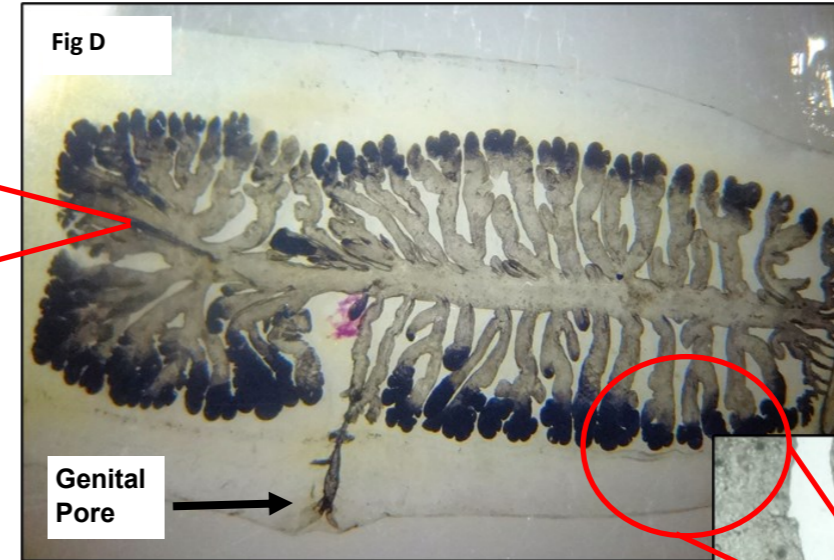
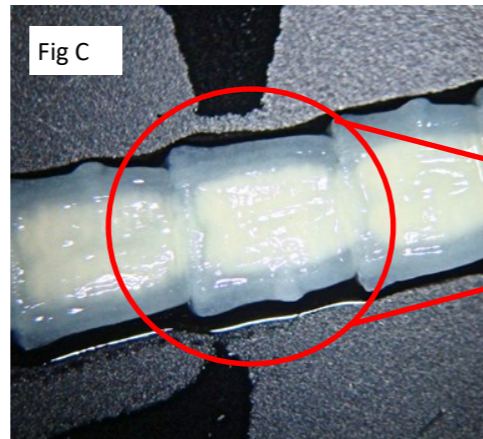
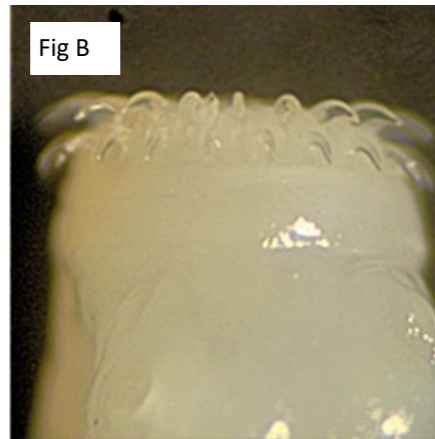


Life cycle of *Taenia hydatigena*

There are five species of *Taenia* of veterinary significance in dogs and other canidae, and one in cats. These species have characteristic types of larvae - the metacestode stage - which develop in a range of intermediate hosts and their tissues. *Taenia hydatigena* is the commonest *Taenia* in dogs in the UK and most other countries. The intermediate hosts for this species are sheep and other livestock in which a bladder-like larva develops.



2. Fig D is a mature tapeworm segment showing the branches of the uterus. The preparation has been injected with a dye to show the number of uterine branches which, together with the conformation of hooks on the scolex are important features for *Taenia* species identification, a specialist task.

1. *Taenia hydatigena* (Fig A) is a large tapeworm up to 5 metres in length found in the small intestine of dogs, foxes, and mustelids. The scolex (head) is large and the rostellum bears two concentric rows of hooks (Fig B) which total 28-36. The mature segments or proglottids (Fig C) measure 12.0 X6.0 mm and are termed 'gravid' when packed with eggs.



Once infections are patent in dogs, *T. hydatigena* proglottids may appear in faeces or in the peri anal area of the animal

Other *Taenia* species of dogs: their larval stage/intermediate host and tissue

- Taenia multiceps*: *Coenurus cerebralis*/ruminant CNS
- Taenia ovis*: *Cysticercus ovis*/ sheep muscle
- T. pisiformis*: *Cysticercus pisiformis*/ rabbit peritoneum
- T. serialis*: *Coenurus serialis*/rabbits connective tissue

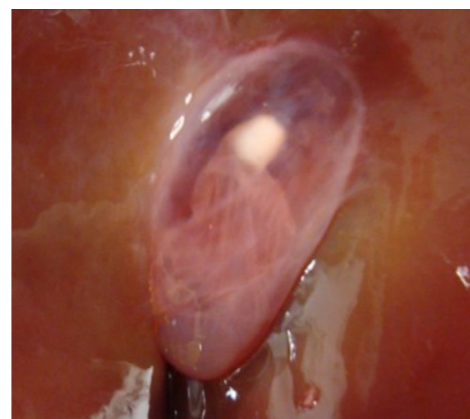
THE PREPARENT PERIOD IS APPROX 7 WEEKS



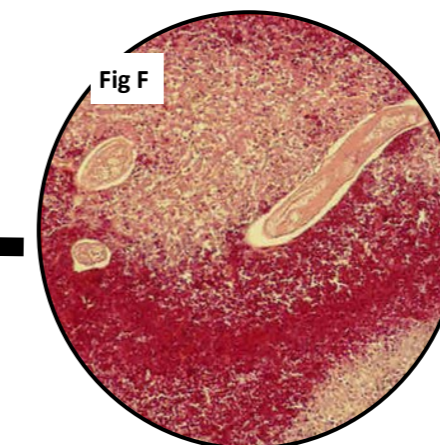
9. Dogs become infected by scavenging infected tissues of dead sheep or by eating uncooked offal containing cysticercus. When ingested the released scolex evaginates and the hooks be used to burrow into the dog's small intestine and develop to adult tapeworms.



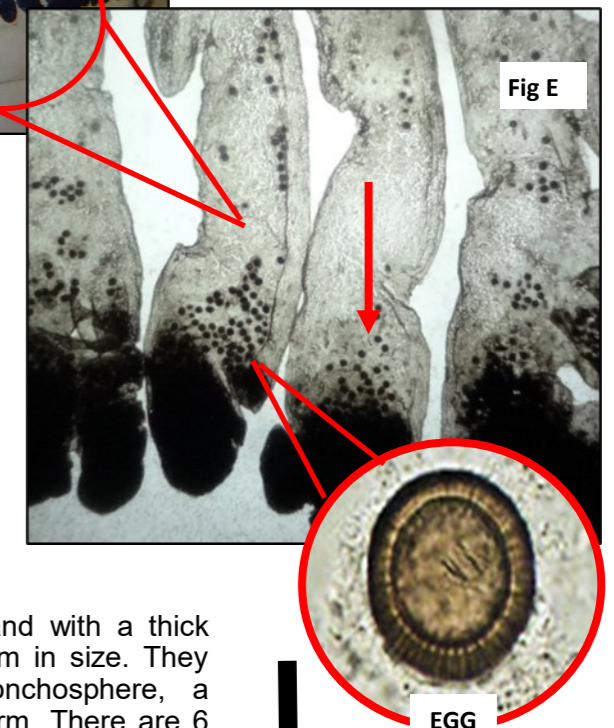
8. Within a further 4 weeks the metacestode is mature; it is a cysticercus, a fluid-filled bladder lined by a delicate parasitic membrane, which has a white scolex 'head' (arrow). Cysticerci can reach 8 cm in size and often hang from the omentum.



7. After approx. 4 weeks the metacestode appears on the surface of the liver and attaches to the peritoneum.

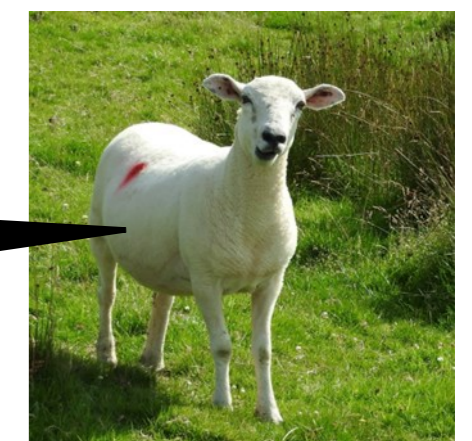


6. Fig F is a H&E stained section of the liver of an infected lamb, showing profiles of migrating metacestodes. A condition 'cysticercosis hepatica' can arise in sheep if large numbers of parasites are passing through the liver.



3. The uterine branches of gravid tapeworms (Fig E) contain many thousands of eggs seen here as tiny dark round structures. Eggs.

4. Eggs are dark, round and with a thick striated shell, approx. 40 µm in size. They contain an embryo or onchosphere, a juvenile form of the tapeworm. There are 6 tiny hooks present, just visible in the image.



5. Eggs ingested by sheep, other ruminants, pigs and livestock hatch in the small intestine and the released oncospheres are carried by the blood to the liver in which they migrate for approx. 4 weeks.