

Knemidokiptic Mange in Pet Birds: Scaly Face and Scaly Leg Disease¹

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Scaly face and scaly leg are common skin diseases of caged birds. The causative agent of the disease was thought to be a fungus for many years by avian fanciers due to the appearance of the lesions. In 1951, investigators described and characterized the lesions and identified the sarcoptid mite responsible for the disease. In subsequent years, the life cycle, effective means of treatment, and various factors which determine the frequencies and distributions of the disease have been debated.

Confusion exists over which species of scaly face and scaly leg mite infect the various species of birds. The morphologic distinctions between different species of mites are very small and difficult to detect. Table 1 illustrates the species of birds affected by specific mites.

The life cycle of *Knemidocoptes pilae* is not completely understood. Mites invade the feather follicles and epidermis of the face, cere, and limbs. The mites apparently spend their entire life cycle on the host. The mites burrow and feed on keratin of the cornified epithelium and form pouch-like cavities. The method of transmission of the mite is not known, but prolonged contact appears to be necessary. One theory on transmission of the mite suggests that they can be transmitted only in the nest to the featherless offspring. Another theory suggests that susceptibility is a genetically linked, immune related condition. Some investigators believe multiple predisposing factors are necessary for expression of the disease and that clinical disease may occur later in life, long after exposure. Cases

have been documented where highly infected parakeets did not transmit the disease to their cage mates, even after long exposure. There are also reports where birds isolated for many years suddenly develop characteristic lesions.

Early lesions, if recognized, include inflammation of the skin and a fine, white, crusty coating or film starting at the cere or the angle of the mouth. As the disease progresses, lesions may be found on the beak, eyelids, throat, vent, legs and toes. In chronic cases, overgrowth and deformity of the beak are common. Horny appendages may grow from facial lesions. Lesions of the legs progress by thickening of the skin covering the legs. This proliferation of skin may interfere with movement of the hocks and toes. In neglected cases, birds may develop gangrene of the leg due to pressure from the leg band. Feet and toes can become severely altered.

The definitive diagnosis of scaly face and leg disease can be made by observing clinical signs and lesions, and by identifying the small round mites in skin scrapings. Mites, if present, are easily observable microscopically when a skin scraping is placed in 5-10% potassium hydroxide.

Many treatments are described in the literature (see Table 2). All are directed toward killing the mites. In cases of long duration, response to treatment may be slow or unsatisfactory due to relatively permanent alterations which occurred prior to treatment. One should take precautions when treating scaly face lesions. Treatment of valuable birds should be

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done only under the direct supervision of a veterinarian as several of the drugs commonly used may cause irritation and damage to the eyes and may be toxic if ingested.

Table 1.

Psittacines (Budgerigars, lovebirds, some parrots)	<i>Knemidocoptes pilae</i>
Passerines (some)	<i>Knemidocoptes jamaicensis</i>
Domestic fowl (chickens)	<i>Knemidocoptes mutans</i>

Table 2.

Drugs	Regimens
Benzyl benzoate	Apply daily for 4 days, then once 7 days later.
Detto ^l [®]	Dilute to 10%. Apply daily for 2 weeks.
Goodwinol ^l [®]	Apply for several minutes, remove scabs, then apply for 5 treatments every other day for 3 weeks.
Ivermectin [*]	Intramuscular injection or oral administration, 200 micro g/Kg of body weight. Repeat in 10 to 14 days.
Crotamiton	Apply weekly for 4 weeks.
[*] Drug of choice	