

STRUCTURE AND LIFE CYCLE OF ASCARIS LUMBRICORDIS
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Ascaris worms are a type of intestinal parasites that can infect humans. This makes it the most common intestinal parasitic worm in the world.

STRUCTURE

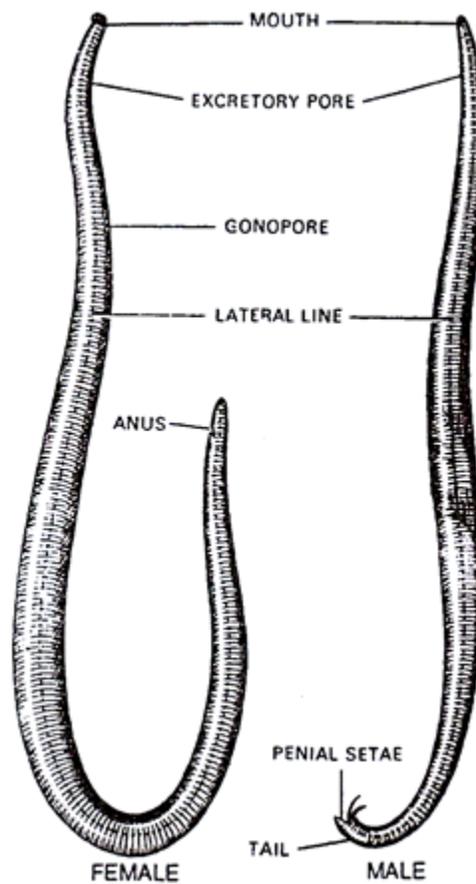


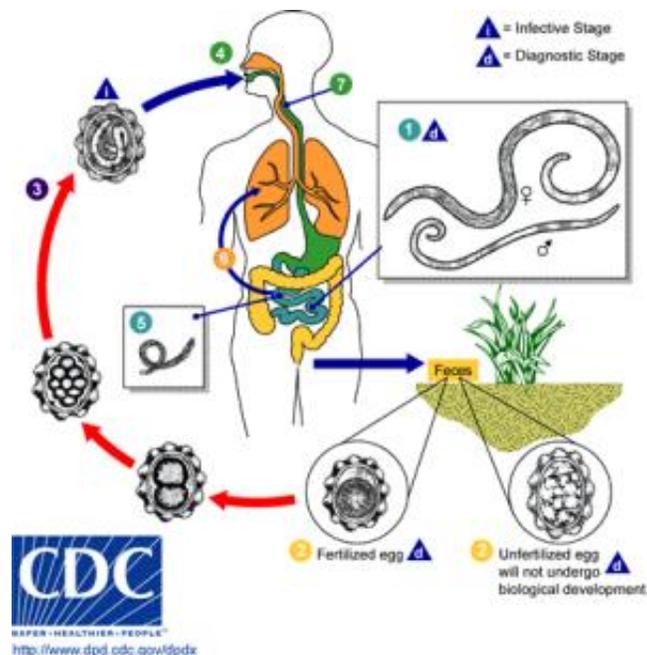
Fig. 189. ASCARIS

1. It is a common endoparasite in the intestine of human beings.
2. Body worm-like and has pseudo-segmentation.

3. The females are larger and stouter than males and measure about 20-30 cm in length, whereas males reach to about 15-26 cm in length.
4. Mouth is having 3 distinct lips.
5. Pharynx has few caeca but no posterior.
6. The posterior end of female is straight and that of male is curved.
7. Male bears a pair of sub-terminal Denial setae at post end.
8. Body is marked with four longitudinal canals or lines which run along the whole body length.
9. Excretory pore lies near the anterior end and the female genital opening lies near the middle.
10. The fertilized eggs pass out with faeces and hatch into embryos in warm and moist soil and infection occurs through contaminated hands and drinking water.

LIFE CYCLE

The life cycle of Ascaris completes in single host. Human.



- Adult worm lives in small intestine
- Stages in life cycle:

Stage I: Eggs in faeces

- Sexually mature female produces as many as 200,000 eggs per day, which are shed along with faeces in unembryonated form. They are non infective.

Stage II: Development in soil

- Embryonation occurs in soil as optimum temperature of 20-25C with sufficient moisture and O₂
- Infective larva develops within egg in about 3-6 weeks.

Stage III: Human infection and liberation of larvae

- Human get infection with ingestion of embryonated egg contaminated food and water
- Within embryonated state inside egg, first stage larvae develops into second stage larvae. This second stage larvae is known as Rhabditiform larvae
- Second stage larva is stimulated to hatch out by the presence of alkaline pH in small intestine and solubilization of its outer layer by bile.

Stage IV: migration of larvae through lungs

- Hatched out larvae penetrates the intestinal wall and carried to liver through portal circulation
- It then travels via blood to heart and to lungs by pulmonary circulation within 4-7 days of infection.
- The larvae in lungs molds twice, enlarge and breaks into alveoli.

Stage V: Re-entry to stomach and small intestine

- From alveoli, the Larvae then pass up through bronchi and into trachea and then swallowed.
- The larvae passes down the oesophagus to the stomach and reached into small intestine once again.

- Small intestine is the normal habitat of *Ascaris* and it colonises here.
- Within intestine parasite moults twice and mature into adult worm.
- Sexual maturation occurs within 6-10 weeks and the mature female discharges its eggs in intestinal lumen and excreted along with faeces, continuing the life cycle.
- The life span of parasite is 12-18 months