

The Essentials of Flea Biology

Making it Practical for the Clinic and the Pet Owner

Which flea are we talking about?

Fleas on dogs and cats are the “cat flea” (*Ctenocephalides felis*). Once they get on a dog or cat, cat fleas stay on for their entire lives. They do not jump from dog to dog, or cat to dog.

- Cat fleas will bite people, but they do not stay on people.
- Cat fleas also infest opossums and raccoons, which can be important sources of flea infestation hot spots outdoors.

Flea development: The facts of life

- Female fleas begin feeding on pets within minutes of jumping on them. Blood feeding is required for reproduction. By 24 hours they can start laying 40-50 eggs per day.
 - The eggs fall off the animal, which acts like a “living salt shaker” of flea eggs.
- Within a week the eggs develop into larvae. Larvae can develop into pupae in 5-12 days.
- Fleas emerge from pupae usually within 1 to 3 weeks, but up to 180 days.
- Numerically, most of the flea life stages are the eggs and larvae. The adult flea is only a small component. So when your clients see fleas on their pets, they can be sure that a veritable “flea factory” is lurking nearby.

“Even if a client only has an indoor cat, that cat can get fleas. Fleas hitchhike. They jump on the homeowners, and they carry them inside where they hop onto the cat.”

Identifying sites is important

The most important thing a pet owner can do is to identify sites on the premises that pets or wildlife may use as shelter. These include crawl spaces, areas under decks, porches, or stairs, and shrubs and trees. Prevent access to any of these areas if possible. This is much more effective than trying to treat the outdoors, because these treatments only affect the adult stages, which are the “tip of the iceberg.”

Other important flea facts

The flea larva is the weakest link in the life cycle, so conditions that permit larval development are crucial for the propagation of fleas. Temperature dictates how rapidly the life cycle generates and humidity determines how many larvae are going to survive.

- With warm temperatures, eggs can develop into adult fleas within 3 weeks.
- Temperatures above 90° F and less than 50° F are unfavorable for larval survival.
- Optimal relative humidity is 70-85%.
- Relative humidity less than 50% is lethal for flea larvae.
- Direct sunlight and heavy rain are lethal to flea larvae.

Microclimates in the home can support flea development.

- Nylon fiber in carpet absorbs water from the air, which creates highly favorable humidity for larval development.
- Larvae can develop in grooves and cracks in hardwood floors.
- Outdoor “hot spots” can be the source of fleas that get on the pet, or even people, who bring the fleas into the house where the pet lives.
- Fleas can develop in many shady, protected areas outdoors: under decks and crawl spaces, and under trees and shrubs. This is also where flea hosts prefer to be.