



Introduction

Mange is a highly contagious disease of mammals caused by mites. Sarcoptic mange is caused by the burrowing mite *Sarcoptes scabiei*, which affects coyotes, red foxes, black bears, porcupines, rabbits, racoons, and humans.

Demodectic mange is caused by species of the genus *Demodex*. Demodectic mange affects white-tailed deer. Demodex mites inhabit the hair follicles and associated glands.

Notoedric mange is caused by species of the genus *Notoedres*. Notoedric mange affects gray squirrels, fox squirrels and rarely bobcats.

Species Affected

There are several different species of mites that cause mange. Sarcoptic mange, caused by the burrowing mite species *Sarcoptes scabiei*, is the biggest killer of red foxes and coyotes in NJ. It is highly contagious and can be spread to humans and domestic dogs. Sarcoptic mange can

also affect black bears, porcupines, rabbits, and raccoons.

Demodectic mange can be caused by the species *Demodex odocoilei*, which affects white-tailed deer.

Notoedric mange is caused by species of the genus *Notoedres*. Notoedric mange affects gray squirrels, fox squirrels and rarely bobcats.

Clinical Signs

Sarcoptic mange results in intense itching from an allergic reaction to the mite and resulting in hair loss and thickening and wrinkling of the skin. Secondary skin infection is also common.



Coyote with mange - note condition of normally bushy tail.

All red foxes and coyotes may have a few of the mange mites on their body, but the weak and stressed animals (young, old, injured, etc.) are the most susceptible. A healthy animal, well fed and non-stressed, may have the mites present on their body, their immune system fights off and overcomes any problems.

Notoedric mange also results in hair loss typically starting at the shoulder and chest that will progress to the entire body.

Most deer harbor the *Demodex odocoilei* parasite without development of clinical signs. When they do succumb to the mite areas of small to extensive hair loss often with thickening of the skin are visible. Death due to mange in deer has not been reported and this particular mite only infests deer. Most cases of severe demodectic mange in deer have been in adult males during fall and winter, though less severe cases can be seen in adults in the summer.

Other possible causes of hair loss in white-tailed deer, that are highly infectious and transmissible to not only other deer but to humans and pets, include a condition called Dermatophilosis. This is caused by the bacteria *Dermatophilus congolensis*. Infected deer have pustules on their skin and patchy hair loss. These areas are often covered by loose crusty scabs with tufts of hair stuck within the hardened crusts. Sometimes the infected area can resemble a paintbrush pattern. This disease is also known as "Rain Rot" in livestock.

Adult deer seem to tolerate infection with this bacterium well and generally recover. In fawns the prognosis is less promising, with some becoming weak and emaciated. Occasionally, fawns may die when lesions are severe.

If you suspect your pet has come into contact with a deer with Dermatophilosis contact your veterinarian. If you or a family

member is suspected of coming into contact with the bacterium, please contact your healthcare provider.

Transmission

Mange is transmitted by direct contact with an affected animal or a contaminated environment. Mites can live without a host in high humidity and low temperature environments.

Sarcoptic mange mites burrow into the outer layer of the skin and form tunnels. The females then lay their eggs that will hatch in 3-4 days. Larvae develop into nymphs in 3-4 days and then into adults in 5-7 days. The male life cycle is complete in 13-16 days and the female in 18-23 days.

Demodectic mange mites do not burrow into the skin like sarcoptic mites. Demodectic mange mites inhabit the hair follicles and associated glands. In this case, mites are suspected to be transmitted from mother to offspring.

Diagnosis

Definitive diagnosis of mange is made by viewing skin scrape samples microscopically to look for mange mites.

Epidemiology

Sarcoptic mange is globally distributed. The season and weather conditions can influence how readily afflicted animals may succumb to the disease. If the animals have mange in the winter, they typically do not (or rarely) survive. In late spring or summer they can survive the infection, and some might even improve if their immune system is not too compromised.

What to Do/Who to Contact

If an infected animal is observed acting sickly contact the DEP Hotline (877-WARN-DEP).

If you have come into contact with a wild animal that has mange, please contact your local healthcare provider.

If you suspect our pet has come in contact with mange, please contact your veterinarian.

If you suspect your pet has come into contact with a deer with Dermatophilosis contact your veterinarian. If you or a family member is suspected of coming into contact with the bacterium, please contact your healthcare provider.

Additional Information

[Mange | Cornell Wildlife Health Lab](#)

[Mange in Wildlife | The Wildlife Center of Virginia](#)

Cover Image from: US EPA



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