

Brown Recluse Spiders: Misidentified, Misdiagnosed and Misunderstood

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Spiders are not insects, but arachnids. They have two body parts (carapace and abdomen), eight legs, produce silk and contain venom. The thought and sight of spiders create anxiety and fear in many people, but there is an exceptional level of fear reserved for brown recluse spiders.

Identification

Brown recluse spiders are surprisingly plain, lackluster spiders. Adults are no longer than 1/2-inch in length (not including the legs), with long, slender legs. They are uniformly a light brown color, with a dark brown violin-shaped on the carapace. The entire body is covered with hairs, but there are no spines, patterns, stripes, bands or spots on either the abdomen or legs.

Most spiders have eight eyes, but the brown recluse spider has six, arranged in



A brown recluse spider on a finger.



Photos: Jody Green, Nebraska Extension in Lancaster County

Brown recluse spiders can be identified by the arrangement of their six eyes.

three pairs. This is true even as juveniles, when there is no violin-shaped marking. Many brown-recluse lookalikes can be deciphered by the eye pattern.

Distribution

Southeast Nebraska is close to the northern most range of the brown recluse spider. They are most concentrated in Missouri and Arkansas, between the Rockies and Appalachian mountains. They are not very good at dispersing and require human movement for introductions into new areas.

Behavior, Habitat, Food

Brown recluse spiders are as their name implies: shy, non-aggressive, secluded and avoider of conflict. They are found in seldom-disturbed areas such as attics, crawlspaces, cellars, woodpiles, basements, garages, closets, in cardboard



Distribution of brown recluse spiders.

boxes with clothing, shoes and other stored items. Instead of using silk, they wander nocturnally, capturing crickets, springtails, cockroaches, firebrats and other soft-bodied insects.

Spider Bites

Brown recluse spiders possess a type of venom, called a cytotoxin, which can be medically important to humans. This toxin has the potential to inflict injury to the victim and be dangerous to the very young, old and immunocompromised if bitten. However, spider bites are quite rare and only 10 percent of bites ever need medical attention.

Doctors commonly misdiagnose mysterious wounds and painful sores as spider bites, overlooking approximately 40 different conditions (i.e. bacterial, viral or fungal infections, drug reaction, insect bites, tick-borne illnesses, poison ivy, chemical burn, skin cancer, etc.). There are typically no witnesses or spider body (dead or alive) to confirm a wound was the result of a spider bite.

Spiders do not require a blood meal

to survive or lay eggs, unlike blood-feeding pests. There is no benefit for them to bite humans, so they avoid using their venom except as defense. In the instances when bites were confirmed, spiders were trapped in clothing, bedding or shoes and contact was made.

Integrated Pest Management

Spiders are difficult to control with chemicals alone because they are able to avoid contact with treated surfaces. They can also go long periods of time without feeding, so by the time they do leave their hiding areas, the chemical may have little toxicity left.

Non-chemical measures of control include the following: reduce clutter in and around the building, eliminate cardboard as storage containers, pull bed away from the wall, remove bed skirt and blanket touching the floor, shake clothes and shoes before wearing, look before reaching into storage containers, vacuum frequently and use of sticky traps to trap wanderers.

Summary

It is important to understand spiders are a part of the food web and spying an occasional spider is just an indication there are prey items nearby. If a brown recluse spider is found in the building where you work, play or live, stay calm. Take the necessary precautions to avoid bites. If you have been bitten by a spider, catch it (dead or alive) and take it to your local Extension office to have it identified.

Harness the Insect-Eating Goodness of Bats With a Bat House

Soni Cochran,

Extension Associate

Every year, we get many calls on bats found in and around homes in the Lancaster County area. Bats are not rodents. They are the only mammals capable of true flight. Bats are nocturnal and you rarely see them during the day unless they've been disturbed or you happen to notice their droppings.

All of the bats in Nebraska are insectivores. This means they only feed on insects like mosquitoes and moths. One little brown bat (*Myotis lucifugus*) can eat 600–1,200 mosquito-sized insects every hour — better than any “bug zapping” device.

The little brown bat and big brown bat (*Eptesicus fuscus*) are two bats found in our area that live in colonies. Colonies can range in size from 10 to 200 individuals. Little brown bat maternity colonies can have as many as 300,000 bats. In addition to natural roost sites (hollow trees, among foliage, caves and more), these bats can also be found in attics, barns, belfries, schools, businesses and around other structures.

As temperatures cool and insects become harder to find, bats migrate to hibernation sites. Some species of bats in Nebraska move north and east to the Ohio Valley to hibernate. The exact temperature needed for successful hibernation varies by bat species. If hibernating bats are disturbed and wake too often during hibernation, they won't have enough fat resources to survive the winter and starve.

Purchasing or Building a Bat House

If you already have bats in your area, you'll have better luck attracting residents

to a bat house. To see if you have bats, watch outdoor lights at night to see if bats are zipping in and out feeding on insects attracted by the light. Of course you'll want to do this when the weather warms next spring and summer.

I know I have bats by watching the sky at dusk. Just as the birds are heading to their night roost, and the sky is light enough to see but the sun has set, my neighbors and I stand outside and watch the bats as they quickly maneuver in the sky to catch insects.

Several designs are available for bat houses. You may be able to find a bat house suitable for the bats in our area at one of our local lawn and garden or wildlife specialty stores. Or, you can build a bat house! There are many design plans available. Check out the Nebraska Extension NebGuide, “Bat House Construction and Installation” (G1575) available at <http://lancaster.unl.edu/pest/bats.shtml> or from your local Nebraska Extension office.

Placing Your Bat House

If possible, place your bat house within 1/4 mile of standing water. A stream or pond will provide water for the bats and habitat for the insects they prey on.

It doesn't make much sense to erect a bat house where insecticides are used; so you'll have better success placing the house where insecticides are not used, or the use is limited.

Install the bat house at least 12 feet above the ground and give the bats a minimum of 20–30 feet of clear flight space around the house. You also want the area with the bat house to have minimal human disturbance. It doesn't really matter if the bat house is installed on a pole or on a building, as long as there is a large landing zone.



This bat house is mounted on a pole at least 12 feet high with plenty of clear flight space.

Place the bat house on the south, southeast or southwest side where it will be exposed to more than seven hours of sunlight each day. Bat houses should be painted or stained a dark or medium shade of water-based, exterior paint or stain to help trap the heat from the sun.

Male bats will occupy cooler houses, but females need the heat to keep their nurseries warm for their pups (baby bats). Avoid placing a bat house on a tree trunk. Not only will the leaves of the tree reduce the amount of sunlight getting to the house, but the bats are vulnerable to climbing predators like raccoons and house cats.

We've also had cases where people have put bat houses on their homes and then have had problems with bat bugs and other parasites when the bats leave to hibernate. Something for you to think

about before mounting your bat house on your home.

To reduce accidental encounters with bats that have fallen out of the bat house to the ground, place fencing or ornamental plantings around the base of the bat house mounting pole or site. This helps limit exposure of people and pets to any bats that may have fallen.

As with any bat encounter, there is the rare risk of exposure to rabies. Keep all pets current on their vaccinations and teach children to never handle bats. Bat bites are very difficult to see. As always, if you suspect there has been a bite, seek medical attention immediately. If the bat involved in the exposure is still on the ground and not flying, capture it so it can be tested for rabies.

White-Nosed Syndrome

The number of bats across North America is in decline due to a recently-discovered fungal disease called white-nosed syndrome (WNS). WNS causes bats to lose valuable energy reserves and die during hibernation. Nebraska is the 30th state to confirm the presence of white-nose syndrome. WNS has killed more than 6 million bats since 2006.

The disease is highly contagious among bats, but does not affect humans. Care should be taken to disinfect tools and equipment between handling bat houses, exploring caves or frequenting other bat hibernacula.

If WNS is suspected, do not touch the bats. Report finding sick or dead bats to Nebraska Game and Parks, 402-471-0641.