

6) Ancylostoma duodenale (Hook worm)

classification

Phylum - Nematelminthes

class - Nematoda

Genus - Ancylostoma

Species - duodenale

Habit / Habitat

It is world wide in distribution. It is also reported from Nepal. Its infection is more common in rural areas where people move bare footed and hygienic is neglected. The adult worm live in the small intestine of a man particularly in the jejunum less often in the duodenum.

Morphology

Hookworm is a small, white and cylindrical parasite. Its anterior end is bend slightly to form hook. Mouth is present at the tip of anterior end. The male and female worms are separate.

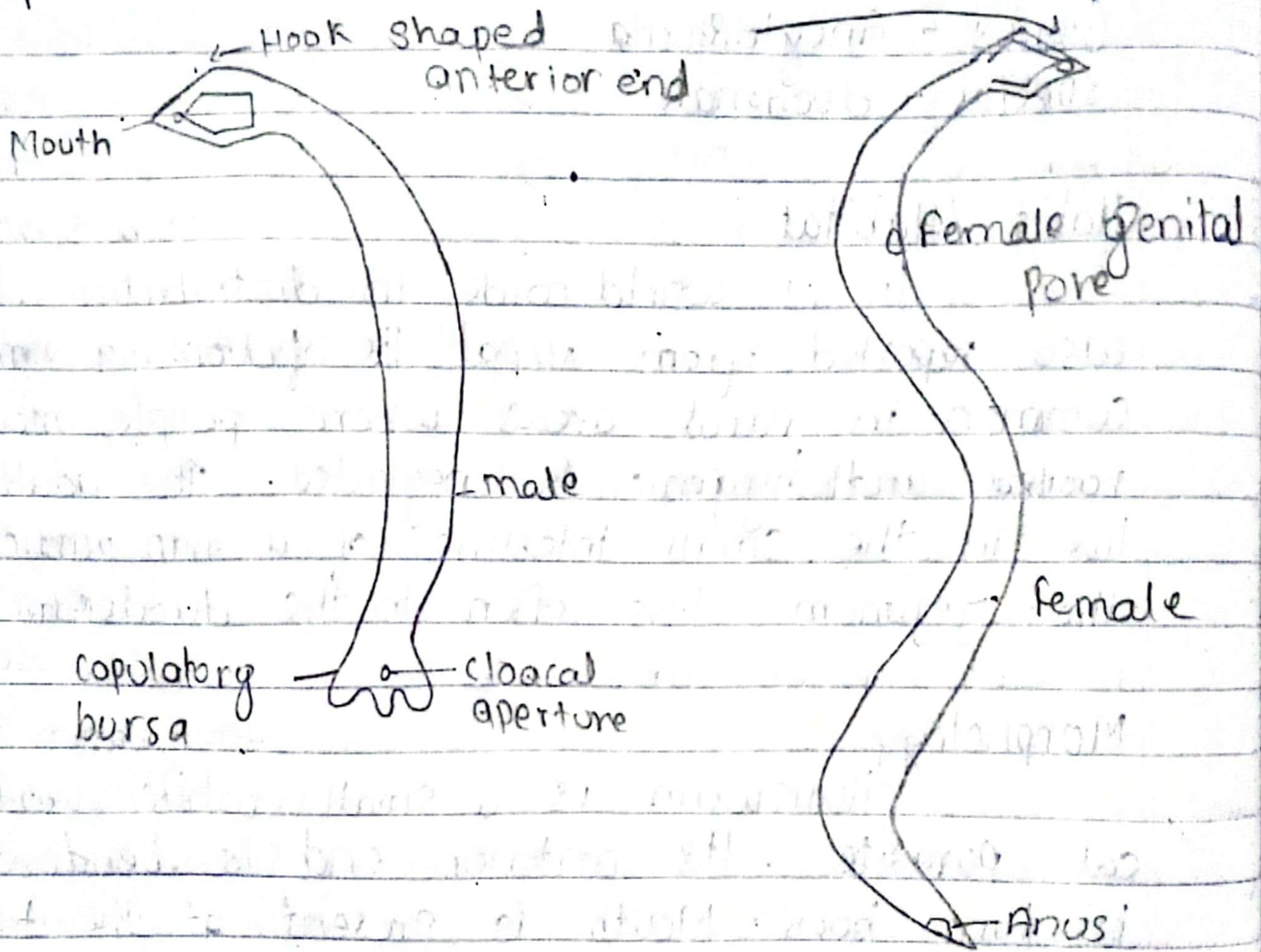
Male

It is smaller in size and measure about 8mm in length. Posterior end of male is expanded like an umbrella called copulatory bursa. Copulatory bursa contain cloacal aperture which contain penial spicules.

Female

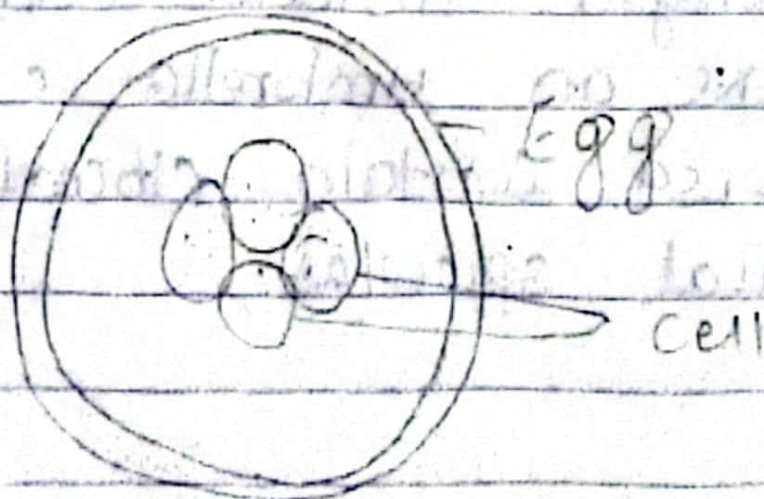
It is longer than male and measure about

12.5 mm in length. It doesn't contain copulatory bursa and posterior end is straight with pointed end. Anus and female genital pore are separated.

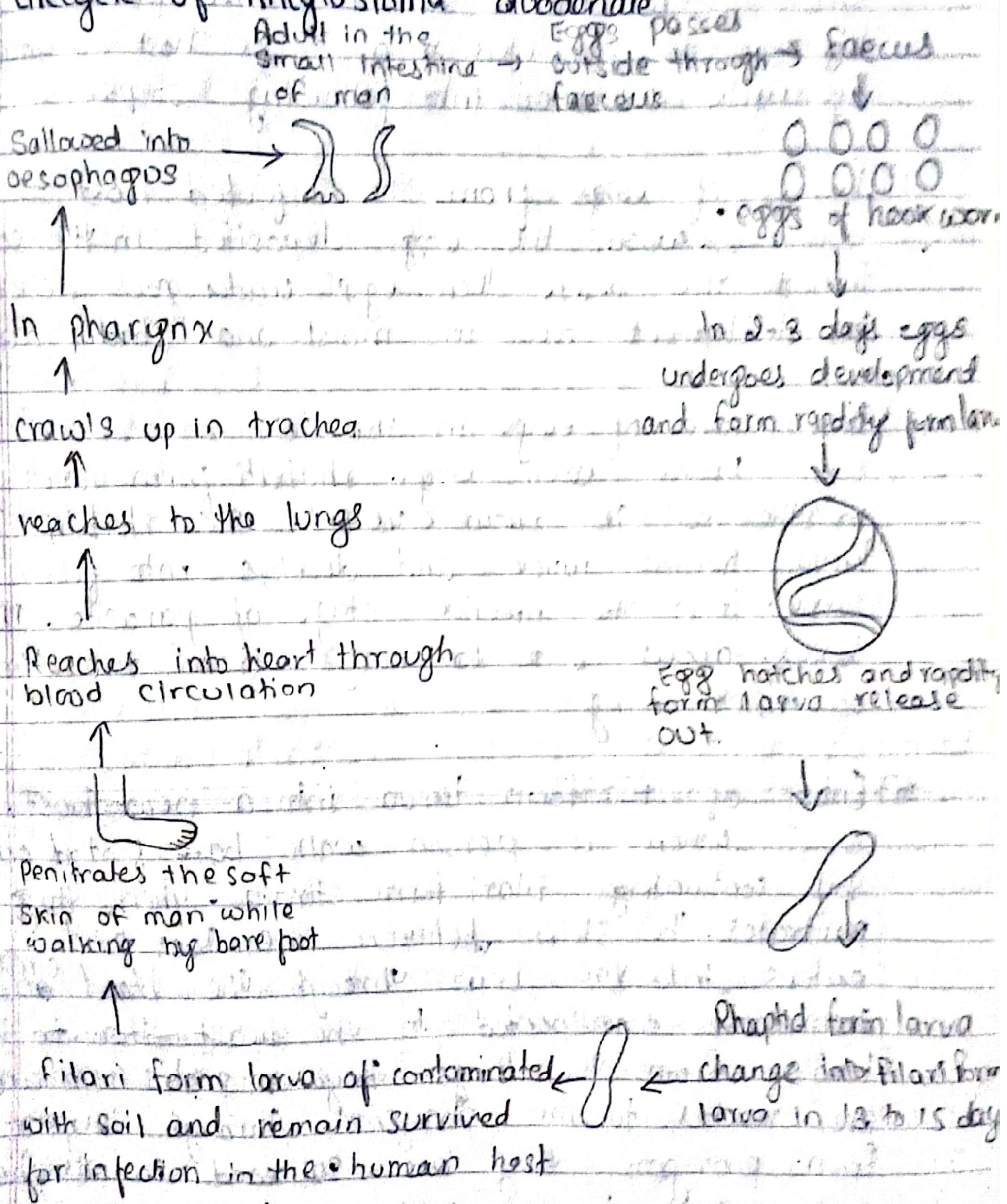


Egg

These are oval in shape and surrounded by cell membrane. They are transparent. Single female lay eggs about 25,000 - 30,000 per day.



Lifecycle of *Ancylostoma duodenale*



Hook worm is a monogenetic parasite. Its life cycle is completed in a single host i.e. man. Its life cycle completed into following steps.

- i) Passes of eggs from the infected host
when the eggs deposited in the soil through the phase then egg under goes development. Its development occur in moist and shady places.
- ii) Development of eggs in the soil
From each eggs rhabditiform larva hatches in the soil in about 48 hrs. The rhabditiform larva moults twice and develops into filariform larva. It is the infective stage of parasite. It takes about 8 to 10 days from the time of egg laying.
- iii) Entry of filariform larva into a new host.
When a person walk bare footed on the soil containing filariform larva. Then, they penetrates the skin between the toes and enters into the vein through the blood ~~and~~ ^{circulation} they are transported to the heart then to the lungs. From the lungs they migrates up and are reaches to the pharynx through larynx. From pharynx they are swallowed in oesophagus and reaches to the jejunum.
- iv) Sexual maturity and laying of eggs.
In the jejunum larva settle down in the small intestine. And develops into adult

coorm. In 3-4 weeks they are sexually mature and the fertilized egg begins to continue the lifecycle.

Mode of infection

- bare foot walking in contaminated soil.

Symptoms

- Vomiting
- Bleeding in toilet
- headache
- Anaemia
- Abdominal pain

Treatment

- Albendazole
- Piperazine
- Mebendazole

Preventive measures

- Proper disposal of human faeces
- Treatment of parasitised individual
- Wear boots or shoes for personal protection
- Personal hygiene