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FLEAS, FLIES, TICKS, ETC....

"God in his wisdom made the fly, and then forgot to tell us why..."

-Ogden Nash

FLEAS

Spring is the season of renewal, of warmer weather, longer days, flowering trees and shrubs, and bright-colored pansies . . . and fleas.

The most common canine pest, the flea, is actually a marvel of adaptability that would be much admired if they weren't so pesky. However, since they often carry tapeworms, can cause severe itching and even allergy, and often bite humans, their jumping and survival talents are reviled instead of revered.

By late spring, fleas begin to emerge from their pupae as adults and migrate to the nearest dog or cat for blood meals. An adult flea mates shortly after emergence and begins laying eggs within 36 hours. In her brief 50-day lifespan, a single female flea can lay more than 2000 eggs. An adult flea is the slam-dunk champ of the insect world. About the size of a pinhead, it can jump about 100 times its own height, a far greater leap than that possible for the multi-million dollar basketball player. This ability to jump makes it possible to travel quickly from host to host and from host to hiding place for laying eggs.

Female fleas need blood to complete their reproductive cycle. Baby fleas need blood to grow. Although fleas prefer dog and cat blood, human blood will do in a pinch. Fleas are marvelously adapted for survival. The female lays eggs on the host animal, but the eggs fall to the ground, carpet, sofa, dog bed, owner's bed, or easy chair where they hatch in two-to-five days. The flea larva feeds on organic debris in the environment. Within a week or two, depending on temperature and humidity, the larva spins a pupa (or cocoon) to protect it during metamorphosis to the adulthood. In the hard-shelled pupa, the larva transforms from a tiny maggot-like creature into a six-legged blood-thirsty super-jumper able to leap 100 times its own height, and the cycle begins anew.

Humidity is critical to flea survival. Eggs need relative humidity of 70-75 percent to hatch, and larvae need at least 50 percent humidity to survive. In humid areas, about 20 percent of the eggs survive to adulthood; in arid areas, less than five percent complete the cycle.

All bets are off when Fido brings fleas in for the winter. Household warmth can keep the cocooned larvae alive until conditions are ripe for emergence of the adults and may even allow life cycles to continue at a snail's pace.

SIGNS OF INFESTATION

Fleas are masters of their universe. They can hide in a forest of pet hairs, especially on long-coated or double-coated dogs, and can zig-zag among and between hair shafts faster than an Olympic skier on a slalom course. And then there's the leap. Now you see a black speck with legs, and now you don't. So, don't depend on seeing the flea to know if he's there. Instead, look for clues. If Fido scratches, he may have been bitten, but he may also have dry skin, an allergy, or mange mites. If he bites at his rear end, especially around his tail or the inside or outside of

his thighs, fleas are a possibility. Flea dirt looks like sprinkled pepper on the dog. If you drop some of this "pepper" onto a damp paper towel and it turns reddish, it's fleas, not seasoning.

While Fido may be slightly bothered by a flea or two or may play host to a dozen or more without serious consequences, another dog may be the unlucky recipient of a tapeworm infestation courtesy of mama flea and be allergic to flea saliva and develop mild to severe skin reactions to even a single bite. The tapeworm or the skin bumps may be the only signs that the fleas are present.

FLEA BITE DERMATITIS

When fleas bite dogs, proteins (antigens) in the insect's saliva can cause an immune system reaction — the release of immunoglobulin that in turn causes itching. Depending on the type of cell involved (mast cells, basophils, or T-lymphocytes in the blood) and the type of chemicals released, the irritation can begin immediately, in five-to-six hours or in 24-48 hours or a combination of the three — all from a single bite. Small red raised bumps on the base of the tail and along the outside of the back legs, self-induced scratches, and thickened skin on the base of the tail are all signs of chronic flea allergy. The diagnosis can be confirmed with an intradermal skin allergy test.

TREATMENT

Dog owners have access to a plethora of flea control products, from herbs and electronics to biological controls. Some products repel fleas, some kill adult fleas, some kill larva or eggs, and some prevent fleas from growing and reproducing.

Garlic and brewer's yeast are popular flea repellents with the natural crowd, but there are no tests that indicate these diet supplements are effective. However, many dog owners believe they work.

Electronic flea traps are sometimes used to attract and kill the pests before they attack the dog, but they do nothing about fleas in the yard or flea eggs or larvae in the house.

Flea collars have mixed results depending on the chemical involved, the size of the dog, and the density of the dog's coat.

The new generation of controls includes natural or genetically engineered pyrethrum, a daisy; flea-specific growth inhibitors (products containing fenoxycarb or methoprene); an environmental control that desiccates fleas and larvae; a once-a-month pill (Program) that prevents the formation of chitin, the flea's external body covering; and new surface products applied to the dog's skin or coat (Advantage and Frontline). Unlike the toxic insecticides in products such as Spoton, Proban, and Prospot, the ingredients in Frontline and Advantage are not absorbed into the bloodstream and are toxic only to fleas, not to dogs or their owners. Program, Frontline, and Advantage are available only through veterinarians; all other flea controls can be purchased over-the-counter in pet supply stores or catalogs.

The type of control depends on the extent of the dog's problem and the preferences of the dog's owner. The pill or topical application takes less effort, but they should not be used alone in a heavy infestation because they do not treat the environment. The pill works when flea bites dog, so may not be suitable for an allergic dog. The topical solutions kill adult fleas and have some residual action as long as they remain on the pet's hair — even hair that has been shed on carpets and furniture.

Pyrethrums kill adult fleas but are short-lived. Permethrins, the genetically altered form of pyrethrum, lasts for 10 days or so. Pyrethrum and permethrin are often found in shampoos and in pet and premise sprays containing growth inhibitors.

With mild flea infestations, an occasional bath with a permethrin shampoo or a Program prescription may do the trick, especially when combined with a premise spray that contains a growth inhibitor or with application of sodium polyborate, an insecticide that kills fleas by lethal constipation and desiccation. More serious infestations may call for the big guns, especially if the dog is allergic. But whatever combination platter of flea treatments you choose, make sure you have something on hand for the hot, humid days of summer when fleas can invade in hordes.

GROOMING FOR FLEAS

Flea droppings will most likely be more obvious than the crafty critters themselves, so run a fine-toothed comb through the dog's hair near his tail and flick any debris into a container of water. Flea droppings contain blood and will turn the water pink. Once you have identified fleas as the culprit, the attack should be multi-faceted.

1. Groom the dog daily with a fine-toothed comb and drown the fleas in a container of soapy water
2. Dip the dog in a pyrethrin dip that has low toxicity and a residual effect
3. Treat the house, especially areas where the dog sleeps or spends a lot of time

Whatever the items in your flea control kit, be sure to wash all of Fido's bedding, spray his bed or crate, and treat the house and yard as indicated. Put some flea powder in the vacuum cleaner bag as well.

TICKS

With eight legs instead of six, the tick is cousin to the spider, not the insect. Its claim to fame is its penchant for spreading disease as it feasts on mammal blood. There are several species that feed on dogs, including the wood tick, the brown dog tick, and the deer tick, and they all thrive in tall grass, shrubby areas, and woods.

Ticks can carry Rocky Mountain Spotted Fever, encephalitis, tularemia, tick paralysis, and Lyme disease, so it is important to prevent tick infestations in domestic dogs. Lyme disease, a frightening collection of symptoms that can mimic fatigue, heart problems, arthritis and cause birth defects, affects dogs and horses as well as people and has been found in every state but Montana and New Mexico. Lyme Disease is tough to diagnose but can be treated with antibiotics.

Unlike the flea, the tick is a sluggish mover and can easily be picked off the dog with tweezers as it crawls about looking for a feeding spot. So, after a walk in the woods, check Fido (and yourself) for ticks from stem to stern. Look for feeding ticks around the dog's head and ears and in his armpits and the inside of his thighs. If you miss one as it crawls, you'll likely find it when it latches on to feed as the engorged body is hard to miss in a hands-on inspection.

Daily grooming can find ticks that have not yet become embedded in the skin. Ticks can be picked up on the comb and flicked into a container of alcohol. Embedded ticks should be removed immediately. First, forget all you ever heard about coating ticks with petroleum jelly, burning their rear ends with a match or lighted cigarette, dousing them with lighter fluid or

gasoline, etc. Just protect fingers from the tick's body fluids with surgical gloves or a plastic bag, grasp the tick firmly, rock it back and forth a few times, and pull it out. If a patch of skin comes along, it's unlikely that any of the tick's head has been left behind. A dab of antiseptic cream on the spot where the tick was removed will help prevent local infection, especially on tender ears, a favorite feeding place for ticks. To control ticks in the environment, keep grass trimmed and control the spread of shrubbery and tall weeds.

If you, a family member, or your dog falls ill after removal of a tick, be sure to tell the doctor that RMSF or Lyme disease -- depending on the symptoms -- is a possibility.

MOSQUITOES

The mosquito prefers to bite people but will settle for Fido. Although the itchiness of mosquito bites is short-lived, this insect carries the heartworm microfilariae, the immature stage of the heartworm, and can transfer it to the dog. Heartworm infestations kill dogs. Since heartworm preventive can have adverse effects on dogs already infested with the parasite, owners should have their dogs tested each spring. Once the dog is found to be heartworm free, the preventive can be given.

Mosquitoes are likely to be abundant in many areas in summer especially after an unusually rainy spring. After ingesting enough blood to satisfy their reproductive needs, the female mosquito lays her eggs in water, where they develop into larvae and adults. Elimination of standing water helps control mosquitoes, so remove any debris that can catch rain water and dump the water from plant-pot saucers. If you have a pond, keep the water aerated to disturb the surface tension. If you walk with your dog, avoid marshy places. If you live in mosquito country, be sure to get Fido checked for heartworm. This is a parasite infestation in which prevention is cheaper and safer than cure and where early diagnosis is a life-saver.

FLIES

Some dogs are bothered by flies that bite their ears. In severe infestations, the flies cover the ears and leave behind bloody bite marks that seem to be irritating and can become infected. Some dogs cause hair loss by rubbing their ears to relieve the discomfort.

Prevention is better than cure. Owners use a variety of salves, insect repellents, and insecticides to kill the flies or keep them away. They slather stick insecticides, Vicks Vapo-rub, Vaseline, and other products to keep the flies off and use antibiotic creams to soothe the bites. However, the best prevention is to keep affected dogs inside during the heat of the day.

BITING AND STINGING INSECTS

These critters bite to protect themselves or their nests. They include **bees, wasps, yellow jackets, ants, spiders,** and **centipedes**. Their attacks can cause allergic reactions or neurological or other symptoms.

Dogs come in contact with biting and stinging insects in the home and yard. **Spiders** hunt in the garden, explore the house and garage, and set up housekeeping wherever prey is to be found. *Black widows* and *brown recluse* spiders are rare in many areas but if they are found in your area you should be familiar with them. *Wolf* spiders and others will bite if picked up, stepped on, or startled by a waking dog. The bite may leave an itchy or painful welt or could cause more generalized symptoms. If you suspect your dog has been bitten by a spider or many spiders, call your veterinarian.

Dogs often get stung by **bees, wasps, or yellow jackets** because they stalk them as prey or snap at them in irritation. Although one sting should make a dog swear off these hovering, buzzing insects, avoidance is not always possible. **Yellow jackets** generally nest in the ground, but have been known to nest in houses, usually between the floors or in the attic. They become frantically active in August and early September, are aggressive about defending their nest sites, and are fierce competitors for food. Yellow jackets often attend late summer picnics and crowd around trash barrels, hazards to people and pets alike. **Paper wasps**, the ones that build those lovely layered nests attached to eaves, under decks, outside windows, etc., also will sting a dog or a human. **Bumblebees** and **honeybees** round out the group; although they are not particularly aggressive, they will sting if annoyed sufficiently. Since **paper wasps** and **yellow jackets** can be such a threat, it is wise to eliminate their nests. Since they tend to forage throughout the day and return to the nest at night, no action should be taken until dusk. At that time, the nest can be sprayed with a commercial wasp and hornet killer. If the nest is in the house, an exterminator should be consulted. **Bumblebees** and **honeybees** should be left alone to ply their trade, for they pollinate many of the plants that produce this year's vegetables and fruits and seeds for next year's crops. If Fido does get stung, remove the stinger with tweezers, make a paste of baking soda, and apply it to the sting. Ice packs can also relieve swelling, and calamine lotion relieves itching. If the sting causes widespread swelling, call your veterinarian or emergency clinic.

Although **ants** will bite if disturbed, few dogs will bother them because they taste bad. So, unless your dog strolls through an ant nest, he's unlikely to be bothered by them.

Centipedes, those multi-legged creatures that sometimes scurry across the kitchen floor, are generally beneficial (they eat ants, flies, and cockroaches), but their bite can be very painful. Insects and their cousins conjure up disgust and fear in many people, but the great majority of these species are harmless and many of those that bite or sting do so only when provoked. While it is important to control those that spread disease or damage crops, each family should base its method of control on the seriousness of the infestation and the potential for disease. For some, management is enough; for others the arsenal of chemical and biological controls is necessary.

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