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Spider Identification and Management

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Spider biology. How to identify house or comb-footed, orb weave, funnel web, aggressive house, recluse, wolf, jumping and crab or ambush spiders.

Many people fear spiders more than household insects like ants, cockroaches, crickets, and other common arthropods. This fear often is caused by a lack of information about or experience with spiders. A report by television, radio or newspaper that a person has been bitten by a black widow or a brown recluse spider often triggers a flood of queries. People call or submit samples to county agents, health departments or extension specialists requesting information about these creatures.

For example, in spite of all the publicity it has been given, the brown recluse spider is not yet known to inhabit Montana, yet bites by other spiders are often misdiagnosed as brown recluse bites. And while black widow spiders are common in Montana, much of the fear concerning them is not warranted despite their unsavory reputation.

County agents and health officials can do a better job of dispelling fears about spiders if they have some knowledge about spider identification and biology.

Spiders contrasted to insects

Spiders differ from insects in several respects. They have four pairs of legs, no antennae, no wings, and only two body regions. The head and thorax are combined and called the cephalothorax. The cephalothorax is attached by a narrow pedicel to an unsegmented abdomen. The abdomen has spinnerets

at the posterior end, from which silk for spider webs is spun. By contrast, all adult insects have three pairs of legs, one pair of antennae, and three body regions: head, thorax and segmented abdomen which has no spinnerets. Many adult insects have one or two pairs of wings.

All spiders are predators and will eat one another. A few will also scavenge. They are numerous and probably play a useful role in keeping insects and other arthropods in check. Insects, on the other hand, feed on nearly anything organic: plants, animals, wood, garbage, stored products, etc. Some insects are highly beneficial, others are pests, and others are neither.

Spider biology

Female spiders are usually larger than males and have a pair of appendages on the head called pedipalps that resemble legs. After mating, female spiders spin silken egg sacs in which they lay masses of eggs. After some time, young spiderlings hatch and emerge from the egg sac. They grow by periodically molting or shedding old skin. Spiderlings molt from four to twelve times before reaching the adult stage. Young spiders resemble adults, living and feeding in the same environment. Spiders catch and feed on many kinds of insects and other arthropods.

Spider mouth parts are quite different from insect mouth parts. They have a pair of pincers, called

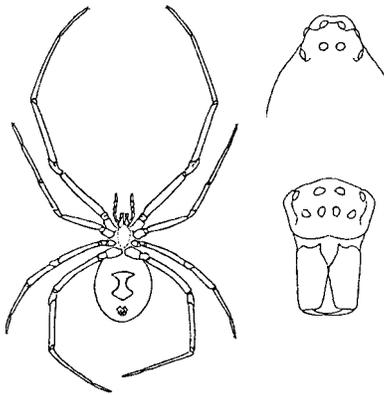
chelicerae, which have openings at the tips connected to ducts leading from poison glands. While all spiders have poison glands, only a few are poisonous to humans. When spiders capture prey, their bite injects venom and digestive fluids, paralyzing their victim. While the prey is immobilized, the spider sucks out the liquefied, digested tissues, leaving only an empty shell. Other spiders crush the body of their prey, bathe the tissues with digestive fluid, suck up the digested liquid, and continue chewing and rolling the body until only a little ball of indigestible material remains.

Spider identification

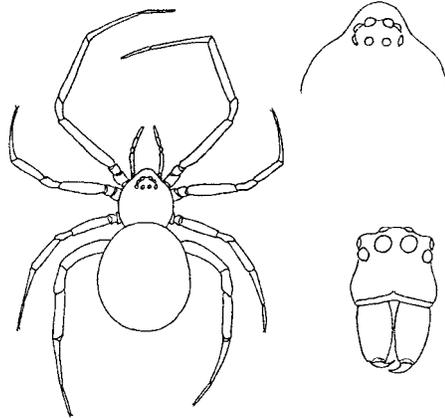
About 50,000 species of spiders have been described. While one person is not able to identify all spiders, county agents, health officials and others can easily learn to identify important spiders, just as people learn to recognize poisonous snakes and poisonous plants.

The only truly poisonous spiders in Montana are the black widow, a very docile, non-aggressive spider, (unless the female is protecting the egg sac), and the aggressive house spider. Even though the brown recluse spider has not been found in Montana, county agents and others should be familiar with certain distinguishing characteristics so that they can quickly eliminate it when spiders are brought to them for identification. Spider families are easily identified by the position and number of eyes, the overall shape,

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Latrodectus hesperus
Western Black Widow



Steatoda sp., **House Spider**



Latrodectus variolus
Northern Black Widow

Family Theridiidae
“House or Comb-footed Spiders”

Medium to small sized, glossy spiders with globular abdomens, thin legs bearing few spines, and eight relatively large, protuberant eyes. House spiders, except for the “widows,” have two of the lateral eyes touching each other on each side and well separated from the other four.

length of legs and form of the spinnerets. If a person is bitten by a spider and has reason to seek medical attention, it is important to have a specimen of the suspect spider to aid in identification.

Spiders around the home are found around windows, screens and especially around outside lights, where insect prey are attracted. The first step in identifying a spider is to determine if it is associated with a web. This MontGuide provides a pictorial guide for determining some important common species and families using conspicuous characteristics.

Web spinning spiders

Black widow spiders

The black widow spider and its relatives in the genus *Latrodectus* are easily recognized by the hourglass marking on the underside of the abdomen. (See illustration on this page.) This marking is reddish or orange on live specimens, but loses its color when preserved in alcohol. Black widow spiders get their name from the fact that the female frequently eats the male after mating, a practice not uncommon to several other species of spiders.

There are probably at least two species of black widow spiders in Montana—the northern black widow, *Latrodectus variolus*, and the western black widow, *Latrodectus hesperus*.

They are distinguishable by their color markings.

The western black widow female’s body is about half an inch long and the male is less than half this size. Females have a complete hourglass marking on the underside of the abdomen, which is usually completely black except for a small reddish spot near the tip. Males of the western black widow are usually light brown whereas males of the other species of *Latrodectus* are generally black. Males have three diagonal pale stripes on each side of the abdomen.

The northern black widow spider is similar to the western black widow except the hourglass marking on the underside of the abdomen is incomplete or split into two triangles. The abdomen of the female is black with a row of reddish spots along the top and diagonal whitish bands on each side. Males have four diagonal whitish bands on each side of the abdomen.

The bite of both the western and northern black widow is a neurotoxin and is very painful. The pain occurs less at the actual bite but rather in the abdomen and limbs. Physiological effects are an accelerated heart beat, increased blood pressure, breathing difficulties, and paralysis. When death occurs, it is due to suffocation. Although the bite of a black widow is rarely fatal it is important to seek medical attention. Antidotes are commercially available.

House spiders

House spiders are among the most common spiders found in buildings. Two of their lateral eyes touch each other on each side of the cephalothorax and are well separated from the other four eyes. Female house spiders have bodies which are 1/8 to 3/8 inches long and the abdomen is often covered with dirty whitish or brownish hairs arranged somewhat like chevrons. House spiders spin irregular sheet webs in protected places in the corners of rooms, ledges, windows and under furniture. Unlike black widow spiders, males and females are often observed living together in the same webs. Webs of house spiders often have dead insects entangled in or lying beneath them.

Some common household spiders, Genus *Steatoda*, are in the same family as the black widow, but are not poisonous. Adult females resemble the black widow in size and shape; however, there is no red hourglass marking on the underside of the abdomen and there is often a whitish T-shaped marking on the top side of the abdomen.

Orb-weaver spiders

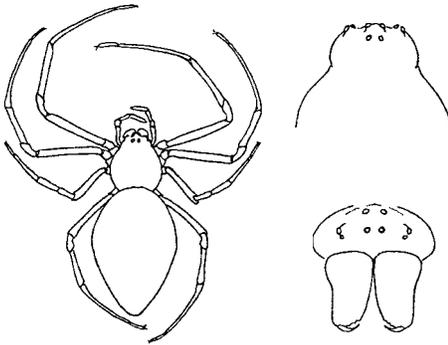
Orb-weaver or garden spiders are generally large, with bodies 1/2 to 1 inch long. They often have conspicuous black, white, yellowish or orange markings. These common spiders are often seen in late summer or fall. They are able to construct large, conspicuous webs with a central hub from which spokes radiate. All this is constructed in less than an hour. The female sits in the hub, waiting to detect movement that signals prey has been captured. After mating, the female seeks a protected place to lay a cluster of eggs, some 300 to 800, which will hatch the following spring.

Funnel web spiders

Funnel web spiders all have eight eyes about the same size and slightly separated, bodies about 1/2 inch long, and usually two dark longitudinal stripes on a grayish cephalothorax. The most distinguishing characteristic is a long posterior pair of spinnerets. Funnel web spiders spin flat webs of silk which extend into tubes or funnels into which the spiders retreat for protection, hence the name. The webs are often found

Family Araneidae
“Orb Weaver Spiders”

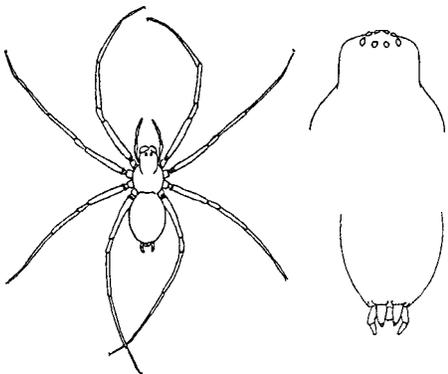
Legs rather stout and spiny. All eight eyes small, sub-equal, and seemingly grouped into pairs. Web is an orb with a closed hub. Their retreat is often away from the web.



in shrubbery near buildings, or in the angles of windows, doors or buildings. They reach the peak of their population in late summer and fall and often enter buildings at that time. Most funnel-weavers die after the first frosts. Winter is passed in the egg stage.

Aggressive house spider

The aggressive house spider, *Tegenaria agrestis*, is becoming one of the most common spiders in the Northwest. This spider was first reported in the Seattle area in 1930. It is a prevalent spider in basements and in window wells of houses. It rarely climbs vertical surfaces and is usually found only on the ground or lower floors. Experts have called it the aggressive house spider because it bites with little provocation when cornered

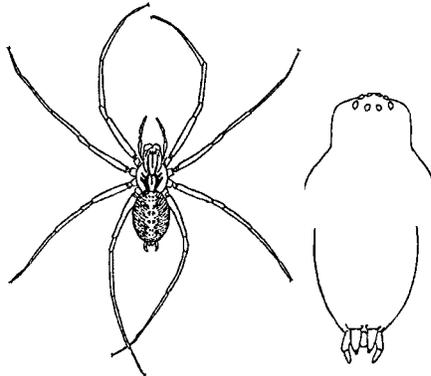


Family Agelenidae
“Funnel Web Spiders”

Spinnerets long, two segmented, and conspicuous. Eyes small, sub-equal, and arranged in two relatively short rows. Web is sheet or platform-like with a tubular retreat leading off from the center or one edge.

Agelenidae teegenaria-agrestis
“Aggressive House Spider”

Swift-running spider distinguished from non-poisonous funnel web spiders by chevron shape on its abdomen and legs which are not banded like other funnel web spiders.



or threatened. The aggressive house spider is important medically because of its ability to cause necrotic spider bites. (A necrotic bite causes tissue to die.) The aggressive house spider is a long-legged, swift running member of the funnel web spider family. The brown abdomen has a distinctive yellowish chevron pattern. The legs are a uniform brown without the darker brown bands that other nonpoisonous funnel web spiders have.

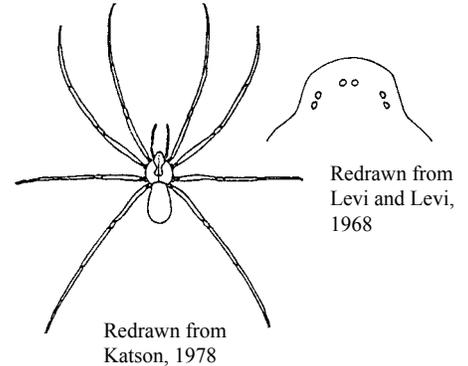
Spiders that don't spin webs

Brown recluse spiders

Brown recluse spiders are easily recognized by a combination of two characteristics: a dark fiddle or violin-shaped marking on the top side of the tan cephalothorax, and six eyes arranged in three pairs forming a semicircle. Most other spiders have eight eyes variously arranged. Adult female brown recluse spiders are about 1/2 inch long (legs excluded); males are somewhat smaller. Both female and male brown recluse spiders can bite people and inject venom. Individuals react differently to bites. A stinging sensation is usually followed by intense pain. A small blister arises and a large swollen area around the bite becomes congested and swollen. While bites of the brown recluse are generally not fatal, they result in a local necrotic lesion that heals slowly, leaving an ugly scar. There are other spider bites that give a similar reaction, and these are often misdiagnosed by well-meaning physicians as brown recluse spider bites.

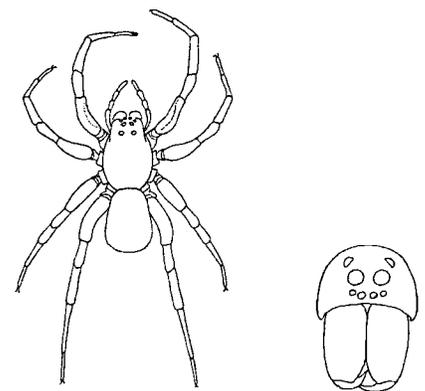
Family Loxoscelidae
“Recluse Spiders”

Distinctive violin-shaped marking on the cephalothorax. The six eyes are arranged in three pairs forming a semicircle.



Wolf spiders

Wolf spiders are medium to large spiders, and are usually hairy, brown or black, with long legs adapted for running. They have good eyesight—an adaptation for chasing down their prey, paralyzing it and feeding. Webs are not used by wolf spiders. Female wolf spiders carry the egg sac attached to their spinnerets until the eggs hatch. They then carry the young spiderlings about on their backs for a time. Some of the largest spiders encountered in Montana are in this group. This group is very mobile and may be found moving into houses in the fall in search of prey.



Family Lycosidae
“Wolf Spiders”

Eyes arranged in three rows with four large eyes on top and front of head and anterior, slightly curved row of four small eyes. Females carry the globular egg sac attached by the spinnerets. The fourth pair of legs is the longest and frequently held stretched out behind the spider.

Jumping spiders

Jumping spiders, like wolf spiders, do not spin webs to capture prey, but rely on quickness and visual acuity. Jumping spiders and wolf spiders have two eyes much larger than the other six, probably an adaptation to help them better see their prey. Jumping spiders are small to medium sized spiders, usually stout bodied, short legged and hairy. They frequently have contrasting black, reddish, or yellowish markings. They are very agile, pouncing and feeding on small insects about the home. They are often seen on screens or near doors or windows.

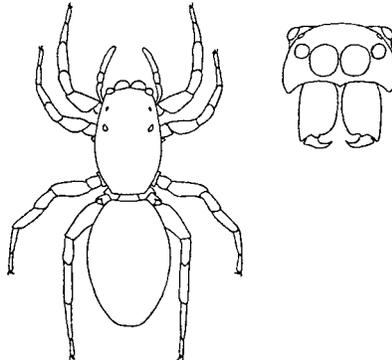
Crab spiders

Crab or ambush spiders are somewhat crab-like in shape and walk sideways or backward. They are medium sized and often brightly colored, with abdomens that are usually wide at the posterior end. The two front pair of legs are usually longer and stouter than the two hind pair and crab spiders often hold their legs poised to trap insect prey. They have eight relatively small, well spaced, light colored eyes. Crab spiders are usually found outside in gardens and landscaping where they spin no webs but forage for their prey or lie in ambush on blossoms or other parts of plants. They are able to gradually change colors to match flowers for camouflage.

Family Salticidae

“Jumping Spiders”

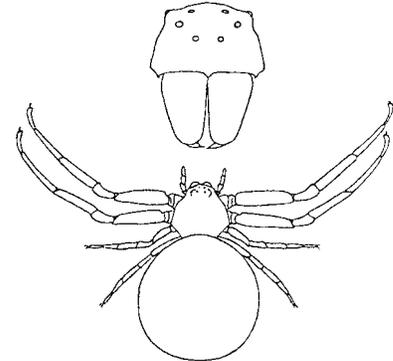
Square-fronted cephalothorax bearing four very large anterior eyes. Legs usually short and stout with the first pair sometimes enlarged. Diurnal.



Family Thomisidae

“Crab or Ambush Spiders”

First and second pair of legs distinctly longer and stouter than the third and fourth. Abdomen usually broad at the posterior. Crab spiders are commonly seen on flowers, do not construct a web, and are typically brightly colored.



Management

Spiders are beneficial, preying on insects, so control measures should only be used in situations where they become intolerable—for instance, where black widow or other spiders pose a threat to individuals or pets. A broom or vacuum cleaner used to dislodge and move outside or crush spiders will suffice. Keeping debris and wood piles away from living quarters will aid in limiting food sources and spider havens. Spiders are often found outside under eaves and in corners of residences. By carefully manipulating a broom, one can remove the spiders and relocate them away from the house.

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