

Rat and Fowl Mites in Los Angeles County

People living in rat-infested homes or structures where birds are nesting are frequently attacked by mites which migrate from nests into the structure. The bites can cause severe itching and painful dermatitis in sensitive individuals.

Mites are extremely small arthropods which are barely visible unless viewed by a microscope or magnifying glass. Most mites either feed on plants, or attack and feed on other arthropods, but some can be found parasitizing vertebrates. There are three mites in southern California which cause frequent problems because they will feed on humans as alternative hosts.

The tropical rat mite, *Ornithonyssus bacoti* (Hirst, 1913), and two mites associated with birds, the northern fowl mite *Ornithonyssus sylviarum* (Canestrini and Fanzago, 1877) and the tropical fowl mite *Ornithonyssus bursa* (Berlese, 1888) can become significant pests under certain conditions. When their primary hosts nest in or on structures, these mites will frequently invade structures and their bites can cause irritation and sometimes painful dermatitis.

The tropical rat mite occurs on rats and in their nests and frequently attacks people living in rat-infested buildings. These mites can become serious pests when there are many rats living within the structure, but most often they make their presence known shortly after control measures are initiated to eliminate the rats (the primary host). When trapped or poisoned rats die or fail to return to the nest, the mites migrate into the living areas of the structure to feed on alternative human or animal hosts. Migrating mites are extremely active and will crawl long distances to secure a blood meal.

The mites are attracted to carbon dioxide (a product of respiration) and heat, and by these means locate potential hosts within the structure. The mites are ultimately drawn to those areas within the home which experience the greatest degree of human activity. Rooms such as kitchens, family rooms, bedrooms, and work areas maintain the highest concentrations of carbon dioxide and are highly attractive to the mites. Mites are also attracted to frequently used furniture such as sofas, recliners, and beds, and will bite the occupants as they rest or sleep.

The key factor in eliminating tropical rat mites from a home is abatement of the rodent infestation. Rats can be controlled with bait or traps, but baits are not recommended when rats infest dwellings. Rats may die within inaccessible areas such as wall voids or behind kitchen cabinets, and the resulting odor of decay may be present for a week or longer. Snap traps and glue boards should be used in areas of noted activity to control rats indoors. Keep in mind that trapping or otherwise killing rats may increase the activity of the mites as they search for alternative hosts.

Locate areas of rodent activity and eliminate any stored food caches, fecal pellets and nesting material. Rats frequently build their nests in protected areas such as behind large objects, or inside old furniture or storage boxes. They will use any soft material such as shredded paper, rags, insulation, old clothing, or furniture stuffing to line the nest. As a general precaution, before disposing of the material in a plastic bag, spray the area lightly with a disinfectant such as Lysol, and use disposable paper towels to gather up materials. Seal the bag tightly and dispose of in the trash. Individuals performing such activities should protect the hands with plastic gloves and wear a dust mask to prevent inhalation of dust contaminated with urine or feces.



The tropical rat mite is extremely small and the color can vary from cream to red or black depending upon how recently a blood meal was taken.

Mites that have invaded the home can be eliminated by vacuuming carpets and furniture. Pesticide room foggers can be used to temporarily control mites on exposed surfaces. When using pesticides, carefully follow label directions. Before using a fogger in a bedroom, remove all linens from the bed and cover the mattress with a sheet to prevent pesticide from settling on the mattress. Launder the linens. When the treatment is complete and the room can be safely entered, remove and launder the sheet that covered the mattress, and place fresh linens on the bed.

The key to successful control of tropical rat mites is abatement of the rodent infestation.

Mites associated with birds are very similar in size, appearance, and behavior to tropical rat mites. In most instances, problems develop in the spring and during the summer months when birds build their nests and raise their young. In southern California, bird mite problems frequently occur when the house sparrow, and the rock dove, (feral pigeon), or the mourning dove build their nests on occupied dwellings. Nests are often constructed below the eaves, in attics, in angles provided by rain gutters and spouts, or in hanging plant holders. Because mites can neither jump nor fly and must travel on contingent surfaces, nests built in trees or vegetation in direct contact with structures also permit mites access to occupied portions of the building.

During the period when the female and her young occupy the nest, mites remain in the nest and on the birds, and their numbers often increase substantially. When the young mature and the nest is abandoned, mites migrate into the structure in search of alternative hosts. Mite invasions as a result of bird nesting activity often produce an excessive number of bites experienced by individuals living within the structure. Occasional mite invasion resulting in intermittent bites sometimes occurs when pigeons congregate on roofs or utilize other portions of occupied structures as daytime resting sites.

If you suspect birds are nesting in or on the structure, search for the nest and dispose of it. Signs which indicate a hidden nest are fecal droppings which accumulate beneath the nest site, or dried grass or other nesting material which may be partially visible. Spray the area where the nest is located with a household pesticide to eliminate any mites which may be disturbed when the nest is removed. Control of bird mites which have entered the dwelling is the same as previously mentioned for rat mites.

Sometimes all that is necessary to prevent bird mites from entering a dwelling is trimming tree branches so they no longer touch the sides of the building. If birds are nesting in the attic, beneath roof tiles, or below the eaves of the home, accessible areas must be sealed or closed off with hardware cloth or chicken wire. If structural modifications are necessary to prevent birds from roosting on buildings, pest management companies specializing in vertebrate control can provide assistance.

It is important to remember the mites discussed in this bulletin do not burrow beneath the skin. Although extremely small, when they are moving the mites are readily visible on the skin. The mites are easily removed by bathing or showering, and topical applications such as those used to control lice are not necessary. Neither rat mites nor fowl mites can reproduce in the absence of their primary host.

Some individuals exposed to invading mites may have no reaction to bites, while others may experience severe itching or painful dermatitis. Topical applications that eliminate the discomfort from itching and irritation may be the only treatment necessary for most individuals suffering from bites. Sensitive individuals experiencing severe dermatitis should consult with a physician.

**A Pest Bulletin distributed by:
Los Angeles County - Department of Health Services
Vector Management Program
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Baldwin Park, California 91706
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