

Zoology
B.Sc I Year Paper I Invertebrate
UNIT - 4 Phylum Platyhelminthes

Topic – Taenia
Solium Part 3
Life History

- By - Dr. Archana Gupta
N.A.S. College,
Meerut

Pathogenesis

- Effect of parasite on the host
 - *Taenia* causes a disease called taeniasis in human beings
 - Characterised by abdominal discomforts like pain, indigestion, vomiting, constipation, loss of appetite, diarrhoea and nervous disorder like nervousness, insomnia, nausea and epileptic fits, etc.
 - Its infection may cause eosinophilia up to 13 per cent and obstruction in the passage of alimentary canal
 - Taeniasis is comparatively lesser dangerous than cysticercosis caused by the infection of bladder-worm or cysticercus larva

Life History

- ❑ Sometimes, it has been seen that if somehow man ingests onchospheres with contaminated food and drinks, the bladder-worm enters through the intestinal circulation in different parts of the body
- ❑ After reaching in the vital organs like liver, eyes and brain, the cysticerci get encysted and cause serious even fatal diseases.
- ❑ Encystment in eyes may cause blindness and in brain develops epilepsy

- ❑ Treatment and control measures
 - ❑ Antihelminthic drugs like carbon tetrachloride, oil of chenopodium and oil of male fern *Dryopteris* may be used to remove the adult tapeworm from the human intestine
 - ❑ These drugs usually remove the strobila only, while scolices can only be removed by surgical operations
 - ❑ The mode of infection can be checked by the destruction of development stages like oncospheres may be destroyed through proper disposal of human faeces by sewage system or else by preventing the pigs from visiting human faeces

Parasitic adaption of *Taenia*

- ❑ It has developed four suckers and hooks to anchor with the intestinal wall of the host, which prevents it from being pushed out with food due to peristaltic movements of the intestine
- ❑ Its body is covered by externally by tegument which protects it from host's digestive juice
- ❑ Loss of alimentary canal is compensated by freely permeable tegument for water and nutrients from the digested food of the host intestine
- ❑ The power of anaerobic respiration enables it to live in an environment of intestinal contents which is oxygen free
- ❑ The long flattened body provides larger surface area for its saprozoic mode of nutrition

Parasitic adaption of *Taenia*

- ❑ The sense organs are absent due to its sheltered habitat
- ❑ Huge power of reproduction makes it able to maintain the continuity of the race
- ❑ A tapeworm can survive for more than thirty years and every year it sheds nearly 2500 gravid proglottids containing nearly 30,000 to 40,000 onchospheres in each of them
- ❑ Its simplicity of its life cycle lowers the chances of hazards it has to face in transfer from man to pig and pig to man
- ❑ Pigs being coprophagous in habit automatically approach the pork and, hence, by eating measly pork it becomes infected