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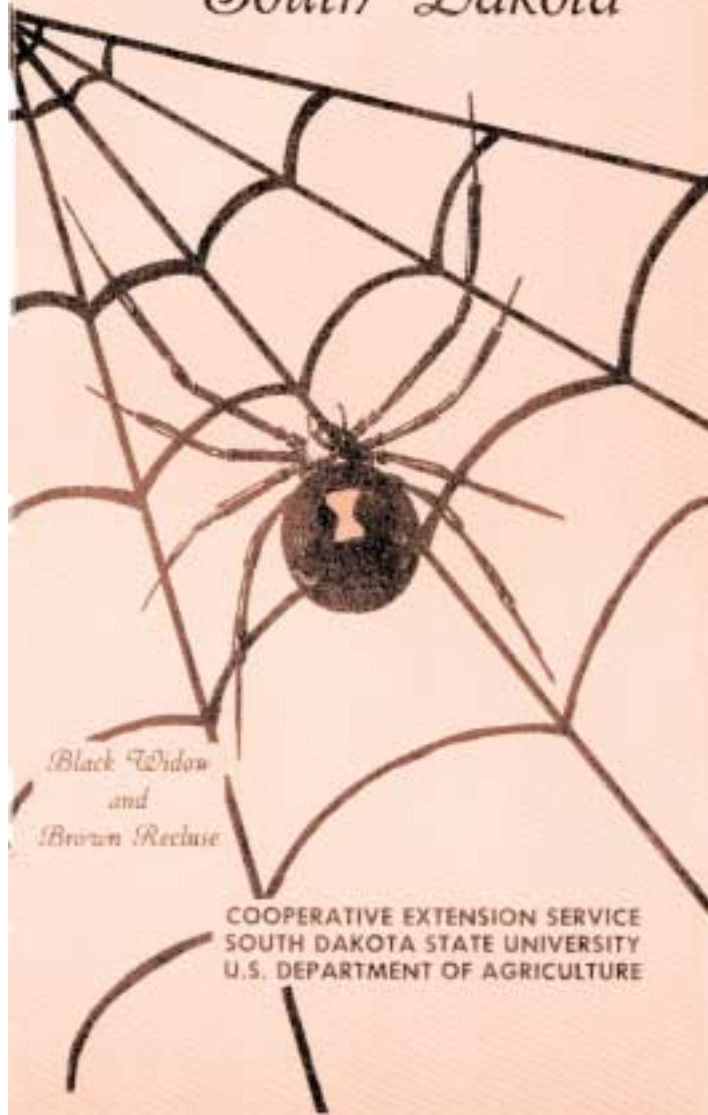
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FS 421

Venomous Spiders
in
South Dakota



Black Widow
and
Brown Recluse

COOPERATIVE EXTENSION SERVICE
SOUTH DAKOTA STATE UNIVERSITY
U.S. DEPARTMENT OF AGRICULTURE

Venomous Spiders in South Dakota

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Widespread fear of spiders, for the most part unjustified, could be blamed on "wives' tales" which exaggerate dangers from spider bite.

In reality most spiders are quite harmless, even beneficial to man, since their main food is insects. But two dangerous venomous species of spider—the black widow¹ and the brown recluse spider²—are of major medical consequence in the United States.

The brown recluse spider has not been collected in South Dakota, but the more familiar black widow spider frequently is found in this state as well as throughout the rest of the continental United States.

THE BLACK WIDOW

The poisonous jet black female attains a length of about 1½ inches, while the smaller and more slender non-poisonous male black widow attains a length of barely over an inch.

The most striking identifying feature of black widow spiders are two red triangle-shaped marks (or the hour glass) which appear on the lower side of the female's abdomen. This reddish mark sometimes may assume an irregular shape or be a single spot. Sometimes there are no markings at all.

Males have several light streaks on the lateral portions of the abdomen, but have no red markings. The light streaks apparently are a juvenile pattern which the male seems not to outgrow. Mature male populations frequently decrease after mating, since the larger female often eats them!

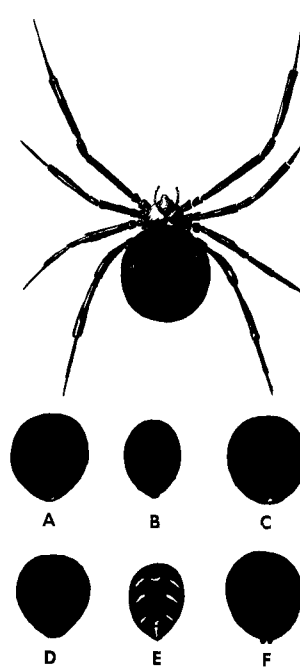
The female lays her eggs in a cup-like structure spun from silk. After the female completes egg-laying (oviposition), she encloses the entire cup in a tough waterproof envelope.

Young hatch in about twenty days, but spend several more days within the protection of the cocoon. Upon emerging, the young remain near the parental egg sac during which time cannibalism is prevalent. The surviving young disperse by spinning a thread-like web. They then establish themselves in some undisturbed spot and spin a loose disorganized funnel-shaped web. Usually black widow spiders remain in this web for the remainder of their lives except when the male leaves in search of a female mate.

Black widow spiders are found in the outdoors in undergrowth, under stones, in mouths of rodent burrows, hollow trees or in protected hollows of all kinds. They also inhabit undisturbed areas in garages, cellars, privies, rain spouts, ventilator louvres, crawl spaces under trailers and buildings.

Bites usually occur when someone picks up or rubs against an object upon which the spider is resting or puts on clothing or shoes in which they are hiding.

Figure 1. Variations of Abdominal Markings on Black Widow Spiders.



A. Characteristic hour glass on underside of poisonous female.
B. Marking on underside of non-poisonous male.
C. and D. Markings on underside of non-poisonous females.
E. Underside of male.
F. Upperside of female.

BITES AND SYMPTOMS

The bite of the black widow is slight—sometimes it is not even felt. Usually it appears in the form of two red spots and a local swelling and redness occurs immediately.

Pain may become intense in one to three hours and persist for up to 48 hours. The victim may then suffer severe cramps in the legs, chest and arms. The abdomen may become rigid and sensitive to pressure. The victim may further develop a headache, begin to sweat profusely and respiration may become shallow and jerky. Manifestation of these symptoms depends a great deal on sensitivity and age of the victim and severity of the bite.

Treatment for bites of the black widow spider should include use of a mild antiseptic (such as hydrogen peroxide) applied locally to the wound. The victim should be kept quiet and under observation. If symptoms appear, he should be put under the care of a physician. Drugs and other symptomatic treatment may be administered to alleviate pain. Calcium gluconate has been found useful in treatment of the symptoms of black widow spider bites. A specific antivenom also may be administered, although it is not widely used.

¹*Latrodectus mactans* (Fabricius).

²*Loxosceles reclusa* Gertsch and Mulaik.

THE BROWN RECLUSE SPIDER

The brown recluse spider has been reported from southern states and some midwestern states, including Oklahoma, Texas, Kansas, Missouri and as near as Nebraska. South Dakotans visiting or vacationing in these states may encounter this spider, however (as mentioned before), the brown recluse spider has not been reported in South Dakota.

This species is of medium size. Length varies from slightly over $\frac{1}{4}$ inch to $\frac{1}{2}$ inch. Coloring of the brown recluse varies from an orange-yellow to a dark brown. Short hairs cover the body. The spider's legs, also covered with short hairs, are long and somewhat darker colored than the body. The most distinguishing characteristics are three pairs of eyes arranged in a semicircle, and a guitar or violin-shaped marking directly behind the eyes on the cephalothorax.

This spider is found in human habitations, garages and cellars, which are not often cleaned or in stored materials left undisturbed for some time. Like the black widow, this spider is normally nonaggressive, but will bite when entrapped in folds of clothing which an unwary victim tries on.

The bite of this spider is intensely painful and reaction to the bite may be quite severe. Tissue around the bite usually sloughs away, exposing underlying tissue. Edges of the wound then thicken and the central area fills with scar tissue. Healing is slow, sometimes taking as long as six to eight weeks. Often a mass of dark scar tissue remains as a reminder of the painful bite.

The victim should see a physician. Injections of corticosteroids may be administered to curtail necrotic response and systemic reactions to the bite of the brown recluse spider.

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CONTROL OF SPIDERS

Since spiders prefer undisturbed areas, frequent cleaning of closets, attics and cellars will reduce spider infestations in the home. Remove trash, boards, loose bricks and tile from around the buildings, since those also are favored spider haunts. Knock down webs, spiders and egg sacs with a broom. Outside the house and in other areas, wash down webs and spiders with strong spray from a garden hose.

Infested areas can be sprayed chemically using any of the following: 0.5% lindane, 3% malathion or 1% ronnel. Obtain a non-staining household grade for use inside the home.

PRECAUTIONS

Do not spray directly overhead. Spiders may fall straight down and, although they are affected by the spray, they can still bite.

The first rule of pesticide use should be observed.

Read the label.

Determine the right amount of pesticide to use.

Then follow those instructions for dilution and application of the pesticide.

Take special care not to get pesticides on food, dishes or cooking utensils.

Remove aquariums, birds, cats, dogs and their food and water pans before spraying. When handling pesticides, avoid prolonged contact with the skin. Wash your face and hands after using.

If pesticide is spilled on clothes, change into new clothes immediately and launder old garment before wearing it again.

Dispose of unused pesticides and empty containers to prevent hazard to animals, wildlife or man. Preferred disposal is burial in soil where run-off will not contaminate water supplies.