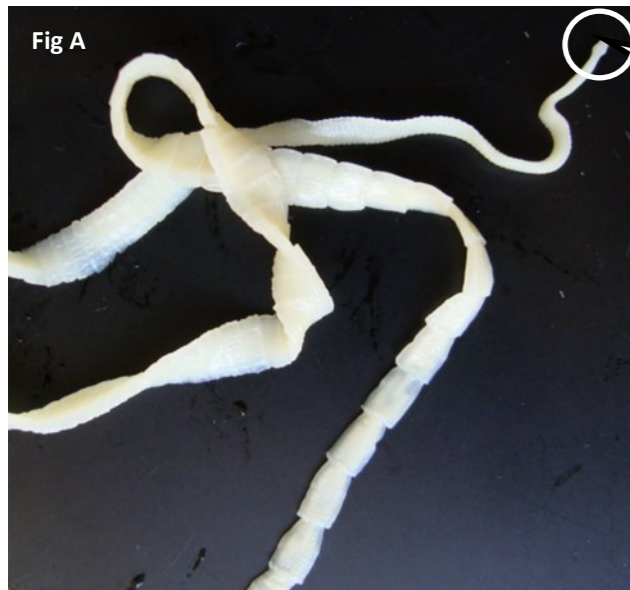
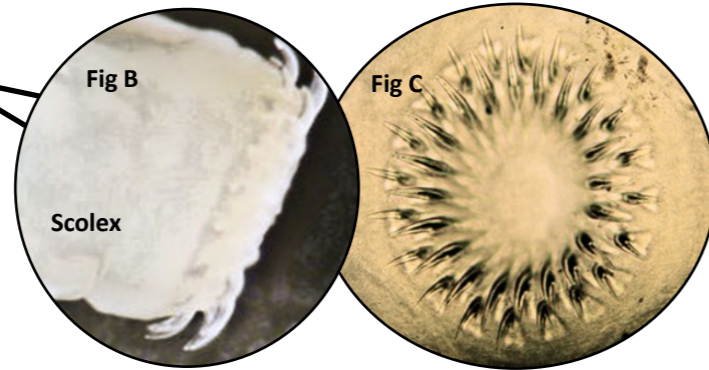


Life cycle of *Taenia taeniaformis* of cats

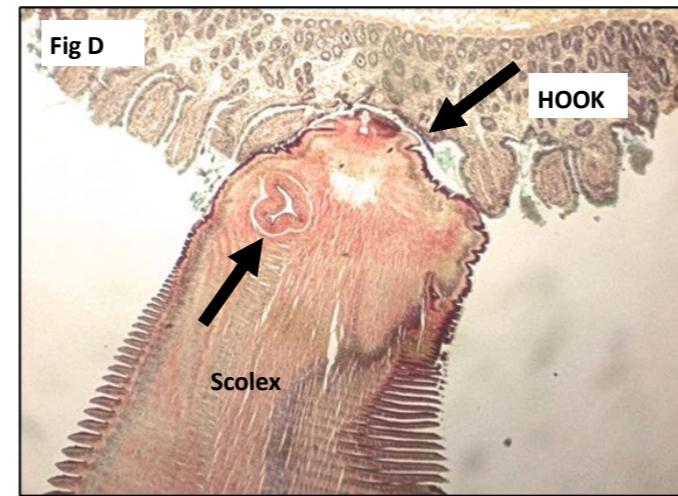
Taenia taeniaformis is the only species of *Taenia* in cats in the UK. The adult tapeworm is non pathogenic even though it can grow to quite a size in the small intestine. The intermediate hosts for the metacestode stage, the so-called strobilocercus, develops in the liver of mice and other rodents which have become infected by ingesting tapeworm eggs in areas contaminated by cat faeces. The life cycle is completed when cats eat an infected mouse.



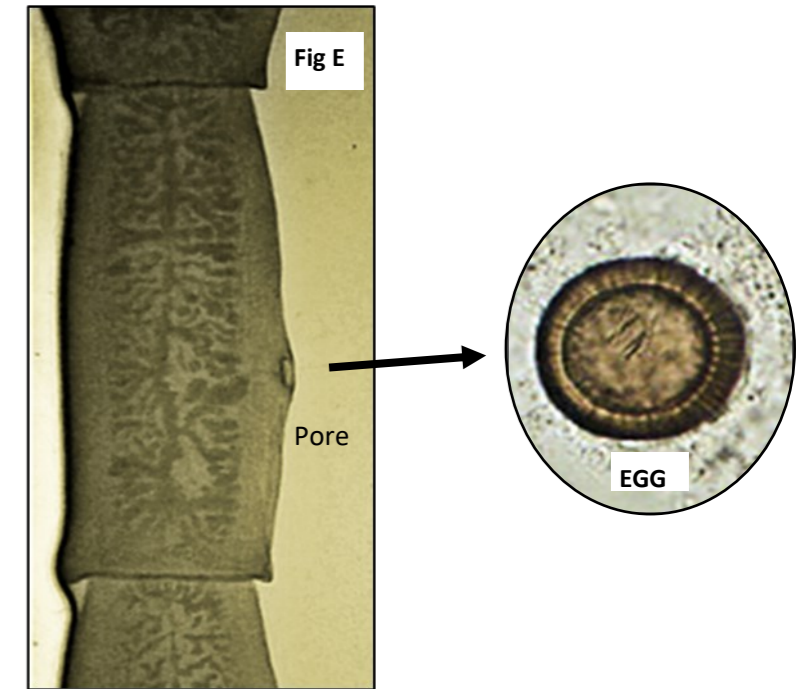
1. *Taenia taeniaformis* (Fig A) can reach 70cm in length. Fig A shows the typical segmentation of a taeniid tapeworm. The encircled area is the scolex or head which has a protrusible cone called the rostellum. The rostellum has attachment structures - four suckers and an arrangement of hooks.



2. Image B shows the rostellum with a distal concentric double row of hooks which can be seen under the microscope from the side (Fig B) or viewed from above (Fig C). All *Taenia* spp. of dogs and cats have this arrangement but the number and conformation of the hooks varies in the different species.



3. Fig. D is a stained section of the scolex of the *T. taeniaformis* embedded in the mucosa of the small intestine. The arrow indicates one of four suckers on the scolex, and the hooks are visible.



4. The segments of *Taenia* spp are termed gravid when they are mature and contain eggs. At this stage they are longer than they are wide; and rectangular not rice grain-shaped. This distinguishes them from *Dipylidium caninum*, another common tapeworm of cats.

5. Eggs are released in faeces via the genital pore or by segment disintegration. They are typical of *Taenia*, being approx. 40µm, round and dark in colour. The outer area is striated, and the egg contains the onchosphere or tapeworm embryo which has 6 tiny hooks, seen as thin lines in the above image.

THE PREPATENT PERIOD IS 5-6 WEEKS



8. When an infected rodent is eaten by a hunting cat, the chain of asexual segments dissolves away and only the scolex remains; the adult tapeworm develops in the small intestine.



Fig. G shows a group of *Cysticercus fasciolaris*, some within nodules dissected from a liver.



7. In the case of *T. taeniaformis* the predilection site for the metacestode stage is the liver. A pea-sized nodule forms in the parenchyma, and the stage is called *Cysticercus fasciolaris* (Fig F). They have a scolex which is invaginated and is connected to a chain of non fertile thin segments.



6. When eaten by a rodent, the striated shell is digested and the onchosphere is activated. Once into the intestine wall using its hooks, it is carried in the blood to its predilection site.

