TREMATODES AND CESTODES PRACTICAL – ANSWERS

TREMATODES or flukes

FASCIOLA HEPATICA, hatched eggs
[How has the miracidium got out of the egg? *Operculum (type of lid) opens and miracidium squeezes out*].

FASCIOLA HEPATICA, miracidium.
[How does it get into the next host in the life cycle? *Swims with cilia to snail and penetrates directly through skin of snail to internal organs*].

LYMNEA TRUNCULATA, water snail
[What type of host is this? *An intermediate host, it is not a vector because it has no contact with the definitive host*].
[What is the significance for control of fascioliasis of the habitat of this host? Keep sheep away from ponds and marshes or drain the wet areas.].

FASCIOLA HEPATICA, redia stage from the snail.
[What is the reproductive function of this stage? *Asexual multiplication*.

FASCIOLA HEPATICA, metacercaria,
[What is the importance of this stage in the life cycle? *It encysts on vegetation in resistant form and waits to be eaten with the vegetation by the definite hosts*.]

FASCIOLA HEPATICA, adult,
[How does the adult fluke feed? *It has a sucking pharynx and a blind gut (no anus). It sucks in bile and inflammatory exudate and digests this*].

CESTODES or tapeworms & larval cysticercoids, hydatids etc.

TAENIA egg,
[What is the significance of the thick wall of cestode eggs? *These eggs need to remain on vegetation long enough to be eaten by definitive host – the thick walled eggs are resistant to drying out etc.*].

TAENIA SAGINATA cysticercus larval stage from cattle muscle,
[How do you think this is detected for public health purposes? *Meat inspection for the visible cysts*].

TAENIA MULTICEPS, this is a coenurus larval stage in brain of sheep (also known as Coenurus cerebralis),
[What is effect of this on health of host? *Neurological disturbances*].

TAENIA SAGINATA adult tapeworm from human, see photograph.
[What is the name of a similar parasite that can be harmful to humans in its larval stage? *Taenia solium, the human tapeworm with pigs as intermediate host has larva which can infect humans by contamination with human faeces and develop as cysts in the brain*].

TAENIA PISIFORMIS adult tapeworm from dog,
[How does the worm attach? *The scolex attaches to gut epithelium using hooks and suckers*].

[What can you see of its reproductive apparatus? *You should be able to see testes, ovary, vitelline gland and ducts to exterior, each proglottid is hermaphrodite, but the male gonads are active in the younger proglottids and the female gonads dominate the older proglottids until each proglottid is packed with mature eggs*].

ECHINOCOCCUS GRANULOSUS, hydatid cyst larval stage.
[What is function of the protoscoleces? *Asexual multiplication when in the cyst followed by formation into the scolex of an adult tapeworm when ingested by final host*].

HYDATID SAND this is the term for the free protoscoleces which form within the hydatid cyst.
[What happens next if the life cycle is continued? *When the hydatid cyst is eaten with the body of the intermediate host the cyst wall degrades in the gut of definitive host and the protoscoleces with turn inside out and attach as a scolex to the gut epithelium then start to grow into an adult tapeworm*.].

ECHINOCOCCUS GRANULOSUS, adult, from intestine of dog
[What is the main importance of this parasite? *Zoonotic infections of humans with hydatid cysts*.].
[Label the parasite and host stages of Echinoccus life cycle in this diagram: *dog (+ fox) is the normal definitive host has adult worm in intestine, girl is exposed to eggs and may develop hydatid cysts in her lungs, sheep (+ cattle etc) is the normal intermediate host develops hydatid cysts in lungs, dog eats intermediate host containing hydatids*].

MONIEZIA EXPANSA, egg, note the characteristic thick wall and angular shape.
[How does the parasite then get into the definitive host? *Mites accidentally ingested with vegetation as food of definitive host*].

ANOPLOCEPHALA PERFOLIATA adults from horse, may occur in large numbers.
[What harm may these cause? *Ulceration of gut epithelium*].

DIPYLIDIUM CANINUM, adult, common in dogs and cats.
[Name one of the usual intermediate hosts? *Flea, or louse*].