

Taeniasis

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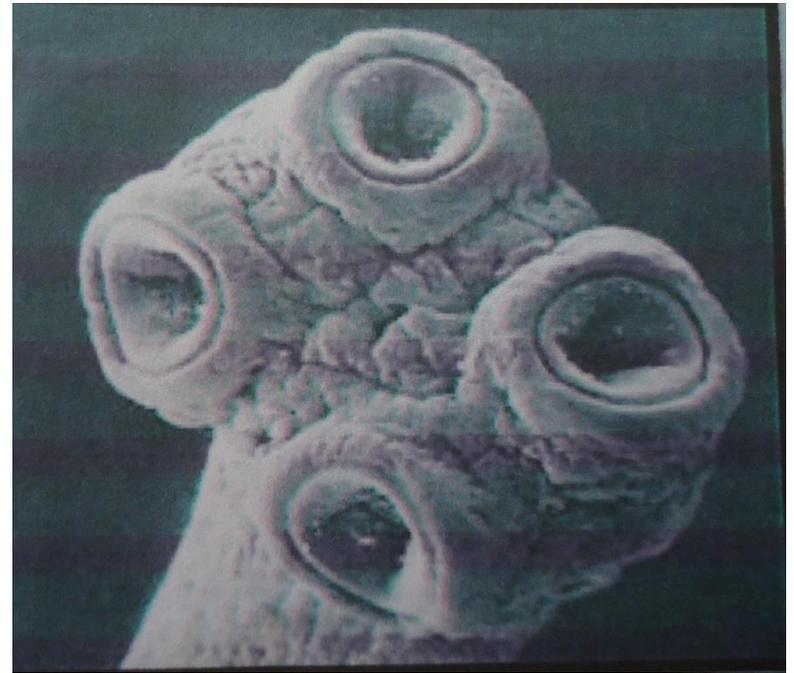
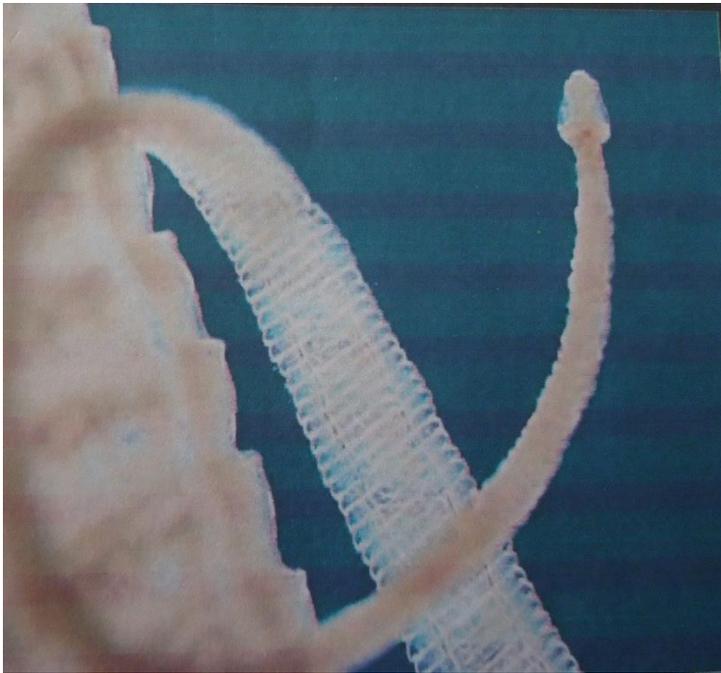
Taeniasis

Taenia spp. Are long, segmented, parasitic tapeworm. These parasites have an indirect life cycle, cycling between a definitive and an intermediate host. The following Taenia species are zoonotic with human serving as the definitive host, the intermediate host, or both. The adult tapeworm lives in the intestines of the definitive host caused taeniasis.

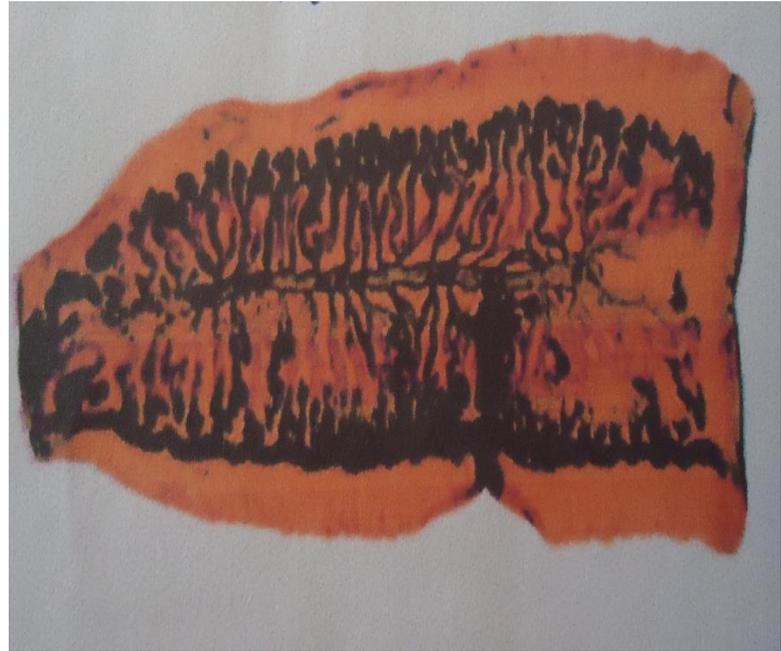
Taenia saginata (Beef tapeworm)

Morphology

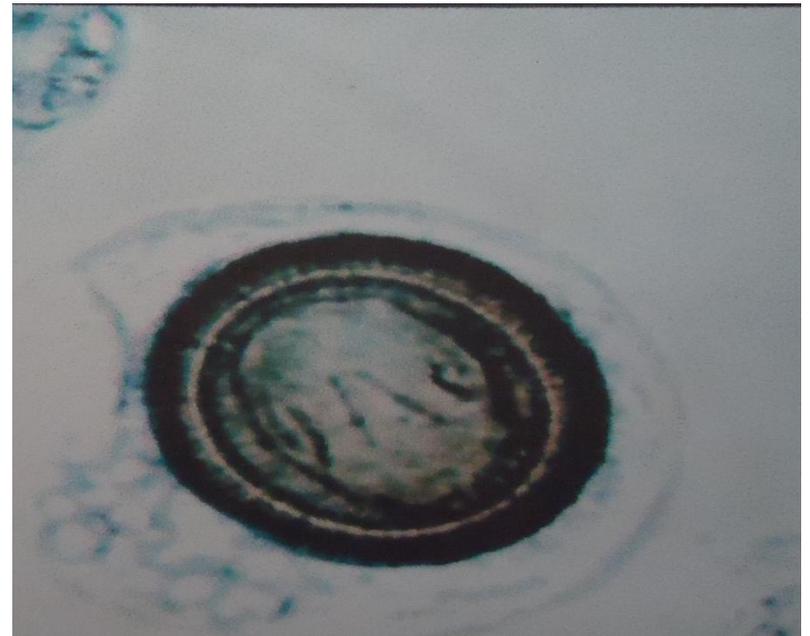
This parasite ranges in length from 4- 10 m. the scolex called unarmed (not contain hooks and rostellum). The organ of attachment includes four oval muscular suckers.



Strobila about 5m and composed of up to 1000- 2000 segments. Immature segments contain undifferentiated genital organs. Mature segments possess completely developed male and female reproductive organs. Gravid segment is longer than broad with median uterus which has number of lateral branches 15- 30.



Taenia spp. Eggs very diagnostic to this parasite. Measure about 35 um in diameter, spherical or sub spherical shape, Brown or yellow in color, surrounded by outer thick radially striated wall called embryophore. The egg contain hexacanth embryo (hooked ball oncosphere).

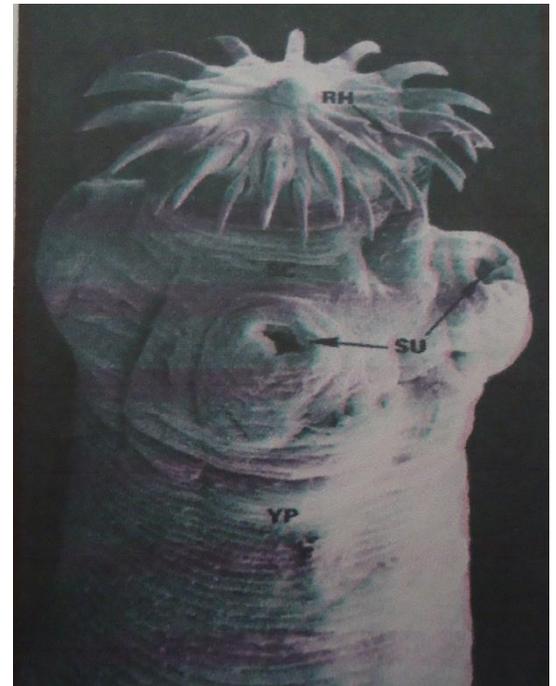


Diagnosis

- * Find eggs or proglottides by general examination of the stool.**
- * Identify species based on proglottides morphology, after use formalin and India ink (the gravid segments differentiated by the number of lateral uterine branches).**
- * Identify scolex**
- * Perianal swab examination (examination of eggs deposited around the anal area)**

Taenia solium (pork tapeworm)

Taenia solium has a scolex with four suckers and a double crown of hooks, a narrow neck and a large strobila (2- 4m) consisting of several hundred proglottides. Gravid segments contain 50- 60,000 fertile eggs. The number of lateral uterine branches is 7- 13. The larval stage is the bladder type which is called *cysticercus cellulosae*



Routs of infection

- **Hetero infection:** this type occur when the human ingest the infective eggs with contaminated fruits, vegetables or water.
- **Auto- infection:**
 - ___ **Internal infection:** this take place when the eggs release from the gravid segment and return to the stomach instead of leaving the host with feces.
 - ___ **External infection (self contamination).**
- **Sometimes finger contaminated by eggs, these eggs will be swallowed and reach to the stomach.**

Diagnosis

- **Adult worm infection: general stool examination to see the eggs or gravid segments and after successful medication can be differentiate the armed scolex.**
- **The serological tests are little or no importance because this parasite is luminal and non- tissue invader.**
- **Cysticercosis diagnosis**
- **Serological diagnosis**
- **Antibody assays for cysticercosis, FAT, ELISA.**
- **Antigen- detection assays: circulating antigens means live parasites.**
- **Neuroimaging diagnosis: CT and MRI provide objective evidence on number and location of cysticerci. Also their viability and the severity of the host inflammatory reaction**