

Nebraska Spiders of Medical Importance

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“Little Miss Muffet sat on her tuffet, eating her curds and whey; along came a spider, and sat down beside her; and frightened Miss Muffet away.”

“There was an old lady who swallowed a spider that wiggled and jiggled and tickled inside her. She swallowed the spider to catch the fly. I don’t know why she swallowed the fly. Perhaps she’ll die.”

“Step into my parlor,” said the spider to the fly.”

With rhymes like these, it is no wonder many people view spiders with apprehension. And, the movie, “Arachnophobia,” did not do much to dispel fears about these eight-legged creatures.

There are about 2,000 kinds of spiders in the United States. Of these, only a few species are considered to have bites that are of medical importance. Spiders are very shy creatures. Most people get bitten because they are cleaning an area that has not been cleaned for a long time and they disturb a spider’s web or nest. Spiders are often blamed for many more bites than they actually commit. In general, most spider bites will not harm most people except for slight discomfort for a limited time after being bitten. A few individuals may be hypersensitive to the bites of a particular species, but this allergic reaction won’t be known until after the person gets bitten.

Although only a few spider bites are dangerous or cause allergic reactions, if one has been bitten, it can be important to save the spider for identification purposes.

Unlike the majority of spiders, black widow and brown recluse spiders are of

concern because their venom contains toxins which could cause medical problems.

If someone suspects a serious spider bite, he/she should attempt to collect the spider and seek medical attention.

Black Widow (Theridiidae)

The popular belief that the male black widow spider is eaten after one encounter with a female has given this spider its name. Adult female black widows,

Latrodectus mactans, are jet black with a distinct red hourglass shape on the underside of the abdomen and are about 1/2 inch long. Males are only about half the size and are often gray or brown and lighter than females. To capture insect prey, the female black widow constructs an irregular, tangled, crisscrossed web of coarse silk in an undisturbed place. Black widow spiders are found in Nebraska, but are not very common. (Since the demise of the outdoor privy, the incidence of bites from black widows has declined greatly!)

Black widow venom is a nerve poison and is even more toxic to humans than the prairie rattlesnake. Fortunately, the amount injected from a black widow bite is very small. With humans, the bite may not be felt at first, although a slight local swelling around two tiny spots



Female black widow (approximate size)

Jim Kalisch, UNL Department of Entomology

may be observed. After a short time, there will be severe pain at the site of the bite which will spread throughout the body. Elevated blood pressure, nausea, vomiting, difficulty in breathing and profuse perspiration may occur in severe cases. Symptoms usually diminish within several hours and are gone after several days. Specific medications can be given by a physician that will reduce pain and reduce muscle spasms. It should be emphasized that only four deaths were attributed to black widows from 1960–69 in the United States, so the incidence of severe reactions to the bite is very infrequent.

Brown Recluse (Sicariidae)

The brown recluse spider, *Loxosceles reclusa*, has a light brown body and legs. The cephalothorax (head + thorax)

has a darker brown violin-shaped mark on the upper side. The abdomen and legs have no markings. The female constructs an irregular web in undisturbed, dry locations such as basements, garages, closets and attics. The web is not usually used to trap insect prey. Instead, the brown recluse is a hunter, emerging from its hiding place at night in search of small



Brown recluse (approximate size)

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Violin-shaped mark (magnified)

Vicki Jedlicka, UNL Extension in Lancaster County

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insects for food. Favorite hiding places are in seldom-used clothing hanging in dark closets, in boxes of magazines, papers and other items, the underside of furniture, cracks and spaces around baseboards, window and door facings and in dark cellars and garages. In Nebraska, it is thought brown recluse infestations begin when infested items and boxes are brought into a non-infested home or apartment. They are not found outdoors here, although they survive well in unheated warehouses and outbuildings.

These spiders may only be observed during the night when they venture from their hiding places.

Most victims are bitten after they put on clothes trapping a spider against their skin, when cleaning closets or storage areas or rolling on a spider in bed. Initially, there may be little or no pain from a brown recluse bite, but, over the course of several hours, an intense localized pain develops, followed by inflammation of the area. Within a few days, a large ulcerous sore forms around the bite. This sore heals very slowly and leaves a large disfiguring scar. There is no specific anti-venom available for brown recluse toxin, but various other treatments are used to promote healing. Early diagnosis and treatment are essential to alleviate pain and speed healing of ulcerated tissue. It can be important to know what spider caused the spider bite to assist with an early diagnosis and treatment. Without a specimen, there is really no way to determine what spider caused

a spider bite, but medical personnel assume that if the bite becomes ulcerous, it is the bite from a brown recluse spider.

Parson Spider (Gnaphosidae)

The parson spider, *Herpyllus ecclesiasticus*, is a nuisance in homes and is generally nontoxic; although some people may experience allergic reactions to the bites.

The parson spider is about 1/2 inch long and may vary in color from brown to black. The front segment of the body tends to be a chestnut color, while the abdomen is grayish with a distinctive white or pink pattern along its middle. The body is covered with fine hairs, giving a velvety appearance. It is a very fast moving spider.

The parson spider is usually found outdoors under rocks or in piles of brush or firewood. This spider does not spin a web, but wanders on the ground in search of prey. Indoors, this spider wanders about at night and conceals itself beneath objects or in clothing during the day. Most bites from this spider occur at night or when it is trapped in clothing. While the parson spider is not considered dangerous, bite symptoms are variable in severity. Some people may experience localized allergic swelling and itching in addition to initial pain. A few persons may experience



Parson spider (approximate size)

Jim Kalisch

excessive swelling, nervousness, nausea, sweating and elevated temperatures from the bites.

Sac Spiders (Clubionidae)

Some members of this group of spiders are quite common in homes. These spiders are light or dark-colored and have a darker coloration on the cephalic (head) region. The body is covered with short hairs which give it a silky appearance. The nighttime feeding behavior of sac spiders is similar to that of the parson spider. These spiders do not capture prey in webs, but actively hunt their prey at night. They spin a silken retreat in the shape of a sac and hide in it during the day. Outdoors, they spin these retreats under loose bark or leaf litter. Indoors, silken capsules can be found on walls, ceiling, draperies and other locations. Bites from these spiders may result in localized allergic reactions in some individuals.

The yellow sac spider, *Cheiracanthium mildei*, is very common in Nebraska. It may enter homes during the warmer months, but can be found indoors throughout the year. These spiders are often easy to find; during the day the retreats are often found in the corners of the ceiling or where wall and ceiling join.



Yellow sac spider (approximate size)

Barb Ogg, UNL Extension in Lancaster County

Spider Control

A consistent presence of spiders in structures may be a sign of an insect infestation because spiders cannot survive long without food. Controlling insect infestations may also decrease spider populations.

Habit modification is the most important tactic for good spider control. Outdoors, remove debris near the building to disturb their natural habitat. Also remove webs in outdoor areas, especially porches, under eaves, and other likely breeding places around the home. Inside, remove clutter in

garages, basements, closets, and other storage areas. Be sure to dust and vacuum frequently around windows, corners of rooms, shelves, under furniture, and behind mirrors and pictures. If you see sac spider retreats, remove them. It is a good idea to wear gloves when cleaning. Because most spiders enter houses through small cracks and crevices, sealing entry points with caulk will be the most permanent solution to spiders wandering inside in the late summer and early fall.

If you are concerned about spiders inside your home, place sticky glue boards in the rooms where you are

seeing spiders, especially on outside walls, in closets and secluded areas. Take captured spiders to someone who can identify them. Check with your local Extension office or land-grant university. If you have an infestation of brown recluse spiders, you may want to work with a licensed pest control company — one who has experience treating structures for brown recluse infestations.

For accidentally invading spiders (these are the most frequent spider situations), we recommend that efforts be made to seal cracks and crevices as the most permanent solution.