



Entomological Notes

Department of Entomology

BIRD MITES

Bird mites are very tiny, flattened parasitic arthropods in the order Acari. They belong to two closely related genera in two families; *Dermanyssus* species in Dermanyssidae (Fig. 1), and *Ornithonyssus* species in Macronyssidae. Bird mites have piercing mouthparts that enable them to take blood meals from their bird hosts. Although the mites will inadvertently bite people, they cannot reproduce without their bird hosts.

DESCRIPTION

Bird mites have five stages: egg, larva, protonymph, deutonymph and adult. The larvae have three pair of legs; the nymphs and adults have four pair. Adults are about 0.7 to 1 mm in length and are just barely visible to the naked eye. Unless they are moving, they are extremely difficult to see. The color is translucent white until they take a blood meal after which the mites are reddish mahogany to brown. Mite eggs are white, oval and cannot be seen without the aid of magnification. The same applies to the larvae and nymphs.

LIFE HISTORY/BEHAVIOR

Most bird mite species can complete development in five to twelve days with optimal temperatures and host presence. This short life cycle makes it possible for mite populations to attain tens of thousands of mites in bird nests during the rearing of young birds. If the population is too large (or if the fledglings vacate the nest or perish), the mites will migrate in mass to locate an alternative host. It is during this migration that mites can and do enter the living quarters of people. Some mites (i.e. *Dermanyssus gallinae*, the chicken mite) can survive for several months without taking a blood meal; the northern fowl mite, *Ornithonyssus sylviarum*, for several weeks. However, the mites do not appear to survive for more than several days in the reduced humidity (<35%) environs typically found in air-conditioned or de-humidified homes.

CLINICAL SYMPTOMOLOGY

As the mites search for an alternative host, they will crawl onto the skin and conduct an exploratory bite to test the appropriateness of the host. The mite will



Figure 1. *Dermanyssus* species.

move on, possibly trying the host again, but will not feed. These bites are felt as a “prick” and a resultant rash and itching, sometimes intense, will occur. Some individuals are apparently capable of sensing the crawling of the mites on the skin. The irritation produced by the bite is enhanced by the injection of the mite’s saliva that can cause a localized histamine response. Differential diagnosis can be difficult in the absence of mite specimens and can easily be misdiagnosed as non-descript “insect bites.” Most bird mite infestations occur during the late spring to early summer when bird nests are in abundance. When investigating claims of “insect bites” during this time of year, physicians, entomologists, and pest management professionals should inquire as to the presence of bird nests in attics, soffits, rain gutters, shrubbery next to buildings, and on window sills and air conditioners.

MANAGEMENT

Birds should be discouraged from building nests in or adjacent to buildings. Close all openings large enough for birds to enter attics, soffits and similar areas. Install hardware cloth, sheet metal, or other materials to prevent birds from nesting and roosting on porches, breezeways and other exterior sites. Disrupt nest-building efforts by removing partially completed nests in shrubbery and on air conditioners and windowsills.

If mites are detected in the structure, locate the bird nest source. Remove the nest. Do not spray insecticides on the interior living areas. Insecticidal sprays may be useful in attics, inside soffits and around exterior nest locations. Use a synthetic pyrethroid such as bifenthrin, cyfluthrin, cypermethrin, deltamethrin or lambda-cyhalothrin. Mites in living areas can be removed with a damp cloth (ethyl alcohol works well on non-porous surfaces) or with a vacuum cleaner.

WARNING

Pesticides are poisonous. Read and follow the label directions and safety precautions. Handle them carefully and store in original, labeled containers—out of the reach of children, pets, and livestock. Dispose of empty containers quickly, in a safe manner and place. Do not contaminate forage, streams, or ponds.

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