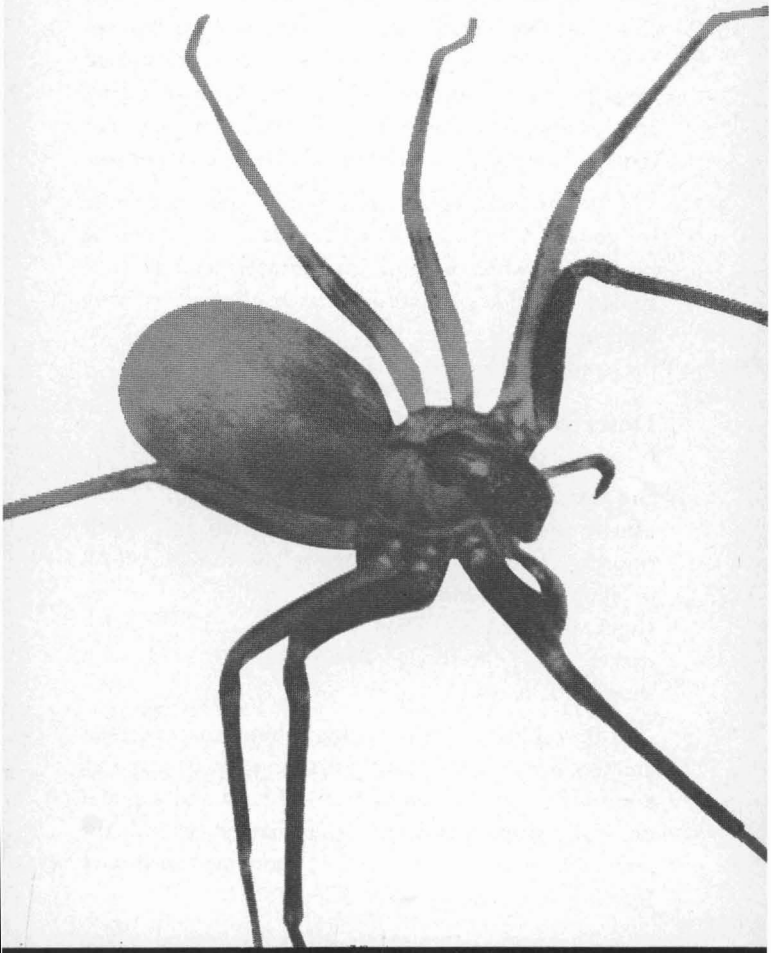


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**The**  
**BROWN RECLUSE**  
**and**  
**BLACK WIDOW**  
**SPIDERS**



TEXAS A&M UNIVERSITY  
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# The Brown Recluse and Black Widow SPIDERS

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The BROWN RECLUSE SPIDER, *Loxosceles reclusa* Gertsch, has been reported from many southern and mid-western states including Alabama, Arkansas, Louisiana, Mississippi, Oklahoma, Tennessee, Texas, Kansas and Missouri. Members of this species usually are found in or near human habitations. They can be observed in bathrooms, bedrooms and closets, on the underside of tables and chairs, behind baseboards and door facings or in corners and crevices. These spiders also can be found in cellars and garages which are not cleaned often and the contents are not disturbed for relatively long periods.

It is a nonaggressive species that spins off-white to grayish nondescript webs. Many instances of bites occur when persons inadvertently entrap these spiders in folds of clothing that is allowed to hang undisturbed for rather long periods or by rolling on the spider in bed while asleep.

## Description and Life Cycle

The brown recluse spider is of medium size and varies from 3/10 to 1/2 inch in length. Males usually are slightly smaller than the females. Their coloring varies from an orange-yellow to dark brown or almost black and the body is clothed with short, slight pubescence. Legs are long and somewhat darker than the body, being well covered with short dark hairs.

Probably the most distinguishing characteristics are the presence of three pairs of eyes arranged in a semicircle on the forepart of the head and a guitar or violin-shaped marking immediately behind the semicircle of eyes with a distinct short median groove forming the neck of the "guitar."

The eggs, deposited in off-white round silken cases approximately 1/3 inch in diameter, are found

in sheltered dark areas in the spider's habitat. In 24 to 36 days some 40 to 50+ spiders usually emerge from the egg case. The abandoned egg case will contain the cast skins of the young spiderlings as they have hatched from their eggs sometime earlier and molted once before leaving the case. Development is slow, being influenced greatly by ecological conditions and nutrition.

## Bite and Symptoms

The victim may not be aware of the bite for 2 or 3 hours, or a painful reaction may occur immediately, depending upon the amount of venom injected and the individual's sensitivity. However, a stinging sensation usually is followed by intense pain. Within the next 24 to 36 hours a systemic response may occur, characterized by restlessness and fever. A small blister usually arises surrounded by a large congested and swollen area. The tissue affected locally by the venom usually is killed and gradually sloughs away, exposing the underlying tissues. The wound edges thicken and are raised while the central area is filled by dense scar tissue. Healing may require 6 or 8 weeks, leaving scars of various dimensions.

In case of bite, the victim should consult a physician immediately and, if possible, bring along the spider which caused the bite for positive identification. As yet, specific antivenin is not available for treatment; therefore, both local and systemic reactions have been treated symptomatically. There is some evidence to indicate that immediate and adequate treatment with corticosteroids may curtail the necrotic response as well as the systemic reaction.

The BLACK WIDOW SPIDER *Latrodectus mactans* (Fabr.) is present all over the United States. Its range extends from the western provinces of Canada to Argentina.

This spider is found outdoors in grass, under stones, beneath pieces of wood, in rodent burrows and in protected cavities of all kinds. In and around the house it occurs in privies, garages, cellars, furniture, ventilators, rainspouts, and in boxes sheltering water, gas and electric meters, as well as any other locality where it is not likely to be disturbed.

Like most spiders, the black widow is shy and retiring. Bites usually occur after accidentally squeezing one when picking up some object to which the spider is clinging, when putting on clothing or shoes in which they may have secreted themselves, or when their rather coarse, irregular, tangled web is disturbed.

## Description and Life Cycle

The female is usually jet black, although some apparently mature females may have the light streaks on the abdomen, a characteristic of the immature forms. The lower side of the rounded abdomen almost always exhibits two reddish triangles, resembling an hour glass in shape. The reddish mark may follow an irregular shape and even be spot-like in appearance. The overall length of the female is approximately 1 1/2 inches.

The male is characterized by having light streaks on the abdomen and being considerably smaller than the female, about 1 1/8 inches.

Gravid females lay their eggs singly in a loosely woven cup of silk. The egg sacs measure from

**Female black widow spider and egg sac.**



1/2 to 5/8 inch, are oval in shape and may contain from 25 to 900 or more eggs. After the nocturnal oviposition is complete, the female spins a few threads across the open end and then encloses the entire cup in a tough water-tight covering of silk. The female may spin from 1 to 9 egg sacs at intervals of 1 week to 4 months during a year. The eggs undergo an incubation period, averaging 20 days, with the young spiders spending from 4 days to 1 month in the egg sac.

The first growth stage, during which the spider is not capable of feeding, and sometimes the second is spent in the cocoon. Upon emerging the young spiders tend to congregate near the egg-sac a few days. Cannibalism is prevalent during this time. The remaining spiderlings disperse by means of small silk threads. When they are about a third grown, they establish themselves in some protected place and construct loosely woven webs of no specific design, or on rare occasions they may become established in an abandoned web funnel. They usually remain in this web for the remainder of their lives. As they grow to maturity, they extend their web and capture progressively larger prey. Males molt 3 to 6 times before maturity and the mature ones leave their web and search out the female. The female molts 6 to 8 times and frequently eats the male after mating.

### **Bite and Symptoms**

The bite feels like a pin prick. In some instances it may not even be felt. Usually, a slight local swelling and two red spots with local redness indicate where the bite occurred. It becomes intense in 1 to 3 hours and may continue up to 48 hours. The symptoms consist of abdominal pains, rise in blood pressure, nausea, profuse perspiration, leg cramps, tremors, loss of muscle tone and vomiting. When the toxin reaches the respiratory centers, there is difficulty in breathing and prostration.

## **CONTROL OF SPIDERS**

These spiders seek out quiet and undisturbed areas for nests. Frequent cleaning in closets and cellars will decrease the numbers of spiders in these

areas. Where possible, window shutters, step areas and related places should be washed off with a hose. Some out-buildings may be handled in the same manner.

Spray or dust outside the home with lindane, dieldrin or chlordane. Follow directions on the manufacturer's labels for mixing sprays. Use a 0.2 to 0.5 percent lindane, 0.5 percent dieldrin or 2 percent chlordane household spray inside the home and spray around windows, door facings and other places where spiders are found.

## REFERENCES

Atkins, J. A., C. W. Wingo, W. A. Sodeman and J. E. Flynn, 1958. Necrotic Arachnidism, *American Journal of Tropical Medicine and Hygiene*, 7 (2):165-184.

Anonymous. *The Brown Recluse Spider*, L37-1103. Oklahoma State University, Stillwater, Oklahoma.

Price, Manning A. *Notes on the Biology and Control of Spiders and Scorpions*. Unpublished manuscript.

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