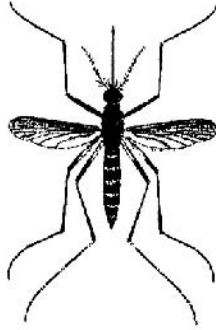




DOG HEARTWORM

A MOSQUITO-BORNE PARASITE



Actual size

Adults are small, dark-bodied with white markings on the back and legs.

WESTERN TREEHOLE MOSQUITO (*Aedes sierrensis*) Adult Female

What is Dog Heartworm?

Canine (Dog) Heartworm Disease is a serious and sometimes fatal condition in dogs caused by a roundworm, *Dirofilaria immitis*, that lives within the dog's heart and lungs. Dog Heartworm affects coyotes, foxes, dogs, and rarely cats, and is transmitted by mosquitoes, particularly the Western Treehole Mosquito (*Aedes sierrensis*). Malaria Mosquitoes (*Anopheles* species) are also considered to be potential vectors of Dog Heartworm. Other mosquito species including the Cool-Weather Mosquito (*Culiseta incidens*), a very common species in Los Angeles County, have been implicated in Dog Heartworm transmission. However, research to establish the full range of Dog Heartworm vectors in California has not yet been completed.

Biology

The adult Heartworm lives in the right side of the heart, large arteries adjacent to the heart, and also in the lungs. They can grow to a length of 6 to 12 inches and often form tangled knots. Blood flow may be reduced to the point that the heart, lungs, liver, and kidneys can be damaged. Symptoms are usually not apparent until after damage has

been done. Advanced symptoms of Heartworm include: rapid tiring, shortness of breath, chronic soft dry cough, listlessness, and weight loss.

Mosquitoes become infected with Dog Heartworm when they feed on the blood of an infected dog, fox, or coyote. The infected blood contains very small, immature worms called microfilariae. If the mosquito then bites another dog, that dog now may become infected by the microfilariae transmitted by the mosquito. The microfilariae then travel through the bloodstream to the heart and lungs where they grow to adulthood during the next 3 months. They then produce more microfilariae, and the cycle starts over again. The entire lifecycle takes about 6 months to complete. A mosquito that ingests too many microfilariae may itself be damaged or killed.

The Vector

Although many species of mosquitoes feed on dogs, the Western Treehole Mosquito is the primary vector of Dog Heartworm in California and the rest of the Pacific Coast region of the United States and Canada. The Western Treehole Mosquito is so named

because its immature stages frequently develop in rot holes of trees such as oaks, laurels, eucalyptus, sycamores, etc. that contain water. Immature mosquito larvae can also live in old tires, cans, buckets, and other objects that contain water; especially if they are under a tree canopy. Western Treehole Mosquitoes are most abundant in heavily wooded areas. In Los Angeles County, this includes along the San Gabriel Mountain foothills, riparian (streamside) areas, and other heavily wooded places in residential areas.

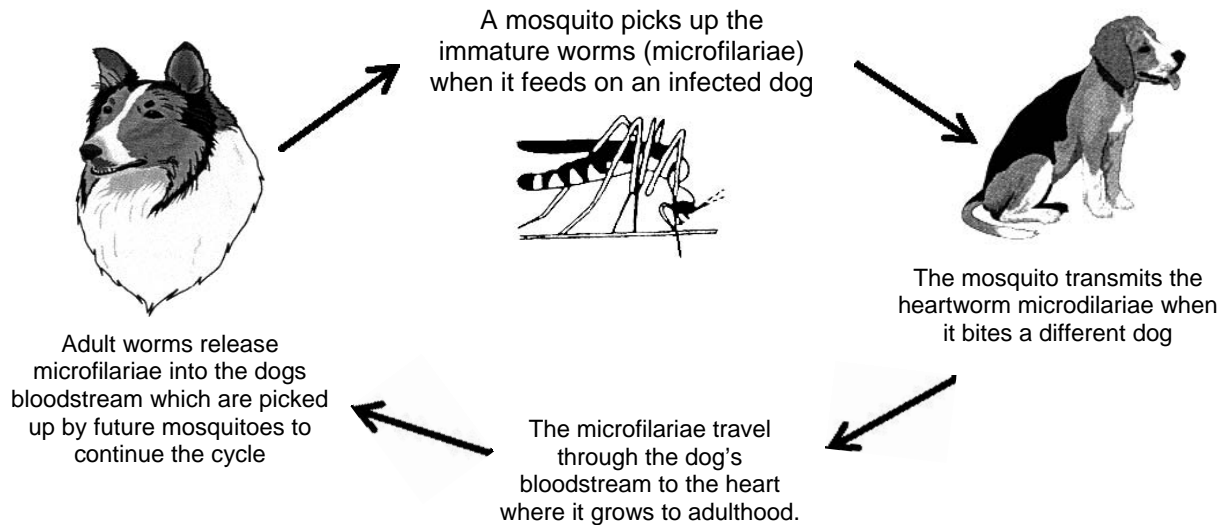
Prevention

It is usually impossible for mosquito control agencies to eliminate Western Treehole Mosquitoes from a problem area because of the large number of potential breeding sources and the difficulty in locating and accessing them. Homeowners should examine trees and tree stumps on their property for rot holes, cavities, and crotches that can hold water. If holes are found, consult a tree surgeon to

determine the best way to correct the problem. Holes may be filled with sand or water absorbing gel polymers (polyacrylamide). Also, eliminate other breeding sources by emptying, turning upside down, or throwing away containers that hold water (buckets, tires, and cans), and clearing rain gutters of debris so they cannot hold water. These sources can also breed mosquitoes that can vector diseases such as West Nile virus and St. Louis encephalitis.

Pet owners should consult with their veterinarian about testing and preventative medications for dogs, especially those that frequently spend time outdoors. Dog Heartworm is curable if diagnosed in the early stages. Western Treehole Mosquitoes are most active around sunset, so reducing outdoor activity such as walking a dog during that time of day can help to avoid the disease. (adapted with permission from MVMDSBC pest control bulletin #7)

DOG HEARTWORM LIFECYCLE



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