Mites are tiny eight-legged animals that are closely related to ticks. More than 30,000 species of mite have been identified. Even though they are very small, mites are important organisms to humans and other animals. Most species of mite are beneficial decomposers — breaking down organic matter, allowing nutrients to be used by plants again.

Even though most mites feed on organic matter, some mite species feed on plants while others have animal hosts. It is important to realize that mites that feed on plants, (spider mites, for example), cannot successfully feed and reproduce on human beings or other animals. Most mites that are animal parasites are fairly host specific — only developing successfully on one species or group of animals that are closely related.

There are only a few mite species that cause medical problems for human beings.

House dust mite. One mite affecting some people is the house dust mite that causes allergic reactions in sensitive people. This mite does not feed directly on people or pets, but feeds on dander and shed skin particles. The microscopic feces and cast skins are potent allergens to many people. Allergic reactions are similar to a person having hay fever — runny nose and eyes, and frequent sneezing. Some very sensitive individuals may have asthmatic reactions. For more information about house dust mites and how to reduce infestations, refer to Lancaster County Extension Fact Sheet 13-93.

Scabies mite. A scabies infestation is caused by a tiny mite (1/50-inch) that burrows into the skin, feeds on cell liquids and lays 10-25 eggs along a horizontal burrow. Three to four days after hatching, the larval mites emerge from the skin, travel to another area where they burrow under the skin and repeat the process. Many animals, both domestic and wild, can be similarly infected by other species of scabies mite.

In humans, these scabies mites are known as Sarcoptes scabiei. After the initial infestation, there is a six-week incubation period before itching starts. During this time, about three generations of mites develop and can be readily transmitted to other people. The itching is caused by the body’s reaction to toxic mite secretions and excretions and is so severe that it often keeps one awake at night. The itching can sometimes be alleviated by cortisone ointments, but the underlying cause of the problem, the mites, will not be destroyed by topical itch medications.

The second symptom of scabies is a characteristic rash that resembles tiny blisters. Although the itching and rash are characteristic of scabies, proper identification is based on finding burrows, mites, eggs or mite feces. A dermatologist should be consulted to diagnose this medical problem.

Scabies mites burrow easier where the skin is thin. For this reason, older persons whose skin is thinner can be severely attacked by scabies mites. Nursing homes can sometimes have serious outbreaks of scabies.

The areas on the body where scabies mites are found are the hands and wrists (63%), elbows (11%), feet and ankles (9%), penis and scrotum (8%), buttocks (4%), armpits (2%) and other areas (2%). (The previous data comes from a large study where only human males were subjects.) In women, mites commonly attack the areas around the nipples and under the breasts.

Scabies mites that fall off the host die when exposed to temperature of 120° for 10 minutes in a dry or moist air. At 77 F, the mites can survive off the host for only 2-3 days. Drying
infested clothing or bedding in a clothes dryer for 10 minutes or longer will disinfect laundry.

Because scabies mites are so extremely contagious, it is often assumed that the family or living group should also be treated. At the very least, infested persons should sleep separately from other persons in the household until treatment is over. There are several types of medications that are effective for scabies treatment. They include lindane (Kwell®), sulfur (either as an ointment, Mitigal™, or Tetmosol™) or permethrin. The least toxic medications are those containing sulfur, but they are messy and slow acting. The fastest acting medication is permethrin — only one treatment is needed. A scabies infestation is best treated under the expert care and experience of a dermatologist.

Mange mites and other parasitic mites. Pets, wild animals and birds that live around people can carry around their own complement of parasitic mites. Some animals are obviously adversely affected by these mite infestations — squirrels, coyotes and other animals sometimes get patchy coats of fur from mange mite infestations.

Cats and dogs can also be infested by mites. Because animals have a variable reaction to mite infestations, some animals may not show signs of a mite infestation. Sometimes mites will move off pets and feed on humans and cause itching or biting sensations. These mites cannot establish themselves on humans, so long-term dermatitis is not possible. Persons who have itching or biting sensations and a pet in the house should have their animal checked for mites by a veterinarian. Treatment of the animal may solve the itching or biting sensations on the pet owner. If there are no pets, consult a dermatologist for the cause of the dermatitis.

Mites and other ectoparasites abandon animals very quickly once the host dies and seek out other warm-blooded animals — even if they are not suitable hosts. Mite invasions accompanied by biting sensations are sometimes associated with pigeons and other birds that flock or roost around homes. Bird control is the best approach in controlling these mite infestations. Using gloves or a shovel when handling dead animals also makes good common sense.