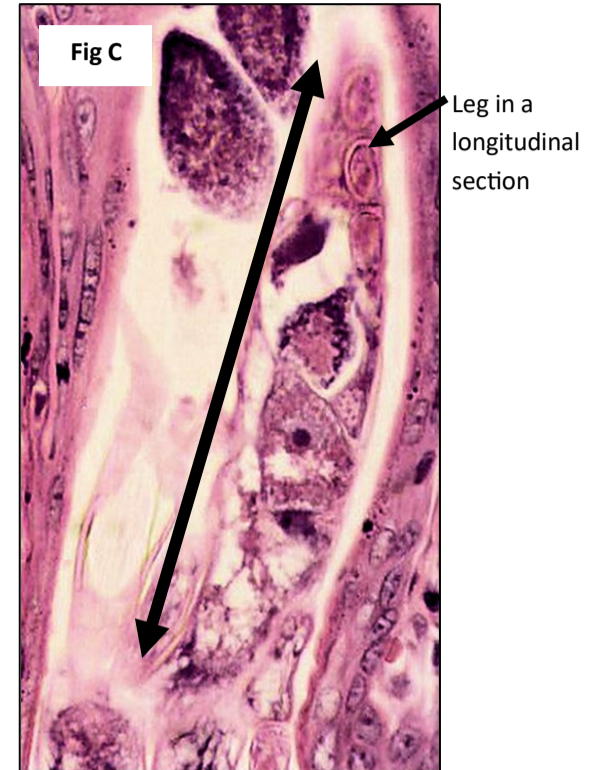
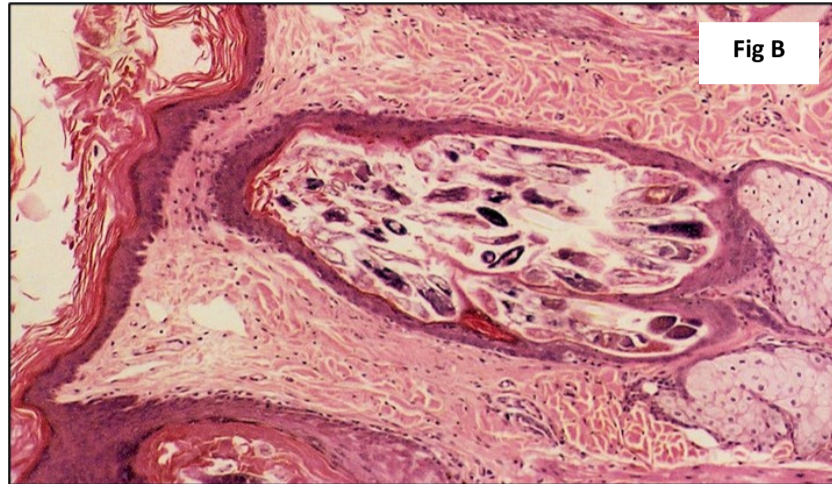


Demodex species are burrowing mites found in the hair follicles and sebaceous glands of all domestic animals and humans. Each species is host-specific and some hosts have more than one species. There appears to be just one species in dogs in the UK - *Demodex canis*. These permanent, highly specialised mites are normally harmless skin commensals found naturally in small numbers but proliferation can occur if the host's immune system is compromised, resulting in demodicosis which is regarded as one of the most important skin diseases of dogs worldwide, affecting all breeds.



1. **Adult *Demodex canis*** (Fig A) are tiny mites measuring approx. 250 μm in length and 40 μm wide but their length may be quite variable. The mite is unusual in having a worm-like tapered body with four pairs of stout stumpy legs ending in small blunt claws. The legs are located at the front of the body and the striated posterior region (the opisthosoma, indicated) is at least half the overall length of the mite. Mites are often packed inside hair follicles (H&E stained section, Fig. B) where all the life cycle stages may be found. Fig. C is a close up of an adult mite inside a follicle, with the overall size indicated and the position of the legs. The mite is always positioned head down in the follicle as she produces eggs.

3. THE LIFE CYCLE IS COMPLETED IN 21-24 DAYS. TRANSMISSION OF COMMENSAL PARASITES FROM BITCH TO PUPPIES OCCURS DURING SUCKLING, WITHIN A FEW DAYS OF BIRTH.



2. The mites spend their entire lives in follicles, sebaceous glands of the skin and are unable to survive off their host. Females lay 20-24 eggs during life in the hair follicle. The characteristic spindle-shaped egg with a slight hump is shown in Fig D; eggs measure approx. 80 μm \times 40 μm , and give rise to a 6 legged larva which grows and moults to an 8-legged protonymph (Fig E) in turn, the protonymph moults to a tritonymph stage which finally develops to an adult mite.

CANINE DEMODICOSIS



Demodicosis is a multifactorial, complex condition which has been classified in various ways. Lesions may be localised and mild or become generalised, spreading over the entire body. In the generalised presentation, demodicosis can be 'squamous' – mainly alopecia with dry and thickening skin – or a more severe form with oozing pustules due to secondary bacterial invasion.

DEMODEX OF CATS



Demodicosis is a rare condition in cats. There are thought to be two species - *Demodex gatoei* and *D. cati*.

D. gatoei are stumpy and measure approx. 110 μm and can be readily distinguished from the more common *Demodex cati*, which is slender and more than twice as long.

Demodex gatoei appear unique in the genus demodex Demodex in that it resides in the keratin layer of the epidermis, and not in hair follicles.