Skin Parasites of Mice and Rats

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Fleas

Cause and transmission: Fleas are not a common parasite of mice or rats, though they can be transmitted to them by cats and dogs. Fleas are insects, 2-8 mm long, and their bodies are divided into three parts: the head, thorax, and abdomen. Attached to the thorax are three pairs of legs for a total of six. They have no wings. They are medium brown to mahogany in color and have laterally flattened bodies. They are slightly smaller than a sesame seed.

Signs: An infestation with fleas may cause the animal to scratch, and if the animal is hypersensitive to the bite, may induce self-trauma. Fleas, like lice, suck blood, and could potentially cause anemia in small animals like mice and rats.

Diagnosis: The diagnosis of a flea infestation can be made by finding the adult fleas. The best places to use a flea comb to detect fleas is around the hindquarters and head of the pet. These same areas should be examined for the 'flea dirt,' which is actually the feces of the flea. The feces, or flea dirt, will dissolve into a red color when moistened; this is because it is primarily digested blood.

Treatment: To eliminate a flea infestation, both the animal and the environment need to be treated, since much of the flea cycle is completed off of the animal. Treat the animal(s) with a product recommended by your veterinarian. The cage should be thoroughly cleaned at the time of treatment, and regularly, thereafter. Other pets in the household should be treated, and the house may need to be treated using a fogger or spray. A product containing an insect growth regulator (IGR), such as Nylar, should be used. For more information on fleas, see Flea Control and Prevention and Flea Life Cycle, Anatomy, and Disease Transmission.

Fur mites

Cause and transmission: There are three mites that affect mice: *Myobia musculi*, *Myopcoptes musculinus*, and *Radfordia affinis. R. ensifera* affects rats, and *Ornithonyssus bacoti* primarily affects rats, but can be transmitted to mice and humans. It can cause anemia, debilitation and death in rats and mice. Ear mites, *Notoedres muris* may also be a problem in small rodents. All of these mites are transmitted by direct contact or infested bedding, and an animal may be infested with several types simultaneously. A mouse or rat may have an infestation without showing any signs of disease. If the animal becomes stressed or has another disease, the mites may increase in numbers and start to cause the signs of infestation. Mites are microscopic arthropods, similar to spiders in that they have 8 legs.

Signs: Fur mites are quite common in mice and rats. Signs of infestation include thinning of the hair, especially on the back of the head and along the spine; pruritus (itching); and sometimes, self-inflicted wounds as a result of scratching. The coat may appear greasy, and may have an odor. Some black mice are extremely sensitive to the bite of the mites and may develop severe itching, dandruff, self-trauma, and ulcers. *O. bacoti* feeds on the blood of rats, can cause anemia, and transmit certain blood parasites.

Diagnosis: The animal may be examined with a magnifying lens, or a piece of cellophane tape will be pressed on the affected area, and examined microscopically to visualize the mites.

Treatment: Treat the animal(s) with a product recommended by your veterinarian. The cage should be thoroughly cleaned at the time of treatment, and regularly, thereafter.

Lice

Cause and transmission: An infestation with lice is called "pediculosis." Lice affecting rats are *Polyplax spinulosa*, and those affecting mice are *P. serrata*. Lice are transmitted by direct contact or infested bedding. Lice are insects that can be seen with the naked eye. They are flattened and possess no wings. The eggs may be seen attached to the hairs. Lice are very host-specific and do not tend to leave their preferred animal: the lice of mice will generally not affect rats, and the lice of rats do not affect mice. Neither can be transmitted to people.

Signs: *Polyplax* lice suck blood, so in addition to pruritus, hair thinning, and self-trauma, affected mice or rats may develop anemia and become weak and lethargic. Lice can transmit blood diseases: eperythrozoonosis in mice, and haemobartonellosis in rats. *Rickettsia typhi*, the cause of typhoid fever, can be transmitted by lice.

Diagnosis: The animal may be examined with a magnifying lens, or a piece of cellophane tape will be pressed on the affected area, and examined microscopically to visualize the lice.

Treatment: Treat the animal(s) with a product recommended by your veterinarian. The bedding should also be treated at intervals recommended on the product packaging. The cage should be thoroughly cleaned at the time of treatment, and regularly, thereafter.

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