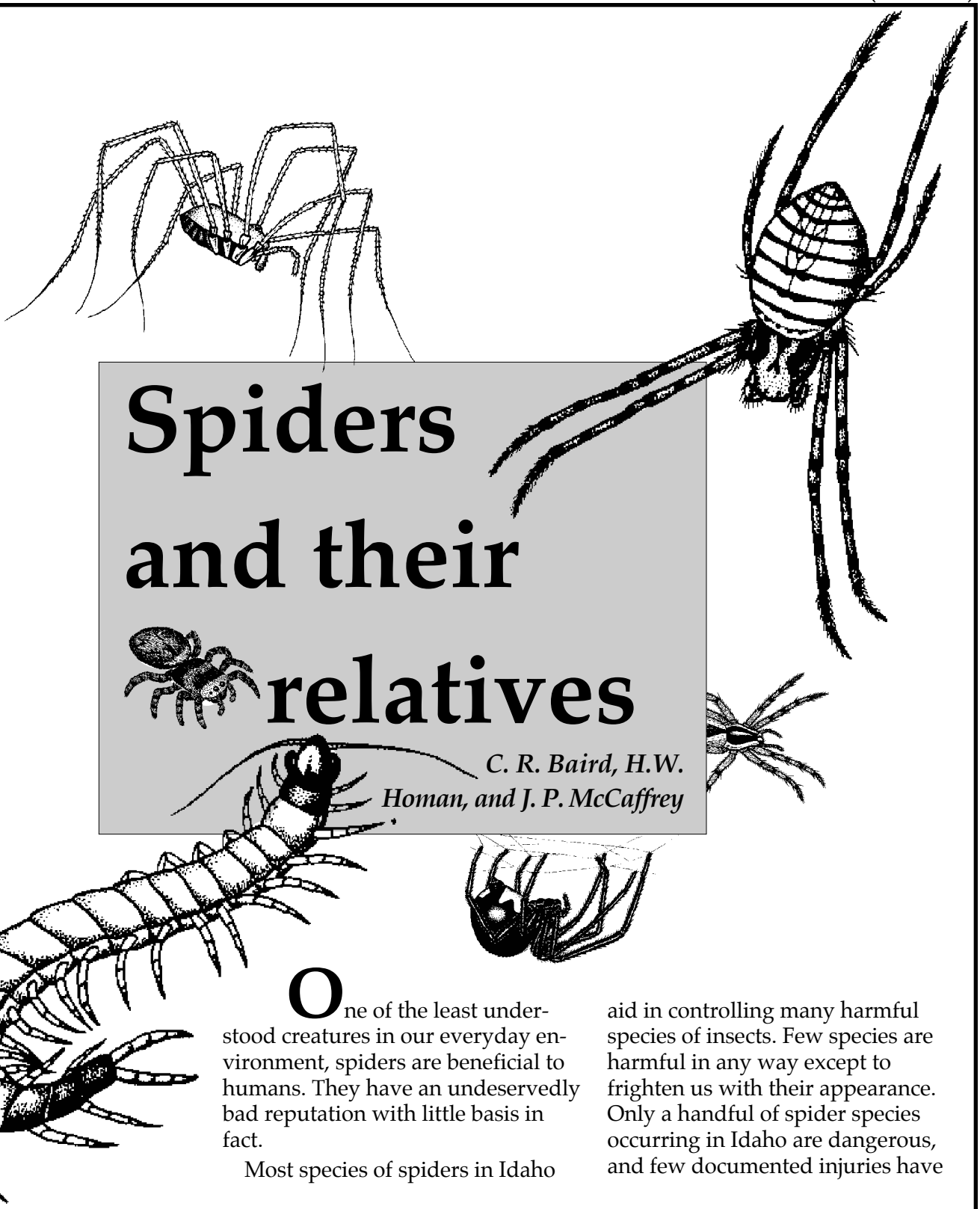

# Spiders and their relatives

*C. R. Baird, H.W. Homan, and J. P. McCaffrey*

One of the least understood creatures in our everyday environment, spiders are beneficial to humans. They have an undeservedly bad reputation with little basis in fact.

Most species of spiders in Idaho aid in controlling many harmful species of insects. Few species are harmful in any way except to frighten us with their appearance. Only a handful of spider species occurring in Idaho are dangerous, and few documented injuries have

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been attributed correctly to spider bites.

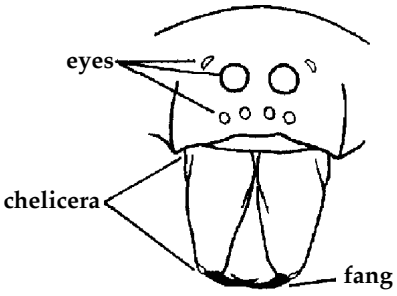
In some cases, spiders invade homes in search of food and become a nuisance pest because of their presence. Unsightly spider webs accumulating in our homes and yards add to their makers' bad reputation.

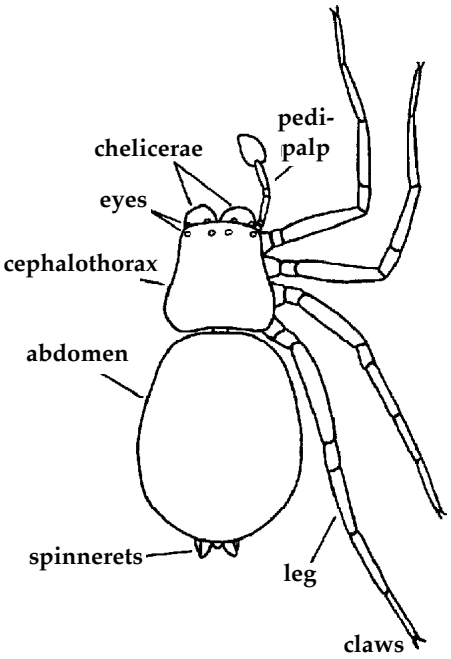
## *General spider characteristics*

Experts recognize about 30,000 species of spiders worldwide. In most cultures, spiders are treated with the same disdain and misunderstanding as in ours. Spiders have not received the same attention in research as have their relatives, the insects, and as a result, our knowledge of their ways and habits is more limited.

Spiders are distinguished easily from insects, pillbugs, millipedes, and other arthropods by their two distinct body regions (cephalothorax and abdomen), the four pairs of legs on the cephalothorax, and the lack of antennae. They can be separated further from scorpions, pseudo scorpions, mites, and sun spiders by their sac-like, unsegmented abdomen that narrowly is attached to the cephalothorax. Also, spiders have no pincers as do scorpions, pseudoscorpions, whip scorpions, and crayfish.

Many species of spiders spin silk webs to capture prey. Also, they use silk to construct the egg case, burrow-lining and drag lines, and for ballooning and attachment. Immature spiders travel long distances by ballooning. The spider climbs upon a perch and spins a silk strand that is carried into the wind. When the silk line is long enough, the spider is lifted from its perch and carried to a new location.




*Major parts of spider face (above) and body (right).*

Spiders are carnivorous and almost all use venom (poison) to subdue their prey. Their main food sources are insects, other spiders, and other related small animals. Spiders are beneficial predators, and except for those few spider species harmful to people, should be tolerated in the house or yard area.

Spiders have two basic methods of feeding. Most inject digestive fluid into their prey, then suck out the dissolved body contents. Some large spiders simply macerate their food with their jaws, ingesting the fluid and body contents.

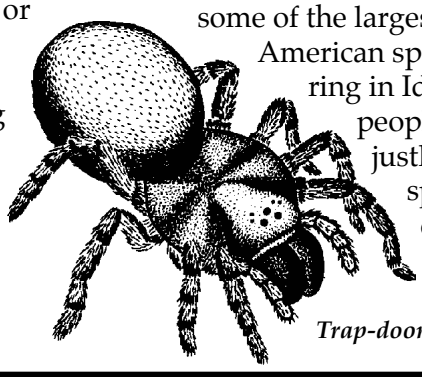
If a spider bites a person, it generally is because the spider is squeezed accidentally and bites in self-defense, or the web is disturbed and the spider bites instinctively, sensing prey in the web. Most spiders cannot bite through an adult's skin but may penetrate a small child's skin.

People differ in their reaction to spider bites. Contact a physician if a bite causes unusual reactions, excessive swelling, or breathing difficulty.

If a spider bites you, capture it dead or alive (if possible), and take it to your county Extension agent or Extension entomologist for identification. Since it might take a few days to get the spider to a specialist for identification, it's a good idea to preserve the spider in alcohol in a glass or plastic container.

## *Hunting spiders*

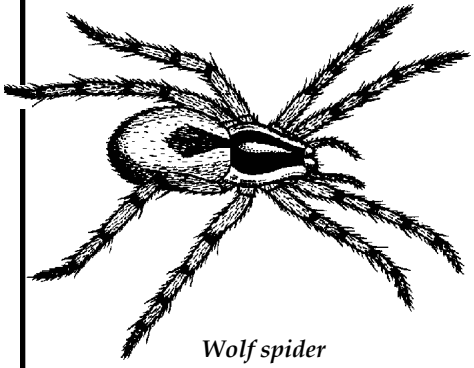
**Trap-door and folding-door trap-door spiders** are some of the largest of the North American spiders occurring in Idaho. Most people fear unjustly these large spiders. Trap-door spiders build tubular



*Trap-door spider*

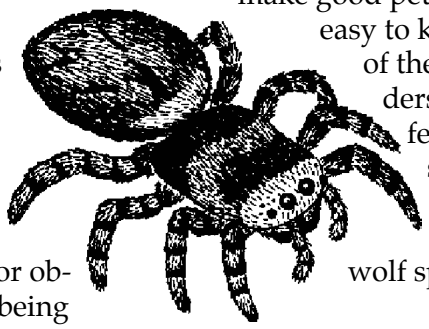
burrows lined with silk. The entrance to the burrow is closed with a lid hinged with silk. Vegetation camouflages the lid making the spider's lair difficult to see. The spider will detect an insect walking near its nest, quickly open the lid, capture, and bite the prey. These spiders rarely bite people or pets, and usually their bites are no worse than bee stings. If encountered they should be avoided, left alone, or observed without fear of being bitten. Commonly found in southern and western United States, these spiders are not often found in Idaho.

Folding-door trap-door spiders are similar to trap-door spiders. They usually are found in basements and garages after heavy rains when water floods their burrows forcing them to relocate. Again they are not ordinarily pests.



*Wolf spider*

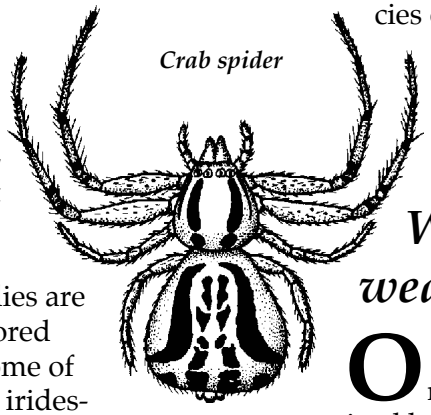
**Wolf spiders** are fairly large hunting spiders, averaging 1 inch in length. They are a common spider found in natural situations in Idaho. Many species are household invaders during summer and fall. They have good eyesight and are good at catching prey. Wolf spiders often are found under stones, boards, or in damp environments. Females often carry the egg case under their body, and newly hatched spiderlings ride on the female's back for a time. These spiders make good pets and are easy to keep. Many of the small spiders found on fences and shrubs in late fall are young wolf spiders.



*Jumping spider*

**Jumping spiders** are the most brightly colored spiders in Idaho. Usually their bodies are covered with colored hairs or scales, some of which are almost iridescent. Their colors, stout body, large eyes, and unique behavior distinguish these spiders from others. They are medium-sized spiders, 1/4 to 3/4 inch long, and are represented by many species in North America. Jumping spiders are active during the day and have better eyesight than most spiders. They walk sideways, backwards, and forwards, and can jump many times their body length to catch prey. Usually found in gardens and on the sides of buildings and fences, jumping spiders are important predators of pest insects.

**Crab spiders** are so named because of their appearance. Small to medium in size, they have a flat body with their front two-pairs of legs longer than their back legs. The first legs are held to the side, giving the spider a definite crab-like appearance. These spiders move sideways more than forward to backward. They chase and catch or ambush their prey. The most commonly seen crab spiders are found in or around flowers and are often white or brightly colored to match the flower. This coloration camouflages the spider so well that insects will land close enough to be captured. Many species of crab spiders are important predators of pest insects in Idaho crops.

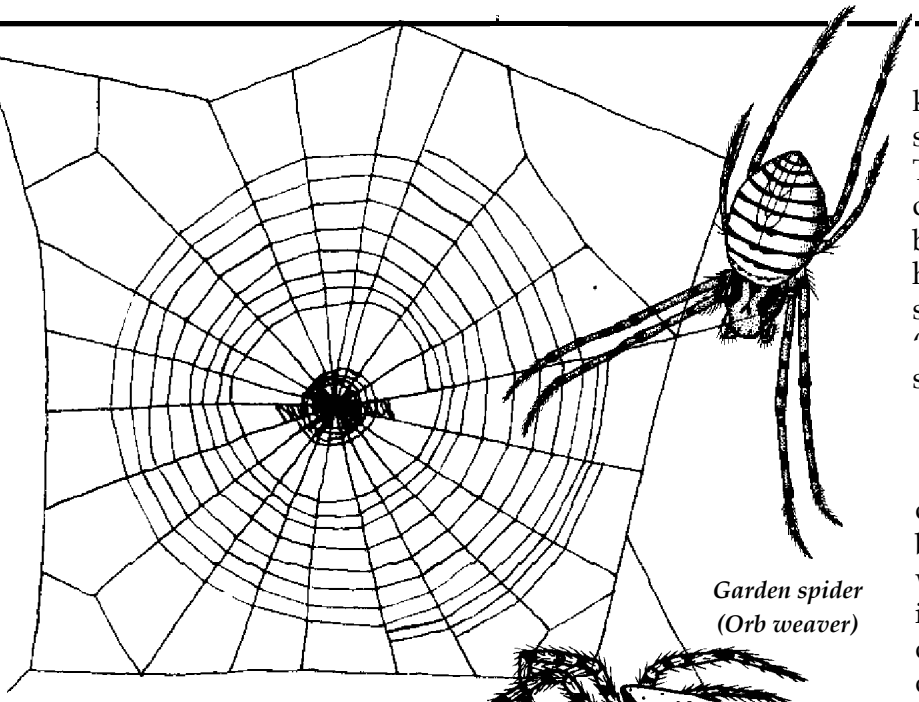


*Crab spider*

## *Web weavers*

**Orb weavers** are recognized by their characteristic webs that have threads radiating from a central point with concentric rings or spirals of silk supported on the radiating strands. These spiders see poorly and detect prey through vibrations of the web. The prey is bitten, neatly wrapped in silk, and carried back to the center of the web where it is consumed. Several hundred species of orb weavers exist in North America. These spiders range from 1/8 to 1 inch in length and vary greatly in color and shape.

The cat-faced spider is a common orb-weaving spider found around homes in the fall. These spiders build webs in the

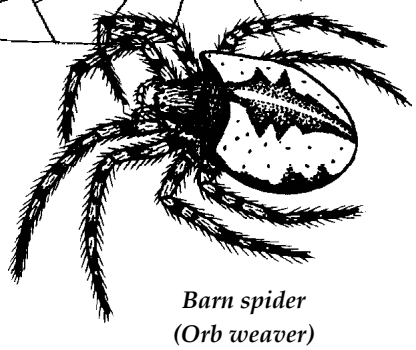


*Garden spider (Orb weaver)*

*Orb weaver web*

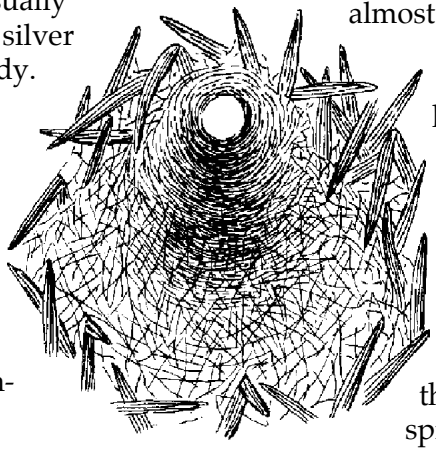
eaves, porches, and other protected areas around houses. They are not pests, but some people prefer to remove their unsightly webs.

Another common spider belonging to the orb-weaver group is the golden garden spider. This spider is large (about 1 inch long) and usually black banded with silver or yellow on its body. You can find these spiders in gardens and around grassy areas. They are beneficial and interesting to watch. They will catch grasshoppers and other fairly large insects in their webs.



*Barn spider (Orb weaver)*

**Funnel weavers** are medium-sized spiders varying from 1/8 to 3/4 inch in length. You may see their webs in lawns and shrubs in late summer. Funnel weavers also inhabit corners of barns and cellars. Their webs are almost invisible, slightly curved, and have a funnel open on both ends where the spider hides. Like most spiders that use webs to capture their prey, these spiders have poor eyesight and use web vibrations to detect prey. In late summer, the females lay eggs in a whitish egg sac and die nearby, often still clinging to the egg sac.

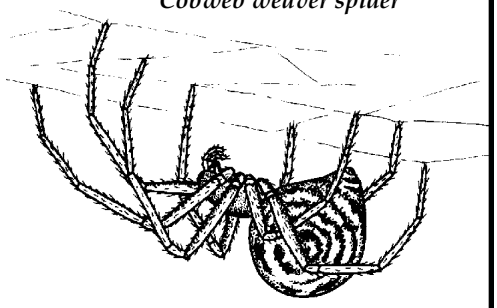


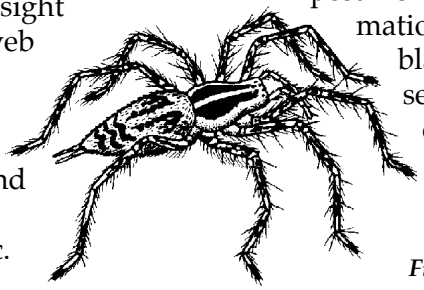
*Funnel weaver web*

One species of this group, known as the aggressive house spider, is common in Idaho. This species will bite people causing a serious reaction. The bite initially is not painful; however, it can progress into a slow-healing sore, referred to as "necrotic spider bite." (See the section on poisonous spiders.)

**Comb-footed spiders** are common spiders represented by the house spider, the black widow, and Steatoda. Steatoda is one of the most common spiders found hanging upside down from irregular webs in corners of houses and barns. Similar to the black widow, these spiders use their combed feet to throw a silk strand over the prey to anchor it before eating. These spiders do not completely wrap the prey as do the orb weavers. Generally, members of this group of spiders are not serious pests. However, the black widow is one of the most recognized poisonous spiders in North America and can be a pest. For more information about the black widow see the section on poisonous spiders.

*Cobweb weaver spider*





*Funnel weaver*

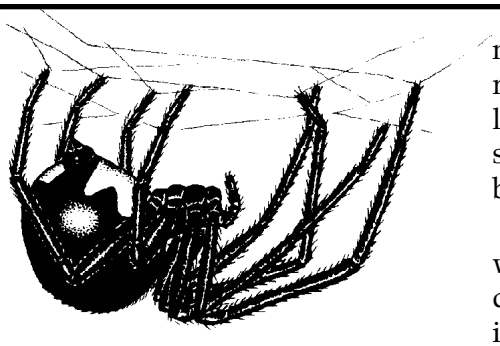
# *Poisonous spiders in Idaho*

The **black widow** and **northern widow** spiders are the best known poisonous spiders in Idaho. The black widow is the spider most often encountered in barns, garages, basements, outdoor privies, woodpiles, and occasionally in the living area of the home. Both the black widow and the northern widow inhabit similar areas under natural conditions. Look for them under or among rocks, under low bushes or shrubs, and in old animal burrows.

The widow spiders are the largest of the comb-footed spiders. The females are shiny black and the body measures 1/2 inch in length. A full grown female may reach 1 1/2 inches in size including the legs. Almost everyone is familiar with the hourglass-shaped red mark on the bottom of the black widow's abdomen. The northern widow has a similar mark but the middle of the hourglass is missing. Immature widow spiders also have a row of red or white spots along the back or a single red spot at the posterior end. The color patterns will vary.

The **male widow** is less than half the size of the female. It is brown in color with light or white stripes along the abdomen. Male widow's mouth parts are not strong enough to bite people.

Widows do not aggressively seek to bite humans. In fact, undisturbed widows with abundant food can live close to people without incident. Most people are bitten when the widow is squeezed accidentally or the hand is thrust into the web. The bite itself feels like a bee sting. Within a few minutes to an hour intense pain will develop in the area of the bite. If a finger is bitten, the pain from the nerve poison will spread up the arm and to the shoulder. The chest is affected next, and the abdomen may cramp. It may become difficult to breathe as the diaphragm becomes partially paralyzed. Also, you may suffer leg cramps, nausea, headache, or fever.

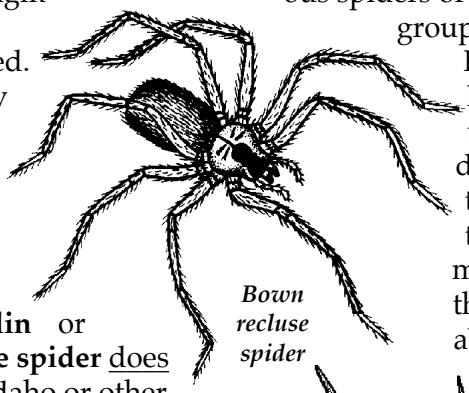


*Black widow spider*

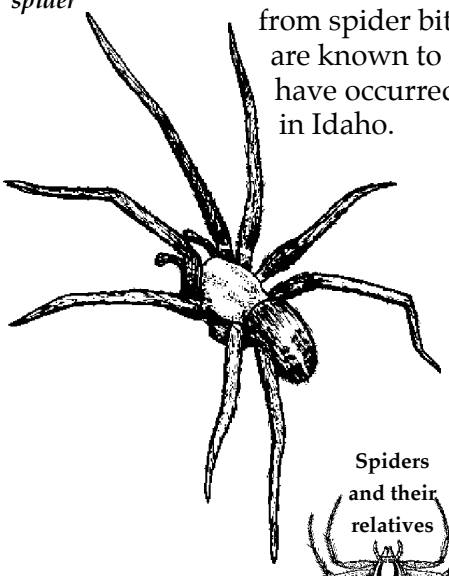
The **violin** or **brown recluse spider** does not occur in Idaho or other western states. Physicians mistakenly have attributed many bites to these spiders. In almost all known cases, the bite now is being attributed to the **aggressive house spider**, one of the funnel-weaving spiders common to most of Idaho. Although it does exhibit a greater tendency to bite than most spiders, hence is more aggressive, it does not seek out humans. The "aggressive" nature of this group of spiders comes from the fact that they use a nonsticky sheet web with numerous baffles. When an insect lands on the sheet platform, the spider runs out to tackle and bite the prey.

Most human bites occur when the aggressive house spider gets into bedding or clothing and is trapped next to the skin. In areas where they occur, the spider frequently is found in crawl spaces beneath homes and around outbuildings. Its initial bite is not painful. A hard area appears in 30 minutes. An expanding reddened area that can be 2 inches in diameter or greater may surround the bite. The area blisters in 15 to 35 hours. The blisters break in 24 hours, and the area around the bite may slough causing a slow-healing wound.

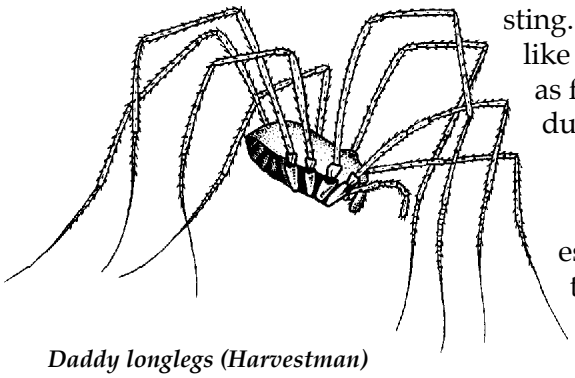
Two other species of poisonous spiders of the sac-spider group are found in Idaho and are known to cause the "necrotic spider bite" symptoms. However, these spiders are more rare than those described above. No deaths from spider bite are known to have occurred in Idaho.



*Bown recluse spider*



*Aggressive house*

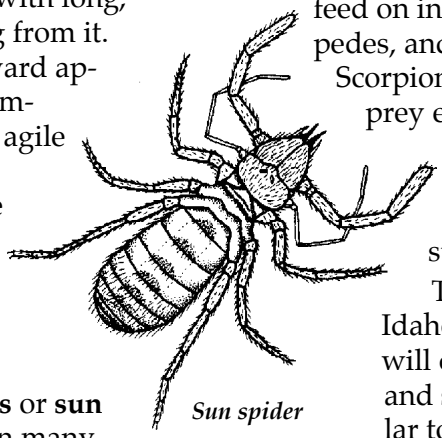


*Daddy longlegs (Harvestman)*

## *Spider relatives*

**Daddy longlegs or harvestmen** are spider-like creatures most commonly found around sheds, gardens, board piles, and in homes. They are usually gray in color blending well with their chosen resting site. They have only one globe-like body segment with long, thin legs emanating from it. Despite their awkward appearance, these harmless arthropods are agile and move quickly. Daddy longlegs are active mainly at night when seeking their prey.

**Sun scorpions** or **sun spiders** are found in many areas of Idaho. Active mostly at night, they move rapidly to capture prey and may eat small lizards as well as their primary prey, insects. These yellowish or brown arachnids can reach a length of 2 inches. Their size coupled with their enlarged jaws give them a formidable appearance. They do not possess poison glands, and their bites are about as painful as a bee sting. They have large, leg-like pedipalps that function as feelers along with a reduced first pair of legs.



*Sun spider*

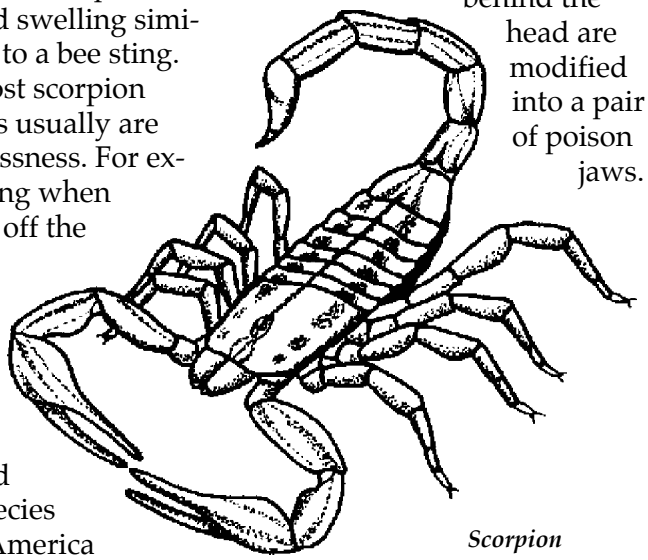
**Scorpions** are interesting animals familiar to everyone who has seen jungle- or desert-action movies. Invariably, the hero or heroine is confronted by this "deadly" arthropod while in bed.

Scorpions are characterized by their crab-like front claws and the long segmented, curved abdomen with the stinger on the last segment. These arthropods are nocturnal. During the day they hide under rocks, boards, woodpiles, or crumbling cement. They feed on insects, millipedes, and spiders. Scorpions kill their prey either by crushing it with their claws or by stinging. The sting of Idaho scorpions will cause pain and swelling similar to a bee sting. Most scorpion stings to humans usually are caused by carelessness. For example, not looking when you pick boards off the ground, handle firewood, or roll rocks.

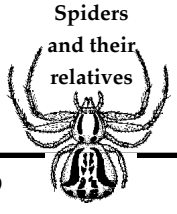
There are about 700 species of scorpions in the world; and from 20 to 30 species occur in North America with 5 species in Idaho. Their size ranges from 2 to 7 inches in length. In the United States, the species dangerous to people are in southern Arizona, Texas, and extreme southern California. Where these poisonous species occur the primary danger is to children 5 years of age or younger.

**Pseudoscorpions** are small scorpion-like animals that occur in leaf litter and soil. They have small pincers much like those of a scorpion, but they do not have a tail like scorpions. They are predacious and are important members of the leaf-litter and soil community. Occasionally, they are found in homes or the garden. They do not bite and generally are beneficial.

**Centipedes** are worm-like in appearance but are flattened on top and bottom. One pair of antennae is present on the head. Each body segment has one pair of legs and the last segment has legs that are often different from the others. Also, the legs on the first segment behind the head are modified into a pair of poison jaws.

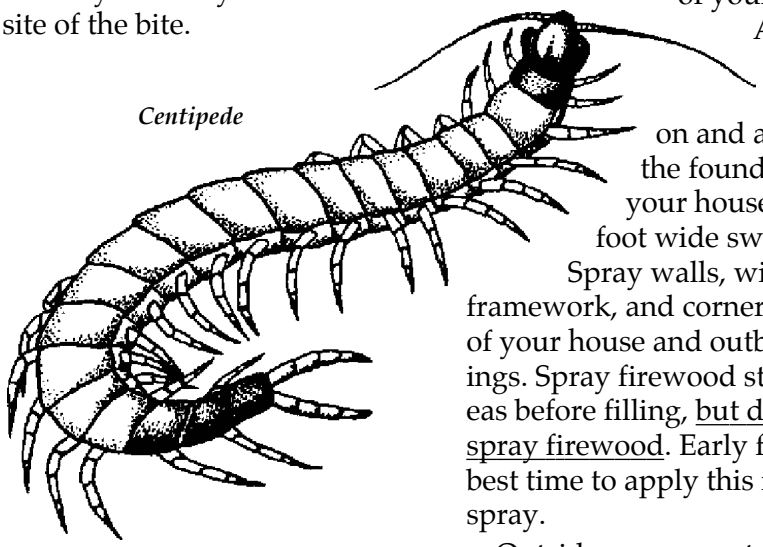


*Scorpion*



The centipede uses these poison jaws to kill its prey. The major food sources for centipedes are insects, spiders, and other arthropods. Reportedly, larger centipedes will feed on toads, small snakes, and small birds. Centipedes are nocturnal and during the day hide in moist areas underneath boards, bark, and rocks.

Centipedes are capable of biting humans and many cases are reported each year. Usually, not watching where you put your hands causes the bite. A centipede bite causes localized pain and swelling similar to a bee or wasp sting. The larger centipede bites can be quite painful, but they will only hurt at the site of the bite.



*Centipede*

## *Control measures*

There is no need to control spiders and their relatives around the yard and garden except where they have become pests. It is primarily the black and northern widows and aggressive house spiders that should be controlled.

Avoid spider problems by keeping them out of your home and limiting their resting places. Close gaps around windows, weather-strip completely around doors, fill cracks in siding and around the foundation, and seal any other gaps in your house.

Inspect firewood for spiders and egg sacs before bringing it into the house. Also, keep your yard and house in good condition. Eliminate messy woodpiles, particularly those near or against the house. Reset loose bricks and siding and keep shrubs trimmed away from the house to deny resting places to spiders.

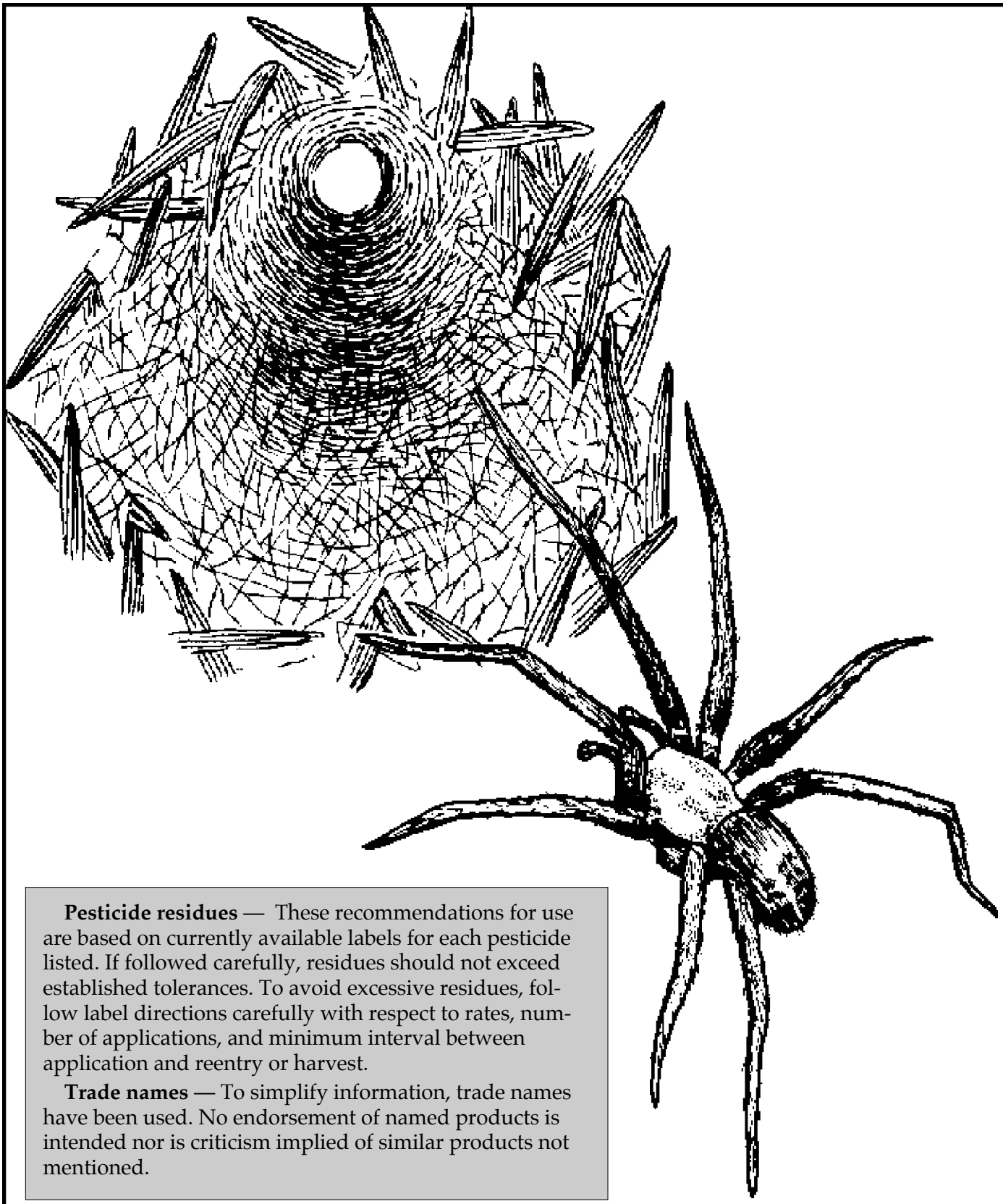
In addition, you can use sprays to keep spiders out of your home. Apply residual sprays on and around the foundation of your house in a 6-foot wide swath. Spray walls, windows, framework, and corners of eves of your house and outbuildings. Spray firewood storage areas before filling, but do not spray firewood. Early fall is the best time to apply this residual spray.

Outside sprays containing bendiocarb, chlorpyrifos, cypermethrin, fenvalerate, resmethrin, Commodore, and Yardex are effective for spider control. Follow label directions for use of these chemicals. These preventive measures and residual sprays also will keep other unwanted insects from migrating into your house. To prevent possible foliar injury, do not get the residual spray material on foliage, unless stated on the pesticide label.

After spiders are in your house, you may control them mechanically with rolled up newspapers, shoes, or broom. Another good, nonchemical control procedure is to vacuum thoroughly room corners and behind cabinets and furniture. To keep the spiders from escaping, empty the bag outside immediately after vacuuming.

Pressurized sprays containing pyrethrins, tetramethrin, allethrin, chlorpyrifos, resmethrin, phenothrin, or bioallethrin may be used to kill spiders. It takes little spray to kill a spider.

**The authors** — Craig R. Baird, Extension entomology specialist, Parma Research and Extension Center; Hugh W. Homan, Extension entomologist, University of Idaho, Moscow; and Joseph P. McCaffrey, entomologist, Department of Plant, Soil, and Entomological Sciences, University of Idaho, Moscow.



**Pesticide residues** — These recommendations for use are based on currently available labels for each pesticide listed. If followed carefully, residues should not exceed established tolerances. To avoid excessive residues, follow label directions carefully with respect to rates, number of applications, and minimum interval between application and reentry or harvest.

**Trade names** — To simplify information, trade names have been used. No endorsement of named products is intended nor is criticism implied of similar products not mentioned.

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