

Life cycle of *Taenia solium*

B.Sc First year Zoology (Honours) Paper - 1

Dr. Mirza Imteyaz Baig

Assistant Professor

Department of Zoology

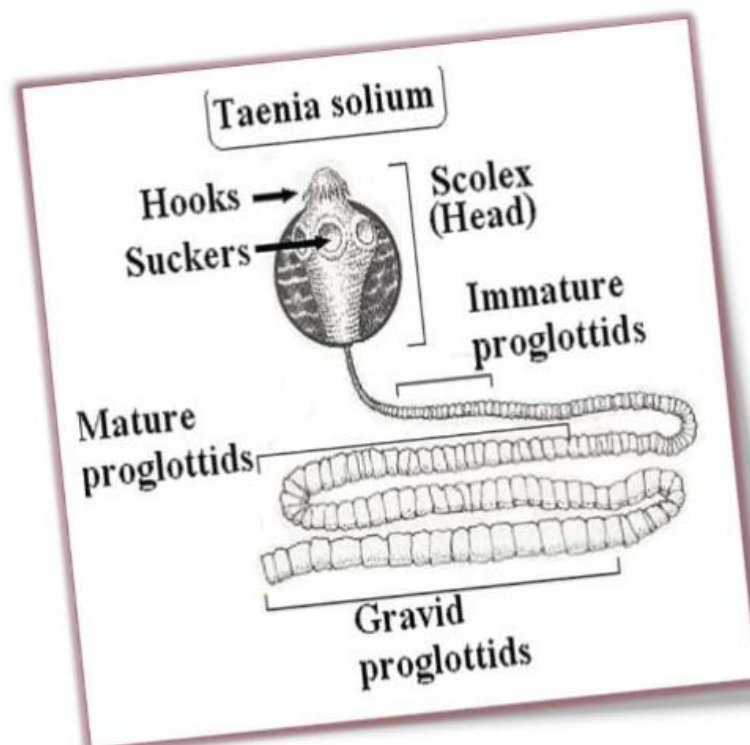
Raja Singh College, Siwan.

Mobile no: 09538245814

E- mail: bmirza7@gmail.com

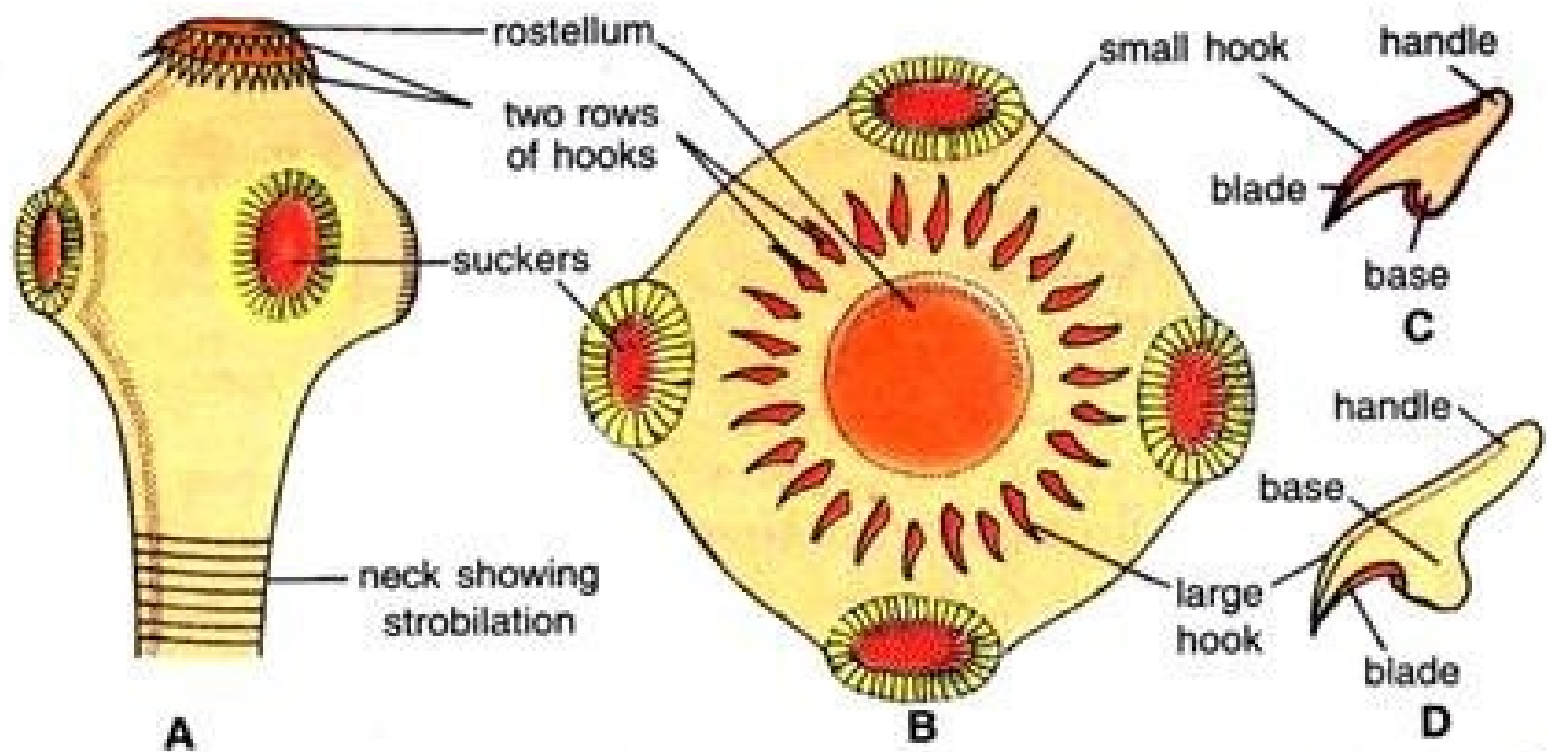
Taenia solium

- Triploblastic acoelomate.
- Pork Tape worm.
- Intestinal zoonotic parasite.
- Adult worm lives in human intestine.
- Adult is flattened ribbon like , creamy , white in colour.
- Do not possess circulatory and digestive system.
- Hermaphrodite.
- Acquire food by means of osmosis.
- Measure about 2-4 meters.
- Most common in Latin America, Africa and India.



Scolex

- The anterior end of the body of Taenia has a knob like scolex.
- Four suckers for clinging to the intestinal wall.
- An anterior round prominence the rostellum having about 22-32 curved hooklets arranged in two circles.



Taenia solium. Scolex. A—Scolex magnified; B—Frontal view of scolex; C—Small hook; D—Large hook.

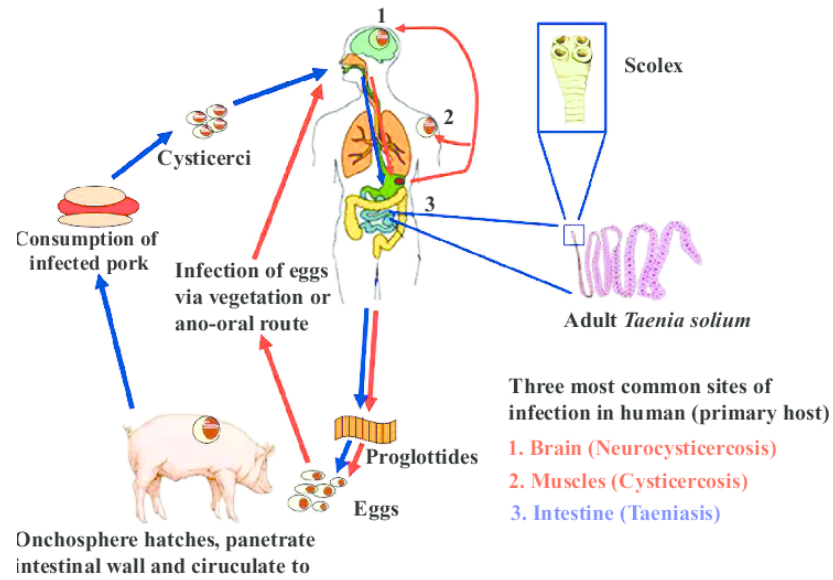
Neck

- Narrowest part of the body.
- It grows continuously and proliferates proglottids by asexual budding.
- This region is called budding zone or growth zone containing germinative tissue.

Strobila

- Strobila a long ribbon forms the main bulk of the body and consists of a series of proglottids arranged in a linear fashion.
- Immature proglottids width < length
- Mature proglottids width = length
- Gravid protoglottids width > length

Life cycle



- *Taenia solium* has a two- host life cycle between human beings and pigs.
- Larvae are cystic, fluid-filled membrane vesicles with a tapeworm head (scolex) inside.
- Cysts are ingested in contaminated pork by a human host. The scolex evaginates, attaches to the intestinal wall, and mature into 2-4 m ribbon like.
- Gravid proglottids and microscopic fertile eggs each containing an infective embryo(oncosphere) are passed to the environment in faeces.
- Pigs that ingest infective eggs in human stools develop cysticercosis. The life cycle is completed when people consume undercooked pork infected with cysts.

Pathogenesis

- **Taeniasis**- This is an infection due to an adult tapeworm in the intestine.
- Scolex attaches to mucosa.
- Two months of infection.
- Gravid proglottids in faeces.
- Minor symptoms – abdominal pain , weight loss, diarrhoea, nausea or Asymptomatic.

Cysticercosis

- **Cysticercosis**- This is the development of extra intestinal encysted larval forms of *Taenia solium* in various organs (eye, brain, muscle).

Clinical Manifestation

- Mostly asymptomatic.
- Incubation: Months – 5 years.
- Depends on location of cyst.