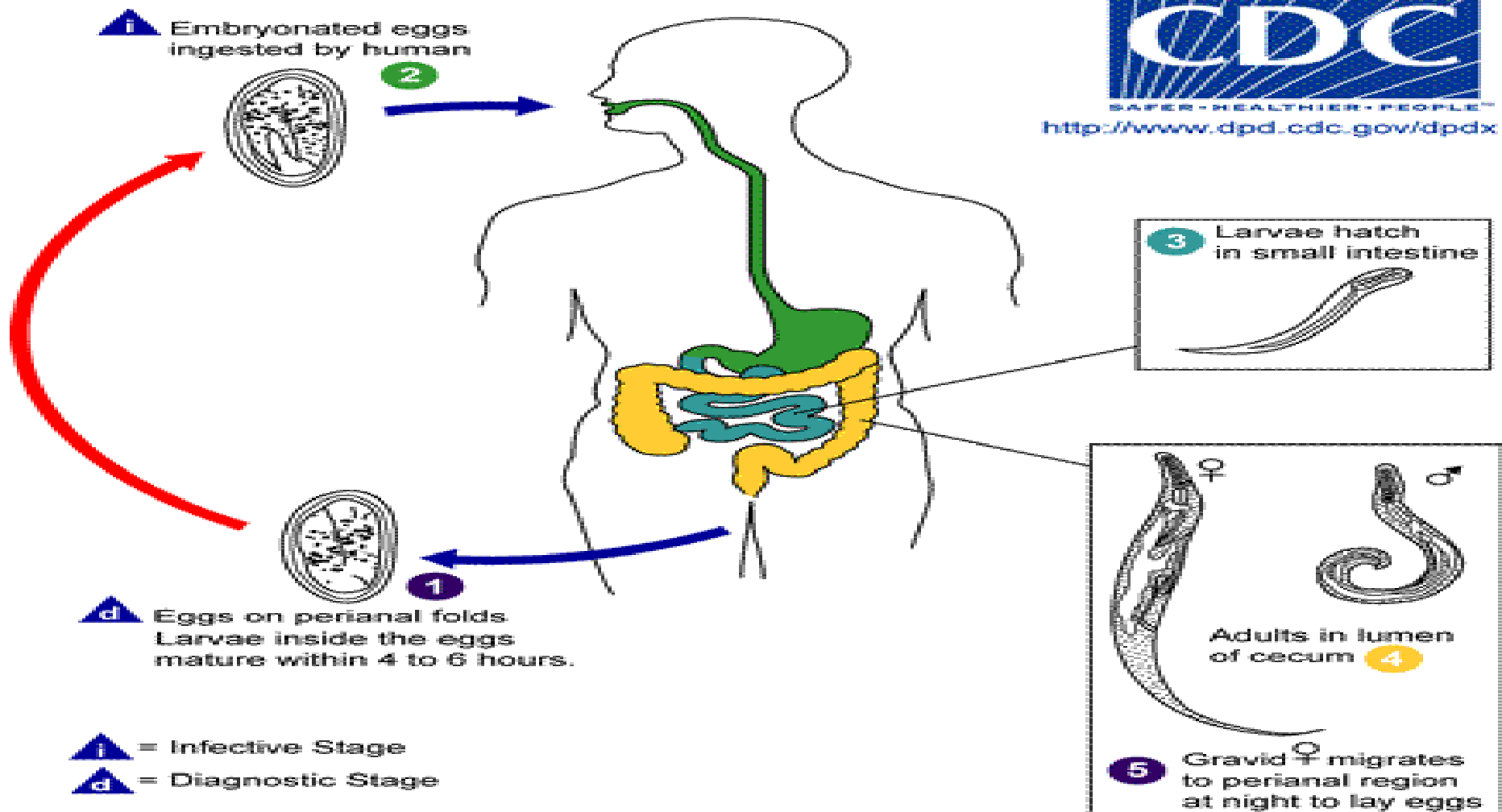


2mm



1mm

Peter Darben



Autoinfection... The deposit of eggs in the perianal regions and ingested via hand to mouth.

Retroinfection... Occur when hatched larvae migrate back into the body via the rectum into adults.

Laboratory Diagnosis.....

The specimen Cellophane tape .

The Method..... The scotch tape preparation.

- **At night when the host (Child) is at rest.... Female exist through the rectum & lays eggs in the perianal region The specimen is collected during the morning before the patient washes & exams.**

