

City of New Orleans Mosquito & Termite Control Board

The Brown Widow Spider: An Invasive Species of Medical Importance

Kenneth S. Brown¹, Jayme S. Necaie², and Edward D. Freytag¹

¹City of New Orleans Mosquito and Termite Control Board

²Audubon Nature Institute Insectarium



CITY OF NEW ORLEANS



Figure 1. Adult female brown widow spider (*Latrodectus geometricus*) showing characteristic orange hourglass marking (a) and male (b).

Very few of the 3,500 species of spiders in North America have bites that are considered dangerous to humans. Most are too small or produce a venom that is too weak to harm people. Historically, there have been only two spiders of medical concern in southern Louisiana, the brown recluse (*Loxosceles reclusa*) and the black widow (*Latrodectus mactans*). However, a third species of medical importance, the brown widow (*Latrodectus geometricus*), has recently been introduced.

Although the brown widow (Figure 1) has a worldwide distribution, it has historically been limited within the continental United States to peninsular Florida. Recently, brown widows, which are closely related to the notorious black widow, have been reported in multiple locations within the Greater New Orleans area.

Identification and Habitat

The widows, both black and brown, belong to a family of spiders known as the cobweb weavers or comb footed spiders (Theridiidae). These spiders construct strong, irregular webs, with little or no identifiable pattern. They often make their homes in sheds, abandoned buildings, wood piles, under rocks and stones, and other dark undisturbed areas usually near the ground (Figure 2). Brown widow females are typically $\frac{1}{2}$ to 1 inch long (including the legs). They have a highly variable coloration which ranges from spotted, mottled browns, tans, and whites to an almost solid chocolate brown (Figure 3). Two features common to all adult female brown widows is an orange hourglass shape on the underside of the abdomen and black and brown banded legs. A brown widow female can produce up to 20 egg sacs in her lifetime, each typically containing 150 to 250 eggs. The egg sacs are usually spherical, white to off-white in color, with multiple spines giving the sac a general “spiked” appearance (Figure 4). In New Orleans, these spiders and their egg sacs have been found under trashcan handles, sinks, traffic cones, as well as undisturbed machinery and furniture. Other common spiders (Figure 5) are found in the New Orleans area that can easily be confused with the brown widow. Please do not handle any spiders without a positive identification.



Figure 2. Habitat of the brown widow spider.

For questions please contact:

Kenneth S. Brown, Ph.D.
Research Entomologist
New Orleans Mosquito and Termite Control Board
(504) 658-2400
ksbrown@cityofno.com

Jayme S. Necaie
Entomologist
Audubon Nature Institute Insectarium
(504) 254-9746
jnecaie@auduboninstitute.org

Medical Considerations

Behaviorally, the brown widow is among the least aggressive of all the widows and will bite only if provoked. The venom of the widows, in general, is a potent neurotoxin. The bite may not be immediately noticeable but soon becomes painful. Symptoms sometimes include headache, general lethargy, profuse sweating, nausea, shortness of breath, muscle cramps, and rigidity of the abdomen and legs. In case of a bite, remain calm and seek medical attention immediately. Symptoms of a brown widow bite tend to be localized to the site of envenomation and overall less severe than those of the black widow. Because identification of the spider is important, if possible, the spider should be carefully collected in a container with a tight fitting lid and transported with the patient to the medical facility.



Figure 4. Spiked egg sacs of the brown widow spider.

Spider Management

Several actions can be taken to limit the numbers of spiders in and around your home or business and reduce the risk of bites. Vacuuming is the best mechanical control option indoors for removal of webs and egg cases. Discard vacuum bags in a sealed plastic bag. Remove clutter from the home to reduce potential nesting locations. Spiders can be prevalent when large populations of their prey (i.e. roaches, flies, other insects) are present. Proper storage of food items (including pet food) in airtight containers will reduce the spider's prey population. Shake out clothing and other items outdoors prior to use that may be stored in spider-infested areas.

Outside the home, remove wood piles and other debris from the property. Wear thick leather gloves when moving wood piles, crates, or other materials. Maintaining windows and screens in good repair, sealing cracks and crevices near doors, closing gaps around utility penetrations, and closing other entry points reduces an insect's ability to enter a home and subsequently spider populations. Reducing exterior lighting will also reduce prey numbers.

Several products are commercially available for control of pest spiders in and around the home. Some are labeled for use by homeowners and others can only be used by licensed certified applicators. Individual spiders can be killed with a non-residual aerosol spray. For exterior infestations, non-repellant residual insecticides can be applied around the structure. For more information on controlling spiders and other pests in and around your home contact your local pest management professional. It is important when handling and applying any type of pesticide to carefully read and follow the label directions.



Figure 3 Coloration of brown widow spiders can vary from light tan (top) to dark brown (bottom).

Spider Inspection

The best time to survey for widow activity is at night with the aid of a good flashlight because this is the time they are most active. Care should be taken when removing webbing because the adult female brown widow spends most of the daylight hours secluded in a small "V" shaped enclosure in the web. When disturbed, the brown widow will characteristically tuck her legs under her abdomen and drop from her web.

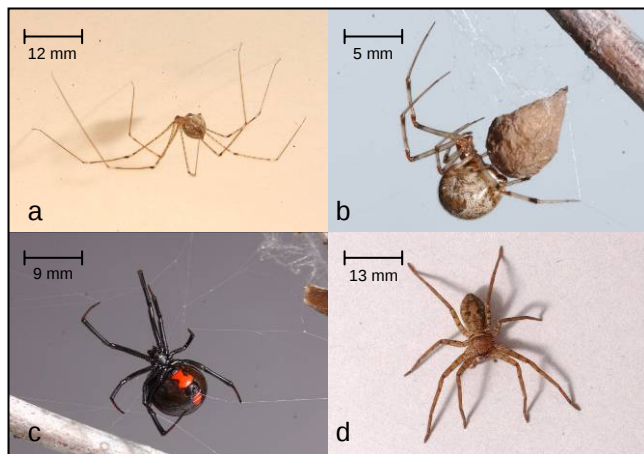


Figure 5. Common spiders that may be confused with the brown widow; (a) cellar spider (b) common house spider (c) black widow (d) huntsman spider (juvenile).