

Life Cycle of *Ancylostoma-duodenale*

- NAME : SOUVIK KHANRA

Class : 5th SEMESTER

Subject : PARASITOLOGY

Topic : Life Cycle of *Ancylostoma-duodenale*

Stream : ZOOLOGY Hons

Ancylostoma-duodenale

Ancylostoma-duodenale :

Common Name : The Old World Hookworm

It is small ,greyish white , cylindrical worm. When freshly passed, the worm has a reddish brown colour due to the ingested blood in its intestinal tract. The anterior end of the worm is bent slightly dorsally, Hence the name is **Hookworm**.

HABITAT : The adult worm lives in the small intestine of man, particularly in the jejunum, less often in the duodenum and rarely in the ileum.

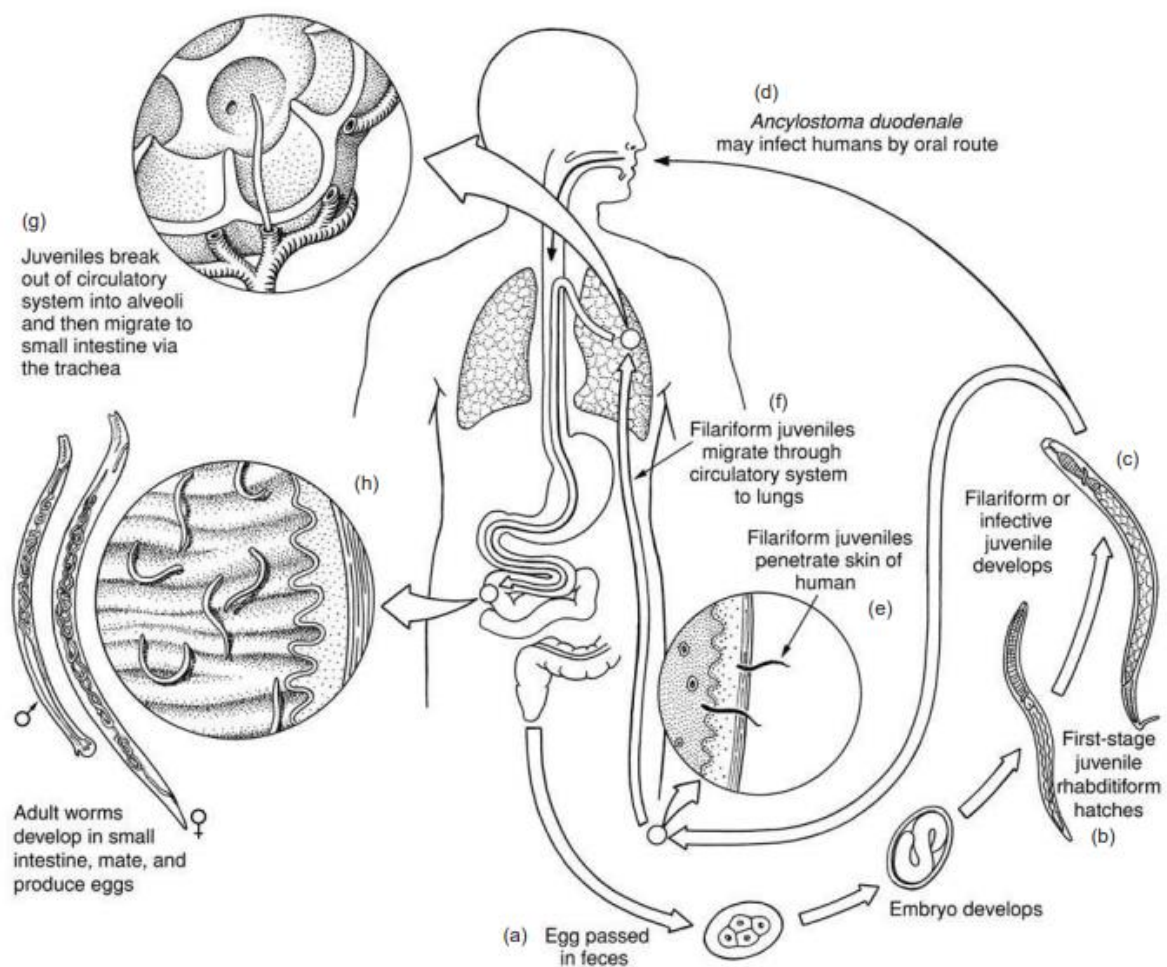


Figure : Life cycle of *Ancylostoma-duodenale*

LIFE CYCLE :

No intermediate host is required and like other helminths, multiplication of worms does not occur inside the human body. Man is the only definitive host for *A. duodenale*. The following are the various stages of the life cycle.

Stage 1. Passage of Eggs from the infected Host. The eggs containing segmented ova with 4 blastomeres, are passed out in the faeces of the human host.

Stage 2. Development in soil. From each egg a rhabditiform larva (250 μm in length) hatches out in the soil in about 48 hours. The rhabditiform larva moults twice, on the third day and the fifth day. It then develops into a filariform larva (500 to 600 μm in length), The infective stage of the parasite . The time taken for development from eggs to filariform larvae is on an average 8 to 10 days.

Stage 3. Entrance into a New Host. The filariform larvae are infective to man . The larvae cast off their sheaths and gain entrance to the body by penetrating the skin.

Stage 4. Migration. On reaching the subcutaneous tissues the larvae enter into the lymphatic or small venules. They pass through the lymph-vascular system into the venous circulation and are carried via the right heart into the pulmonary capillaries, where they break through the capillary walls and enter into the alveolar spaces. They then migrate on to the bronchi, trachea and larynx, crawl over the epiglottis to the back of the pharynx and are unlimited swallowed. During migration or on entering the esophagus. A third moulting takes place and a terminal buccal capsules is formed. The period taken for such migration is about 10 days.

Stage 5. Localisation and laying of eggs. The growing larvae settle down in the small intestine, undergo a fourth moulting and develop into adolescent worms. At this stage the provisional toothless buccal capsule, formed previously is cast off and the definitive buccal capsule complete with teeth . Is formed. In 3 to 4 weeks time they are sexually mature and the fertilised females begin to lay eggs in the faeces. The cycle is thus repeated. The interval between the time of skin infection and the first appearance of eggs in the faeces, is about 6 weeks.

PROBABLE QUESTION :

1. *What is the infective stage of Ancylostoma-duodenale ?*
2. *How does Ancylostoma-duodenale is transmitted?*
3. *How does Ancylostoma-duodenale enter the human body?*
4. *Describe the Life cycle of Ancylostoma-duodenale.*
5. *How long does the infection Ancylostoma-duodenale last in human?*
6. *Difference between Male & Female Ancylostoma-duodenale.*