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## Poisonous Spiders of South Carolina

Almost all spiders are capable of producing venomous bites. However, there are very few species of spiders in the United States and South Carolina that produce harmful bites. The U. S. Public Health Service reports that poisonous bites are a very minor cause of death in the U. S. Annually, venomous animals produce deaths as follows: Bees, 12; wasps and other hymenoptera, 10; snakes, 14; spiders, six; and scorpions, one. In South Carolina, two groups of spiders, the widow and the recluse spiders, are of most concern and will be discussed in detail. Two other species, *Chirocathium inclusum* (a common running spider) and *Argiope aurantia* (the black and yellow garden spider), have occasionally been reported as producing serious human spider bites. None of these bites produced death or prolonged illness.

**Description, life history and nature of injury:** The widow spiders (Theridiidae: *Lactrodectus* species) are large with mature females measuring 1 1/2 inches with legs extended. Most people are familiar with the Southern Black Widow (*Lactrodectus mactans*), a glossy black spider with a complete red hourglass marking on the underside of its abdomen. The Northern Black Widow (*Lactrodectus variolus*) has the same general appearance as the Southern Black Widow except that it has a broken hourglass on its underside and a row of red spots running down the top side of its abdomen. The smaller male widow spiders can be distinguished from the females by the swollen (knob-like) palpal organs projecting from the front of the head. The widow spiders have eight eyes clustered on the front of the head. Male black widows and immatures and other widow spiders (red and brown widows) pose little health threat and will not be discussed.

The black widow requires about four months from egg to maturity. The females require 6-9 molts. Egg laying is restricted to the warm months. The females produce several egg sacs (containing hundreds of eggs) during their 1-2 year life span.



The underside of a black widow spider.

Photo source: Clemson Entomology Dept. CE 201

The female black widow usually spins a silken web in protected places such as under stones, house steps, decks, etc. The spider is rarely found inside houses. The widow spider is most apt to bite when her eggs are threatened. The black widow bite produces a sharp pain that may persist for hours. Local muscular cramps may develop. The pain may become severe and spread to the abdomen and be accompanied by weakness and tremor. Spasmodic breathing, a feeble pulse, cold clammy skin and delirium may be noted. Intravenous injection of 10% calcium gluconate to relieve the muscle spasms has proven effective. A black widow antiserum is available and effective in treatment.

**The recluse spiders (Scytodidae: *Loxosceles* species):** The brown recluse (*Loxosceles reclusa*) was confirmed in South Carolina in 1976 at Goose Creek. Since that time, the spiders have been found at Liberty, S.C. (14 in one house) and on the campus of Clemson University and other areas of the state. The brown recluse is a small, light brown to yellow, quite harmless appearing spider. Its slim body is about 3/8" long with long legs which extend its length to more than one inch. The primary key to identification are the three pairs of eyes. The "fiddle" or violin outline on the back is not a dependable character since many brown spiders have similar markings. The male brown recluse is similar in appearance to the female except it has a

smaller abdomen and large knob like palpi on the front of the head.

The brown recluse is a relatively long-lived spider sometimes living for two years. Mating usually occurs in June and July. One mating is sufficient for the female to produce several egg masses. An egg mass (which is surrounded by a silken case) may contain 40 or more spiderlings. A single female may produce from 30-300 offspring in one season. The young spiderlings molt (shed their skin) several times as they grow to maturity. Mortality of the spiderlings is quite high during molting.



A brown recluse spider showing the "fiddle" outline on the back.

The brown recluse is a shy spider and searches for its insect prey primarily at night. During the day it rests in closets, boxes, under furniture, in attics under insulation, and in ceiling light fixtures. People typically are bitten accidentally while putting on clothes in which the spider is hiding or rolling on to them while in bed.

The bite of the brown recluse usually produces a necrotic (death of tissue) condition followed by deep scarring of tissue. Lesions are slow healing and often require skin grafts. The bite may also produce a systemic reaction causing the destruction of red blood cells resulting in kidney failure and death.

**Spider Control:** Effective spider control requires good sanitation and elimination of insect prey as well as chemical treatment. The following control program is suggested.

- A. Discourage spiders by destroying the webs, egg sacs, and spiders by brushing or vacuuming.
- B. Remove collections of paper, boxes, rubbish piles in the house, attic, storage areas, etc. Elimination of harborage will discourage spiders.
- C. Maintain household insect control. Lack of food will discourage spiders and force them to move elsewhere.
- D. Use chemical control. Space treatment with aerosols containing pyrethrins are effective as a fast contact kill of exposed spiders.

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