

Fleeing from fleas on your cat, dog, or you



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LIFE LONG LEARNING

Fleas are small (2-6 mm), laterally flattened, wingless insects that suck blood from warm-blooded animals. There are about 2,500 species. Most are parasites of mammals; about 100 species feed on birds. In North America, 19 species bite humans.

Most fleas have a preferred species of host but they usually feed on several hosts. This means that fleas can spread diseases. The most notorious flea is the rat

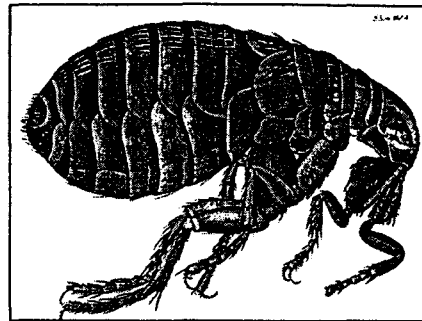
flea. It readily transmits plague bacteria from various rodents to humans. Plague killed one-quarter of the European population in the 14th century. Each year between 1898 and 1908, a half-million people died of the plague in India. Increased sanitation and rat control has lessened the problem of plague considerably.

However, plague bacteria are present in many mammals and because these animals have fleas

that bite humans, there are a few cases of plague in North America nearly every year. Fleas can also transmit the rickettsia bacteria that causes typhus. As well, flea bites and their feces can cause allergic reactions.

Although there is a human flea, the one you are most likely to encounter is the cat flea. The cat flea prefers domestic cats but will also feed on dogs, humans, other mammals, and occasionally chick-

ens. Fleas bites cause irritation and possibly secondary infection from scratching. Cat fleas can serve as an intermediate host for a tapeworm that commonly infects dogs, cats and, sometimes, children. Children have to eat the fleas to become infected by the tapeworm.



Cat fleas are well adapted to their hosts because the females only lay their eggs between midnight and early morning when their hosts are usually in their resting areas. Flea eggs are not sticky and usually drop off in the resting area of their host. The eggs hatch into maggot-like larvae that feed on detritus, especially the feces of the adult fleas.

Flea feces mainly consists of partially digested blood obtained from the host and makes up to 40 per cent of the debris that comes off of an infected cat. There are three larval stages before the pupal stage. The life cycle from egg to adult can take place within a few weeks but pupae and adults can live for several months before dying. Low temperature and high humidity promote survival.

Most fleas are noted for their ability to leap large distances. The cat flea can jump up to 33 cm and in doing so reaches a G (gravitational) force of 140 times normal within about 1 millisecond. Aircraft pilots can only withstand G forces of 5 before losing consciousness and G forces over 9 cause death within a few seconds.

To control cat fleas, give your cats and dogs designated places to sleep and bedding which can be easily cleaned. Pets should not share beds with humans. Pet bedding, carpets and floor crevices near where pets sleep and feed need to be cleaned thoroughly and often to remove potential food for the larvae. Flea collars are useful to kill adults fleas on cats and dogs. Be careful handling such insecticides because prolonged contact can cause chemical "burns" to human skin.

Owners of pets that have flea collars may wish to remove the collars when children are playing with the pets. People who work with possibly infected animals can use protective clothing (e.g. gloves, tapped pant-legs) and insect repellents. Persistent insecticides have been used in infected buildings. Special light traps also have been used to reduce flea populations.

If you ever enter a house that has been vacant for a few weeks but normally has several dogs or cats, you might see small dark dots leaping towards your ankles and legs. If so, you will know that you are about to become a meal for a starving flea, or two, or more. Good luck in trying to outrun them.

Robert Holmberg is a biology professor at Athabasca University. He's particularly fascinated by the behavior of insects and arachnids (e.g. spiders), and by ecology.