

# Black Widow and Recluses Avoiding Venomous Spiders of the Southeast



**Figure 1.** Female black widow spider showing hourglass pattern

**S**piders are one of the most feared groups of animals on the planet. Even the word spider may bring to mind images of hairy, vicious creepy-crawlies. This bad reputation is not wholly deserved, however. The fact is that many spiders act as natural predators of pest insects. In addition, although nearly every spider produces some form of venom, or injected toxin, that is used to subdue prey, very few spiders have venom that can cause more discomfort to a human than an ant bite would. Of the almost 34,000 species of spiders known worldwide, only a few represent a threat to humans. In Alabama, five species of spiders are potentially harmful: the black widow (*Latrodectus mactans*) shown in figure 1, the northern black widow (*Latrodectus variolus*), the brown recluse (*Loxosceles reclusa*) shown in figure 2, the Chilean recluse (*Loxosceles laeta*), and the Mediterranean recluse (*Loxosceles rufescens*). In spite of the fact that these spiders do not pose a great danger, safety is a priority, and learning to identify these spiders, avoiding their bites, and discouraging them from living near houses can increase homeowner safety.



**Figure 2.** Brown recluse spider showing characteristic violin marking on the thorax (the segment of the body where the spider's legs are attached)



**Figure 3.** Side view of a female black widow spider. Note the globe-shaped abdomen.

Photo credit: Amber C. Marable.

## Characteristics

### Widow Spiders

Widow spiders, from the genus *Latrodectus*, are so named because the females sometimes consume the males after mating with them. Two species of widow spiders inhabit Alabama—the black widow (also known as the southern black widow) and the northern black widow, also commonly known simply as a black widow. These two species are very similar in appearance, and a general description will help people identify widow spiders from other, more harmless spiders.

Female and male widows look very different from each other. Females have globe-shaped abdomens and long spindly legs as shown in figure 3. They are jet black with red accent markings forming a red hourglass pattern on the



**Figure 4.** A female (bottom left) and male (top right) black widow spider with egg case suspended in the web. Note that the hourglass pattern on the female's underside is not as well-defined as that of the spider in figure 1.

underside of the abdomen as shown in figures 1 and 4. In the northern black widow, the two halves of the hourglass are separated into triangles. Some widows may have a series of red spots along their backs and even white stripes on their undersides as shown in figures 5 and 6. Female widow spiders are large, with the entire spider reaching up to 1½ inches in length. The body itself can be up to ¾ inch in length. In contrast, male widow spiders are usually half that size or less and are brown with red, white, and yellow bands and spots along their undersides, sides, and backs of the abdomen as shown in figure 4.

Widow spiders are thought to have one of the most toxic venoms in the order Araneae (spiders). The venom is classified as a neurotoxin, a compound that affects the nervous system, and no pain is usually associated with the bite. Generally, only females are considered dangerous, although a few male widow spider bites have been reported.

After mating, a female will lay eggs within a silken egg sac, which is commonly suspended in the female's web as shown in figure 4.

### Recluse Spiders

The brown recluse, or fiddle-back spider, is another common inhabitant of Alabama and is about  $\frac{3}{8}$  inch in length. These spiders are often found in groups or clusters of individuals.

The Chilean and Mediterranean recluse spiders closely resemble the brown recluse and are difficult to distinguish from them. These two species are not native to the United States, however, and have been found in only a few small, isolated locations.

The color of recluses ranges along a spectrum of browns, from light tan to dark brown. Each spider has a conspicuous dark brown patch shaped like a fiddle on the cephalothorax (region where the legs attach to the body). The base of the fiddle usually includes the entire head, with a line forming the neck of the instrument extending toward the abdomen as shown in figures 2 and 7. This violin pattern is easily confused with many other similar patterns on non-recluse spiders.



**Figure 5.** Female black widow spider at rest. Markings can vary with individual spiders. Note the line of red spots down the top of the abdomen.



**Figure 6.** Female black widow spider with a line of barely visible dark red spots running down her abdomen.

Photo credit: Amber C. Marable.

The most reliable way to tell the difference between recluse spiders and other, more harmless species is the eye pattern. Most spiders have eight eyes arranged in two rows of four. Recluse spiders have six eyes arranged in three pairs. One pair is centered over the mouth parts, and there is a diagonally slanted pair on either side of the front pair. It may be difficult to see the eye pattern, however, without using a magnifying glass.



**Figure 7.** Closeup of a brown recluse spider. Note the fiddle coloration with the neck of the instrument extending toward the abdomen.

Although this spider has long legs, its abdomen is not as round as that of the widow spiders. There are no spines, only fine hairs, and no pattern on the recluse's legs or abdomen.

The venom produced by recluse spiders is cytotoxic, causing necrosis, or death, of body tissue at the bite area, and there have been reports of kidney failure associated with recluse bites.

### How Do You Know if You've Been Bitten?

Spider bites are not a common occurrence, but if you have been bitten by a spider, a few symptoms may help identify the species that bit you. While this list of symptoms is intended to help people identify the type of bite received, it should not be viewed as a test for whether a person should or should not seek medical help. A person who believes he or she has been bitten by either a widow spider or a recluse should seek immediate medical treatment. Although most widow spider and recluse bites are not fatal, individual reactions to venom vary and may pose a significant health risk to some.

Individuals suffering from a widow spider bite will experience different symptoms from those brought on by a recluse bite. For some people, a black widow bite is a painful experience, but the person initially may not feel anything or no more than a brief twinge. In fact, a person may not even realize that he or she has been bitten until later. The area of the bite will become red, and some swelling may occur. After about 10 to 60 minutes, the person may experience a variety of symptoms including sweating, pain, muscle cramps and rigidity, nausea, and difficulty breathing. Other severe symptoms are also possible. Anyone experiencing any of these conditions should seek immediate medical attention. Young children and elderly persons tend to be affected the greatest by widow spider venom. Although people rarely die from black widow bites, the symptoms can be severe and the recovery time extensive.

Sensitivity to recluse bites varies. Some people have almost no reaction to the venom, while others experience severe reactions. Recluse bites usually result in an initial blister at



**Figure 8.** Typical habitat for a black widow spider is around the exterior of a house.

the site of the bite. These bites may or may not be painful, and symptoms may develop within 2 to 8 hours. Damage is usually local to the bite and may include stinging, burning, blistering, swelling, and redness; however, tissue death, sloughing away of tissue, a bull's eye pattern, and deep, crusty sores may become prevalent. These bites can be extremely slow to heal and may leave scars. Other, more serious reactions can occur in individuals more sensitive to the venom. Young children, elderly persons, and the physically challenged typically have the worst reactions.

### Preventing Spider Bites

The best way to avoid being bitten by a widow spider or a recluse is to recognize potential areas where these species may be found. Widow spiders live in rocky areas, stumps, leaf litter, and sandy areas. Likewise, recluses may be found in leaf litter, brush, under logs, and under tree bark. Although widow spiders and recluse spiders can be found in natural habitats, they are most frequently encountered around human dwellings. Although all five species of these spiders share a preference for undisturbed spaces, widow spiders and recluse spiders select different types of hiding spots.

Widow spiders prefer areas that are quiet and undisturbed, where they make haphazard-looking, three-dimensional webs. Stacks of building supplies, such as cement blocks for example, offer perfect hiding places. Other areas that tend to attract widow spiders include water meter boxes, exterior faucets, eaves, sheds and garages, abandoned buildings, trash piles, old tires, jars and tin cans, and equipment such as tractors and lawn mowers, as shown in figures 8 and 9. Widow spiders are rarely found inside homes. Although widow spiders are not aggressive, they will bite when threatened. Tips to avoid being bitten by widow spiders include the following.

- Never place fingers or toes anywhere where you cannot see them.
- Use a flashlight when working in dark areas.
- Wear leather gloves while working outdoors.
- Inspect and shake out boots, gloves, jackets, and other gear before wearing them.
- Reduce clutter in closets, garages, basements, attics, crawl spaces, and outbuildings to make these quiet, undisturbed areas less attractive to spiders.

In contrast, recluses adapt well to life indoors. Recluses can be found under furniture, behind pictures, and in storage areas such as attics, basements, closets, drawers, and boxes. They can also be found in outlying buildings such as barns and sheds. While widow spiders stay close to the webs they build, recluse spiders tend to move away from their hiding places and wander more frequently. People tend to find

these spiders in storage boxes, shoes, coats, stored clothes, and bedding or linens, as shown in figure 10. Recluse spiders make hidden, discrete, flat webs as shown in figure 11. Where these spiders are present in numbers, molts can be found attached to the sides of boxes, walls, and other areas as shown in figures 12 and 13. These molts are the shed exoskeletons of growing recluse spiders. Tips to avoid being bitten by recluse spiders include the following.

- Never place fingers or toes anywhere you cannot see them.
  - Keep boxes and clutter to a minimum.
  - Inspect and shake out boots, gloves, jackets, and other gear before wearing them.
- If recluse populations are suspected, some additional tips for avoidance include the following.
- Run all stored clothes through the dryer (and/or washer) before wearing them.
  - Never put on clothes directly picked up off the floor.
  - Always inspect bedding before climbing in at night.
  - Keep bedding from hanging to the floor.



**Figure 9.** Black widow spiders can often be found in water meter boxes. Note the black widow spider sitting on the underside of the raised cover.

Photo credit: Amber C. Marable.



**Figure 10.** A live brown recluse spider in the corner of a stored box

**Figure 11.** A good example of a brown recluse's discrete, flat web. Note the dead brown recluse inside the box.

Photo credit: Amber C. Marable.

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## Control

If a person encounters a widow spider or recluse in a natural environment, it is best to leave it alone. However, if the spider is found in a human environment, it is best to kill it by crushing it under a sturdy close-toed shoe or some other appropriate implement.

The easiest and most successful way to prevent or control a population is to eliminate suitable habitats. Reducing clutter in closets, unpacking stored items from boxes, and removing excess cardboard and other containers may make an area unsuitable for brown recluses. Where storage containers cannot be eliminated entirely, switching to plastic storage boxes with lids may help discourage spiders. Exterior measures to reduce habitat suitability for widow spiders include removing stacks of building supplies such as bricks and concrete blocks, unpacking stored boxes in garages and sheds, cleaning out water meter boxes, removing firewood piles, and regularly moving equipment. In addition, changing the color of exterior house lights to yellow or moving house lights to floodlights in the yard will reduce insect prey, thus reducing the numbers of spiders.

If a person suspects that he or she may have a population of either widow spiders or recluse spiders around the house or in other human environments, several options for control are available, including sprays and other products, which are available at most stores. Each may have some success, provided the chemicals make direct contact with spiders



Photo credit: Amber C. Marable.

**Figure 12.** Closeup of a brown recluse molt.



Photo credit: Amber C. Marable.

**Figure 13.** A brown recluse molt attached to the side of a stored box.

during emission, but these measures are generally not as effective as reducing clutter is. These products only temporarily address a situation and do not usually eliminate the problem. Also, use of pesticides may make recluse spiders more active for a few days following the application. If individual spiders are not killed, the spiders may move to evade treated areas; therefore, any pesticide application needs to be thorough. Professional exterminators may be needed if there is an infestation. Sticky pads are particularly effective traps for recluses and can be used to monitor success of treatments and as a means of control.

## Conclusion

Although widow and recluse spiders may be difficult to appreciate, spiders in general provide valuable services to people by removing other pest insects from homes and gardens. Recluses and widow spiders can be a danger, and learning how to identify these species will help people avoid problems. The risk of being bitten by either a recluse or a widow spider is minimal and can be reduced by taking a few simple precautions. Furthermore, populations of unwanted spiders can be controlled by making areas less-suitable habitats for them. Reducing habitat that is attractive to spiders is the most effective control measure. Safety is an active process, and participation is necessary to reduce this risk.