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Spiders

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Most spiders are small, inconspicuous arachnids that are harmless to humans. Their beneficial role in keeping insect populations in check far outweighs the hazard posed by the few spiders that occasionally bite humans. Very few of the nearly 980 species of spiders recorded in Texas can hurt people. Only two groups—recluse spiders and widow spiders—are considered medically significant. A few other spider groups (for example some house spiders, *Steatoda* species, and sac spiders, *Cheiracanthium* species) have, in rare cases, been reported to cause painful bites.

Tarantulas, jumping spiders, wolf spiders and some other spiders worry people who mistakenly believe they are highly venomous. Although these spiders are often large, hairy and formidable looking, they rarely bite and, at worst, their bite is less harmful than a bee sting. People who are allergic to spider venom, though, may react severely to any spider bite.

Many people have a phobia of spiders. But knowing how to distinguish harmless from dangerous spiders and how to prevent and control them in the home can prevent needless concern and reduce the chances of harm to humans.

Recluse spiders

Five species of recluse spiders have been recorded in Texas: *Loxosceles apachea, L. blanda, L. devia, L. reclusa* and *L. rufescens.* Although only *L. reclusa* and *L. rufescens* are known to be venomous to people, it is best to consider all these species as potentially dangerous.

Figure 1. Brown recluse spider, *Loxosceles reclusa.*

Figure 2. Brown recluse spider, *Loxosceles reclusa,* well-fed female.

The best-known of these species, the brown recluse spider, *Loxosceles reclusa,* inhabits many Southern and Midwestern states. Recluse spiders are often found in garages, firewood piles, cluttered cellars and piles of stored boards. They often live around homes in bathrooms, bedrooms and closets, under furniture, behind baseboards and door facings, or in corners and crevices. Recluse spiders are most active at night when they hunt. People are sometimes bitten while asleep, apparently when rolling over on a spider while in bed. Others are bitten when putting on clothes that have hung undisturbed for some time near where spiders are hiding.

Description and life cycle

As their name implies, recluse spiders are generally shy. They spin nondescript white or grayish webs, where they may hide during the day. They are predators of insects and other arthropods, known to wander around houses looking for prey.

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While walking, the body and legs together cover an area about the size of a quarter, but the body itself is only ¼ to ½ inch long. Their color varies from orange-yellow to dark brown.

The brown recluse's most distinguishing characteristics are its eye pattern and markings on the back. Recluse spiders have six eyes arranged in three pairs in a semicircle on the forepart of the head. Uncommon in spiders, this eye pattern helps separate recluse spiders from most other spider groups. The eyes also form the base of a violin-shaped marking on the cephalothorax, or front body region. The neck of the "violin" forms a distinct, short median groove (see Fig. 1). The violin marking may be conspicuous or blend with the background color.

One other group of spiders, spitting spiders in the genus *Scytodes,* has a similar eye arrangement. Spitting spiders have long, spindly, banded legs and a spotted pattern on top of the cephalothorax. The cephalothorax is raised like a dome in spitting spiders but nearly flat in recluse spiders. Spitting spiders are slow-moving and common in window sills and other locations around the house. They are considered harmless.

Figure 3. Spitting spider, *Scytodes.*

Brown recluse spiders lay one to two egg masses per year in dark, sheltered areas. Like those of many other spiders, brown recluse egg cases are round, about ⅝ inch (1.6 cm) in diameter, flat on the bottom and convex on top. After 24 to 36 days, an average of 50 spiderlings emerge from each egg case. Their slow development is influenced greatly by nutrition and environmental conditions.

Figure 4. Brown recluse spider egg case.

Bite symptoms

The effects of a recluse spider bite may be immediate or delayed, depending on the amount of venom injected and the victim's sensitivity. The bite may be hardly noticed at first, but later cause a stinging sensation or intense pain. Fever, chills, nausea, weakness, restlessness and/or joint pain occur within 24 to 36 hours. The bite may produce a small blister surrounded by a large, congested, swollen area. The venom usually kills the affected tissue, which gradually sloughs away and exposes underlying tissues. The edges of the wound thicken, while the exposed center fills with dense scar tissue. Healing may take 6 to 8 weeks and leave a scar, depending on the amount of venom injected and the reaction of the individual.

Widow spiders

Figure 5. Southern black widow, *Latrodectus mactans.*

The southern black widow, *Latrodectus mactans,* and its relatives live across the entire United States. Other widow species found in Texas include the western black widow, *L. hesperus,* the northern black widow, *L. variolus,* and the brown widow, *L. geometricus.* Their coloration varies considerably. For proper identification, an expert may be needed to examine mature specimens.

Widow spiders are found in protected cavities outdoors or in structures that are open to the outdoors, especially where insects are common. Around homes, they may live in out-houses, garages, cellars, furniture, shrubbery, ventilators, rain spouts, gas and electric meters and other undisturbed places. Widow spiders also may be seen in cotton fields and occasionally in vegetable gardens.

Like most arachnids, widow spiders are shy and retiring. People are bitten occasionally when they accidentally disturb a hidden spider or its web. To avoid hidden spiders, disturb any area before sticking your hand in places where spiders might hide. Use a stick to remove webs under benches, especially in wooded areas or under the seat in an outhouse.

Description and life cycle

Figure 6. Southern black widow, *Latrodectus mactans,* immature.

Widow spiders are typically jet black, but their colors and patterns can vary considerably. Males and juveniles tend to show more color, with orange, red and white markings on the back and sides. On the underside of their rounded abdomen are two reddish triangles that may join to form an hourglass shape. Some individuals also have irregular or spot-like markings; others have none at all. Adult widow spiders average 1½ inches long and have eight eyes in two rows, a common spider eye pattern.

Females lay eggs in a loosely woven cup of silk. The ½-inch-long, oval egg sacs hold 25 to 900 or more eggs, which incubate for about 20 days, depending on temperature and time of year. Spiderlings usually stay near the egg sac for a few

days after they emerge. Some spiderlings may be eaten by others. Like many spiders, surviving spiderlings disperse by "ballooning." They spin a single silk thread that is caught by the wind, which carries them to a new location. When about one-third grown, they establish themselves in a protected place and build loosely woven webs.

Widow spiders usually remain in their rather coarse, irregular, tangled webs for the rest of their lives. Over time they extend their webs and capture progressively larger prey. Males eventually leave their webs to find females for mating. Contrary to popular belief, most females do not eat the males after mating. This habit, which gives the group its name, is found in a few species of widow spiders from other areas and is more common in captivity.

Bite symptoms

If noticed at all, a widow spider bite may at first feel like a pin prick. At the location of the bite there usually will be a slight local swelling and two red spots surrounded by redness. The reaction may become systemic (throughout the body), with pain that becomes intense in 1 to 3 hours and continues for up to 48 hours. Symptoms may include tremors, nausea, vomiting, leg cramps, abdominal pain, profuse perspiration, loss of muscle tone and rise in blood pressure. The toxin also can cause breathing difficulties and sometimes unconsciousness. However, less than 5 percent of the reported bites from widow spiders are fatal.

Other common spiders

Tarantulas

Figure 7. Tarantula, *Aphonopelma.*

Tarantulas are members of the family Theraphosidae and most species in Texas are in the genus *Aphonopelma.* These large, hairy spiders are brown to black and more than 3 inches long when full-grown. Females, which are larger than males, have abdomens about the size of a quarter.

Tarantulas hunt at night and spend the day under rocks, in abandoned mouse burrows or in other sheltered areas. They may be seen in the evening or late at night along country roads or trails. Migrating male tarantulas are often seen for a few weeks in early summer. The purpose of the migration is not completely understood, but it may occur as males seek mates.

Tarantulas are sometimes kept as pets and can become quite tame. They can be handled, but be careful because they can quickly become disturbed and may pierce the skin with their fangs. In American tarantulas the body hairs on the top of the abdomen have barbs that may irritate the skin, so take care when handling them.

Tarantulas need a constant supply of water in a flat dish into which they can lower their mouths. They eat live crickets, mealworms, caterpillars or other insects. Pet tarantulas may die if they are fed June beetles, according to some reports. Tarantulas can go for several weeks without food, and sometimes refuse to eat before molting. Tarantulas can crawl up glass and escape through small openings, so they must be kept in a container with a good lid.

Jumping spiders

Figure 8. Bold jumper, *Phidippus audax.*

Jumping spiders, all of which are in the family Salticidae, are among the most interesting spiders to watch. Jumping spiders come in many sizes and color patterns. They are active hunters during the day, have good eyesight, and rely primarily on movement to locate prey. They stalk their prey before attacking in a fast leap. Jumping spiders put out a line of webbing when they jump and can sometimes be seen dangling from this silken dragline after a leap that fails.

Many jumping spiders are bold, stocky and often brightly colored. They often have conspicuous bands of black and white on their bodies or legs. Others have velvety red abdomens and some even have metallic colors on the chelicerae (jaws). Jumping spiders have eight eyes, with one large pair in the front. Like most spiders, they are not hazardous to humans and are unlikely to bite unless cornered or handled.

The bold jumper, *Phidippus audax,* is one of the most common and conspicuous of the jumping spiders. It is black with three spots on the back of the abdomen; these spots are orange in immatures and white in adults. Like many jumping spiders, the bold jumper can be found in gardens and around homes. It is territorial. The same spider may be seen in the same locations around a window for extended periods.

Wolf spiders

Figure 9. Wolf spider, *Rabidosa rabida.*

Wolf spiders hunt at night. They are usually brown and black and may have longitudinal stripes. Wolf spiders are large and often seen under lights. They can be seen at night when their eyes reflect light from a flashlight, headlamp or car headlight.

Members of the genera *Rabidosa* and *Hogna* include some of our most conspicuous wolf spiders. They form webbing only to provide daytime shelter, not to capture prey. Many wolf spider females carry their egg masses below their abdomens until after the eggs hatch. Young spiderlings cling to the mother's abdomen for a short time after hatching. Hundreds to thousands of wolf spiders may live in an average backyard, where they feed on a variety of insects and small organisms. Because they are so common, wolf spiders are often seen in homes, which they enter through gaps under doors. Fortunately, they pose no danger to people or pets.

Orbweavers

Figure 10. Yellow garden spider, *Argiope aurantia.*

Orb-weaving spiders produce the familiar flat, ornate, circular webs usually associated with spiders. Orbweavers come in many shapes and sizes, but the brightly colored garden orbweavers, *Argiope,* are the largest and best known. The yellow garden spider, *Argiope aurantia,* is marked with yellow, black, orange and silver. The female's body is more than 1 inch long with much longer legs. It is also known as the black and yellow garden spider and sometimes the writing spider because of a thickened, interwoven section in the center of its web. Male *Argiope,* often less than one-fourth the size of females, can sometimes be found in the same web with the female. Garden orbweavers are so named because their webs can be found in fields, on fences, around homes and in other locations.

Figure 11. Spinybacked orbweaver, *Gasteracantha cancriformis.*

The spinybacked orbweaver, *Gasteracantha cancriformis,* is another distinctive orbweaver that is especially common in wooded areas. The unusual flattened, spiny body shape makes it look like a crab. Its abdomen may be white, yellow, orange or red.

Orbweavers are harmless but can be a nuisance when they build large webs in places inconvenient for humans.

Southern house spider

The southern house spider or crevice spider, *Kukulcania hibernalis,* frequently enters homes and causes concern when mistaken for a recluse spider. They are larger than recluse spiders, have eight eyes all in one cluster, and lack the recluse's violin marking. Southern house spider females are larger and darker brown than males. This spider's distinctive web radiates outward from a central lair built in a hole or cavity. Southern house spiders are common in old barns and undisturbed buildings.

Figure 12. Southern house spider, *Kukulcania hibernalis,* female.

Figure 13. Southern house spider, *Kukulcania hibernalis,* male.

Controlling spiders

- As a precautionary measure, become familiar with what poisonous spiders look like and how they act.
- Because spiders nest in quiet, undisturbed areas, discourage them by cleaning and vacuuming closets, cellars and other such areas frequently.
- Seal buildings with caulk, screening and weather stripping to keep spiders from entering.
- Tape or seal boxes to keep out spiders, especially in storage areas infested with brown recluse spiders.
- Mechanically remove webbing using a broom, dust mop or vacuum. Some dust mops are designed to work in corners near the ceiling.
- Wash off outside areas, particularly under roof eaves, with a spray from a water hose to remove some webbing and spiders. Webbing also can be removed with products such as Cobweb Eliminator®.
- When chemical control is needed, use products containing synergized pyrethrins, resmethrin, tetramethrin, deltamethrin, cyfluthrin or bifenthrin. Always follow label directions and use only products labeled for spider control or for use in areas where spiders are found. Spray or dust outside under roof eaves, window ledges and porch and patio roofs. Inside, spray around windows, door facings and baseboards and in attics, basements and storage places. Insecticides will not eliminate spiders permanently because they are mobile and may migrate back into a treated area. Also, species that sit on the web may not pick up much residual pesticide.
- Because some spiders, such as the brown recluse, can be difficult to control, hiring a pest management professional may be the best option. If your home is infested with recluse spiders, be sure the company you hire has experience with this pest.

First aid for spider bites

Relieve local swelling and pain by applying an ice pack, ammonia or alcohol directly to the bite area. If the reaction is severe, consult a doctor immediately and, if possible, take along the spider for positive identification. Specific antivenin is sometimes available to treat widow spider bites.

Tips for professionals

- Advanced-generation pyrethroids, such as cyfluthrin, deltamethrin, cypermethrin, lambda-cyhalothrin, tralomethrin and bifenthrin, generally work best against spiders.
- Wettable powder formulations generally provide the best residual control on wood, concrete and brick surfaces.
- Residual pyrethroid dusts such as cyfluthrin or deltamethrin provide excellent control in inaccessible void areas.
- Brown recluse infestations are best treated with a combination of sanitation, residual sprays and dusts in appropriate areas. Storage areas, especially those containing cardboard boxes or boards, are commonly infested by recluse spiders. Sealing boxes with tape helps keep spiders out and reduces the risk of transporting spiders to other locations.
- Aerosol fogs are generally ineffective for all but the exposed stages of spiders, but may be a useful supplement to residual sprays and dusts.

Additional information about entomology can be found on the Web at: *http://insects.tamu.edu*.

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Revision