

## Flower (a.k.a. Goldenrod) Crab Spider

(*Misumena vatia*)



©Peter J. Bryant

**Family:** Thomisidae

**Range:** North America, Europe, northern Asia

**Habitat:** Found on the flowers of herbs and shrubs, sometimes on leaves. Occurs in grassland, meadows, clearings, city gardens, wetlands and other non-forest habitats.

**Size:** Female body length 8 mm (0.3 inch), male 4 mm (0.16 inch).

**Description:** Front two pairs of legs longer than rest, and all legs held out from sides like a crab. Female has red dorsolateral stripes on abdomen. Diet and environment affect the overall body colors, which can be yellow, white or pale green. This species can change the color of its body over the course of several days to correspond to yellow or white flowers on which they are sitting. Males are much smaller than females, totally unlike females in color (they have a dark pattern), and have longer legs. This is the most common native crab spider, but introduced non-native species like *Philodromus dispar* and *Xysticus cristatus* can be much more abundant in and near urban areas.

**Web:** None

**Silk:** ballooning; males locate females by following threads; in courtship males may loosely wrap females; females wrap eggs in silk and a folded leaf.

**Diet:** Pollinators on flowers – bees, flies, butterflies

**Best Time to See:** Sunny summer days when pollinators are present

### Fascinating Facts

- Crab spiders are “sit and wait” predators that do not use webs.
- They have good vision for motion.
- Their venom is highly toxic to bees, enabling them to tackle much larger prey.
- They can actually reduce flower visitation by pollinators that learn to avoid them. However, flower crab spiders themselves perform a little pollination.
- Females guard the eggs till they hatch.

### Conservation Connection

Spiders, like many invertebrates, have received comparatively little attention from zoos or the conservation community as a whole. Moreover, they are subject to demonizing and a great deal of misinformation. Spiders are astounding both in their diversity and as an integral part of global biodiversity.

They play important roles in ecosystems, both as predators and as sources of food for other animals. In addition, they control certain insect pests, provide silk for materials science, and supply venom for medical and chemical research. They are also model organisms for research in ecology, behavior and communication. Spiders may also prove useful as ecological indicators and measurements of healthy biodiversity.

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### **Sources and Suggested Reading**

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### **Flower Crab Spider**

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Cross Orbweaver

### **Web sites:**

Ivory, Shawn

<http://www.ivory.org/spiders/araneus.diadematus.html>

Biological sciences, University of Paisley. [http://www-biol.paisley.ac.uk/bioref/Animalia\\_inverts/Araneus\\_diadematus.html](http://www-biol.paisley.ac.uk/bioref/Animalia_inverts/Araneus_diadematus.html)

## **Cross Orbweaver**

(*Araneus diadematus*)



© Shaun Ivory

**Family:** Araneidae. This large family of spiders, also called “garden” spiders, has over 2,500 species worldwide and at least 200 in the USA.

**Range:** Vast range including much of northern hemisphere

**Habitat:** Common in gardens, scrubby uncultivated lands and areas of dense shrubbery. Requires attachment sites for webs with surrounding open space for flying insects and some form of moisture.

**Size:** Female body length 15 mm (0.57 inch), male 8 mm (0.32 inch).

**Description:** These are large spiders with a characteristic white dorsal cross on the abdomen. Leg pairs fan out radially from the cephalothorax. Color varies from orange to brown to black.

**Life Cycle:** Cross orbweavers mature in late summer, mate after a courtship in which males pluck and vibrate the webs of females. Females lay eggs, and then die in early autumn. Spiderlings hatch in autumn, but spend the entire winter inside the egg sac before emerging in May to disperse (sometimes by ballooning) and begin their own tiny orb webs.

**Web:** Large, wheel-shaped orb web up to 3 feet (91 cm) in diameter between stems, branches, etc. where insects are likely to fly. The web is usually vertical and has a signal thread running from its center to a retreat in surrounding vegetation. Cross orbweavers rest head down in the center of their web, or in retreat awaiting prey. They locate ensnared prey by following vibrations in their webs. They bite the prey, then use the first three leg pairs to rotate their prey while the fourth pair pulls out silk and wraps it. Then they bite the prey animal again, remove it from the web and consume it before dropping a small ball of undigested remains. Cross spider webs are seldom repaired; they are replaced every day.

**Diet:** Insects and other arthropods

**Best Time to See:** Early morning dew highlights webs; also on warm summer days

### **Fascinating Facts**

- Most of the spiders commonly noticed in Pacific Northwest gardens are female orbweavers.
- The males live nearby and can weave orbs until sexually mature. After that they stop making webs or only make rudimentary ones.
- Predators of orbweavers include other spiders, several bird species, and wasps of the family Sphecidae. These wasps land on webs and lure spiders by imitating vibrations of a struggling insect. The wasp captures the spider and paralyzes it. Then, the wasp carries away the cross orbweaver and stores it as live food for wasp young.
- Astronauts have taken orbweavers into space to study how they make webs without gravity.

### **Conservation Connection**

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## Longbodied Cellar Spider

(*Pholcus phalangioides*)



© Shaun Ivory

**Family:** Pholcidae

**Range:** Most countries of the world

**Habitat:** Damp dark places in houses

**Size:** Female body length 8 mm (.3 inch), male 6 mm (0.23 inch). The long legs make these spiders look much larger

**Description:** Gray-brown or straw colored bodies about 13 mm (½ inch) in length with very long, skinny legs.

**Life Cycle:** Males and females live commonly together. The female carries 20-30 fertilized eggs in a small silk net between her jaws. The transparent and short-legged spiderlings molt shortly after emerging from the egg.

**Web:** Tangled, loose web approximately 12 inches (30cm) in diameter found inside sheltered locations. This spider hangs upside down in the web. If the web becomes dirty, the cellar spider abandons it and weaves a new web.

**Diet:** Almost any arthropod that happens into their web

**Best Time to See:** Any season since they live indoors and remain in their webs all day and night

### Fascinating Facts

- As a means of defense, these spiders whirl around in their web with their legs firmly attached. This obscures the spider as it becomes almost lost in the blur! A touch to the web or spider might invoke the whirling.
- The urban legend that "daddy-longlegs" have the most toxic venom of all spiders actually refers to harvestmen, which are not spiders and have no venom at all. *Pholcus* has venom, but it is unusually weak, even for a spider.

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Web site:

[http://www.boston.com/globe/search/stories/health/science\\_musings/083198.htm](http://www.boston.com/globe/search/stories/health/science_musings/083198.htm)

## **False Black Widow**

(*Steatoda grossa*)



©Ric Brewer

**Family:** Theridiidae, large common spider family also called “cobweb weavers” or “combfooted spiders”

**Range:** Worldwide cosmopolitan areas and coastal United States (Atlantic, Pacific and Gulf). It ranges inland from the Pacific Northwest as far east as Idaho.

**Habitat:** Common “house spider” found in and around buildings, and other structure.

**Size:** Female body length 8 mm (.3 inch), male 6 mm (0.23 inch). The long legs make these spiders look much larger

**Description:** Resembles the black widow spider with its spherical abdomen but without the distinctive red “hour glass” marking. However, there are vague, flesh-colored spots on the underside that are easily mistaken for the “hourglass.” May be reddish to purplish brown in color with or without pale yellowish or whitish markings on the dorsal abdomen. In Seattle, most mature females show no dorsal markings.

**Life Span:** Females may live up to six years and males for 12-18 months.

**Web:** The sedentary cobweb weavers construct irregular webs and hang upside down in the center or hide nearby. The comb or bristles on the ends of the fourth pair of legs enable these spiders to throw silk over their prey.

**Diet:** Chiefly crawling insects, especially isopods (sowbugs, pillbugs), sometimes other spiders.

### **Fascinating Facts**

- False black widows are known to ensnare, kill and prey upon both the black widow in its natural habitat (black widows are not in the Seattle area) and the hobo spider found in the Seattle area. They almost certainly serve as a very important predator of the hobo in the coastal Pacific Northwest.
- These spiders are capable of biting but produce, at most, only minor symptoms like temporary redness and soreness. *Steatoda grossa* was the species that bit Peter Parker turning him into “Spider-man” (in the movie). However, the metallic blue color with red-orange markings was painted.

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Web sites:  
<http://hobospider.org/steatoda.html>



**Hobo Spider**  
(*Tegenaria agrestis*)



© Darwin Vest

**Family:** Agelenidae, also known as “funnel web weavers”

**Range:** Washington, Oregon, Idaho, southern British Columbia, parts of Montana, and Utah, and most recently in western Wyoming; indigenous to western Europe.

**Habitat:** In northwestern USA, the hobo spider is found in rural areas and small towns and, rarely, in the city in webs at soil level in contact with concrete or stone, often in grassy areas, in rockeries, rubble and around foundations, almost never above the ground. Males occasionally wander into houses. In Europe, this species lives mostly in fields.

**Size:** Both sexes have a body length of about 12 mm (0.47 inch) and leg span of about 32 mm (1.25 inch).

**Description:** Moderately large, light brown spider with long unmarked legs. They sometimes have a herringbone pattern on dorsal abdomen, but that may be absent. Unfortunately, this fits the description of hundreds of other non-threatening spider species.

**Web:** Funnel web weavers produce dense, layered, flat webs that “funnel” from supporting objects down to a hole toward the rear. The web’s surface is not sticky, but loose trip threads hinder the prey’s progress and set off vibrations. This enables the spider to detect the correct size of prey then swiftly emerge from the funnel to attack and capture it. The hobo spider’s web is unusual because the funnel opening is oval and not circular.

**Diet:** Any small invertebrate caught in its web

**Best Time to See:** Early morning dew highlights the funnel webs usually in contact with the ground and found in moist, cool, outdoor environments. Hobo activity is mostly nocturnal. Males wander from late July to late September during mating season and may enter houses through ground level openings.

**Life Cycle:** The female hobo spider remains stationary in her web; therefore, the male must search for her. He bobs and taps at the funnel web’s entrance in a specific pattern that alternates with advances and retreats. If signals are not clear, she may attack or kill him. If she is responsive (no aggression), he slowly adds silk to her web and gradually approaches her. After mating, he usually leaves in search of other females. She produces one to four egg cases, holding 50 to 100 eggs. The female attaches the egg cases underneath objects, usually outdoors, although occasionally in crawlspaces. The egg sac always incorporates soil or other foreign matter between two layers of silk. The female dies in late fall. Hobo

spiderlings hatch in June. West of the Cascades, hobos live only one year, but inland hobos usually live two years. In these inland populations, juveniles over winter then reach adulthood the following summer when they are ready to mate and begin the cycle anew.

**Medically Significant:** Hobo spider bites are not fatal and bite severity varies greatly with half of the bites being “dry bites” (no venom secreted). Reactions to hobo bites vary from head and muscle aches, to skin necrosis (tissue ulceration and tissue death). Correct identification of the offending spider is important for medical treatment. For example, blood-thinning aspirin might increase the rate at which the venom spreads. Most hobo bites come from males during the hobo’s mating season in late summer.

#### **Fascinating Facts**

- Brown recluse spiders (*Loxosceles reclusa*) were blamed in the past for probable hobo bites; however, the brown recluse does not live in the Northwest!
- The most effective control for the hobo spider is “competitive exclusion” by “competing and/or predatory spider species.” These competing or predatory species of spiders include crab, wolf, jumping, grass, cobweb weavers, and other harmless species of Tegenaria. Other species of Tegenaria are the small domestic house spider (*T. domestica*) and the huge giant house spider (*T. gigantea*). The giant house spider out competes and displaces the hobo spider indoors and male giant house spiders often kill male hobo spiders (without necessarily eating them). Birds and even cats also kill hobo spiders. Wearing protective clothing and gloves are a good precaution for people working with debris and woodpiles, in crawlspaces, and in other areas that may be inhabited by hobos.
- Hobo spiders truly are vagabonds. The first U.S. hobos hitched rides aboard European shipping freight to arrive in Seattle in the 1930s. They spread eastward from Puget Sound mainly by riding the rails and some early specimens came from hobo camps near railroad tracks.
- Hobo spiders have a false reputation for being aggressive. The Latin name *agrestis* actually means “rural” for its native habitat. In reality, hobos are timid and afraid of humans. They bite when left with no other option.

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### **Tegenaria: Hobo Spider, Giant House Spider, Domestic House Spider**

Web sites:

<http://www.srv.net/~dkv/hobospider/compred.html>

<http://www.srv.net/~dkv/hobospider/history.html>

Rod Crawford's Web site: <http://www.washington.edu/burkemuseum/spidermyth/>

<http://www.srv.net/~dkv/hobospider/european.html>.

<http://hobospider.org>

<http://www.edenpest.com/pestdb/hobospider.htm>

[http://www.pep.wsu.edu/pdf/PLS116\\_pdf](http://www.pep.wsu.edu/pdf/PLS116_pdf)

<http://www.the-piedpiper.co.uk/thlf.htm>

**Domestic or Lesser House Spider**  
(*Tegenaria domestica*)



© Anne Nowack

**Family:** Agelenidae

**Range:** Most continents, throughout all of North America

**Habitat:** Primarily a city dweller living in and under buildings, also common around rural buildings. In eastern Washington there are some populations away from houses.

**Size:** Both sexes have a body length of about 9 mm (0.35 inch) and leg span of about 25 mm (1 inch).

**Description:** Easily mistaken for small hobo spiders with both sometimes possessing a herringbone pattern on dorsal abdomen. Differences include: usually darker coloration from grayish-brown to dark brown, smaller size, usually ringed legs, and three small, light circles on sides of sternum. Positive identification can be made by specialists by examining genitalia and should be left to experts.

**Web:** Similar funnel web to the hobo and other funnel web weavers. The funnel opening is circular.

**Diet:** Any invertebrate caught in its web

**Best Time to See:** Any time since domestic house spiders are not seasonal. Found in colonies (30-100 spiders) under crawl spaces in rural buildings in southern Idaho.

**Fascinating Facts**

- Abundant populations of the harmless and beneficial *T. domestica* compete with their larger, medically significant relative, the hobo spider, for the same habitats in some areas. *T. domestica* may prey on hobo spiderlings but this has not yet been proven.
- *T. domestica* arrived in the U. S. at the same time as early large settlements from Europe. They accompanied humans to other continents as well!

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<http://hobospider.org>

<http://www.edenpest.com/pestdb/hobospider.htm>

<http://www.pep.wsu.edu/pdf/PLSI16.pdf>

<http://www.the-piedpiper.co.uk/thl1f.htm>

## Giant House Spider

(*Tegenaria gigantea*)



© Lars A. Clark

**Family:** Agelenidae

**Range:** Northwestern U.S., including Seattle area, indigenous to western Europe

**Habitat:** Similar to the domestic house spider

**Size:** Body length of female about 15 mm (0.6 inch), of male about 12 mm (0.47 inch); leg span of female about 45 mm (1.77 inch), of male about 70 mm (2.75 inch). Males are quite variable in size, some as small as a hobo spider and some large enough to cover the palm of your hand.

**Description:** Very similar to hobo spiders (*T. agrestis*) in same brownish color (tends to be darker) and body shape. Differences include: larger size of *T. gigantea*, its four small, vertical circles on each side of the sternum (lacking in *T. agrestis*). Sternum margins are not solid in *agrestis* but do lack distinct light circles.

**Web:** Similar funnel web, which may occasionally be located along ceilings, and a very large (about 1") circular funnel opening.

**Diet:** Any invertebrate caught in its web

**Best Time to See:** Mating season, late summer when wandering males search for females. When they appear, most people describe them as huge!

### Fascinating Facts

- The presence of giant house spiders is a deterrent to the establishment of hobo spiders indoors. It out competes and displaces the hobo spider indoors and male giant house spiders often kill male hobo spiders (without necessarily eating them).
- *T. gigantea* moves rapidly like its smaller relative the hobo spider. With speeds clocked at 1.73 ft/sec (1.17 mph), it held the *Guinness Book of World Records* for top spider speed until 1987 when it was displaced by "sun spiders" (*solpugids*), which are not true spiders!

### **Conservation Connection**

Spiders, like many invertebrates, have received comparatively little attention from zoos or the conservation community as a whole. Moreover, they are subject to demonizing and a great deal of misinformation. Spiders are astounding both in their diversity and as an integral part of global biodiversity. They play important roles in ecosystems, both as predators and as sources of food for other animals. In addition, they control certain insect pests, provide silk for materials science, and supply venom for medical and chemical research. They are also model organisms for research in ecology, behavior and communication. Spiders may also prove useful as ecological indicators and measurements of healthy biodiversity.

Many human-caused changes in the environment affect the survival of spiders. These changes include urban development, air and groundwater pollution from pesticides and fertilizers, global warming, and the introduction of invasive species. Humans also collect charismatic and novel spiders for trafficking associated with the pet trade. These threats have already pushed a few species to the threshold of extinction, and this has recently attracted the attention of conservation professionals.

### **How You Can Help!**

The effort to save endangered species requires cooperation and support at the international, national, regional and individual levels. You can help in this cause. Join and become active in Woodland Park Zoo and other conservation organizations of your choice. To conserve habitat for spiders and other invertebrates, reduce your use of pesticides and herbicides, and work to preserve vegetation in your neighborhood and around the world.

### **Sources and Suggested Reading**

Levi, Herbert W. and Lorna R. Levi. 1990. Spiders and their Kin. Golden Press, New York, NY. 160p.  
Rod Crawford's Web site: [www.washington.edu/burkemuseum/spidermyth](http://www.washington.edu/burkemuseum/spidermyth).  
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Rovner, Jerome and Peter Witt. 1982. Spider Communication. Princeton University Press, Princeton, New Jersey. 440p.  
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Levi, Herbert W. and Lorna R. Levi. 2002. Spiders and their Kin. St. Martin's Press, New York, NY. 160p.

### **Tegenaria: Hobo Spider, Giant House Spider, Domestic House Spider**

Web sites:

<http://www.srv.net/~dkv/hobospider/compred.html>

<http://www.srv.net/~dkv/hobospider/history.html>

Rod Crawford's Web site: <http://www.washington.edu/burkemuseum/spidermyth/>

<http://www.srv.net/~dkv/hobospider/european.html>.

<http://hobospider.org>

<http://www.edenpest.com/pestdb/hobospider.htm>

[http://www.pep.wsu.edu/pdf/PLSI16\\_pdf](http://www.pep.wsu.edu/pdf/PLSI16_pdf)

<http://www.the-piedpiper.co.uk/thl1f.htm>

**Yellow Sac Spider**  
(*Cheiracanthium mildei*)



© Jim Kalisch

**Family:** Clubionidae or sac spiders. Both *Cheiracanthium mildei* and *Cheiracanthium inclusum* are commonly called yellow sac spiders, although they are usually not yellow!

**Range:** Widely distributed throughout U.S. *C. inclusum* is a native species of yellow sac spider while *C. mildei* was introduced from Europe during the 1940s and is fairly common in the Seattle area. *C. inclusum* is not in the Puget Sound region.

**Habitat:** *C. mildei* may be found outside, however, it is more commonly found indoors. *C. inclusum* is common in gardens but not in the Puget Sound region.

**Size:** Body length of both sexes about 7 mm (0.27 inch).

**Description:** *C. mildei* is a relatively small, pale greenish, tan or straw colored spider. Its front pair of legs is longer than the others, but all four pairs end in double claws.

**Life Cycle:** After mating females lay 30 to 48 eggs, cover them in a thin, white silken sac and guard them. The egg sacs may be found indoors in corners or other protected areas or even wrapped in a folded leaf. All stages of sac spiders make a silken cell (the "sac") in which they rest when not active. Indoor populations of *C. mildei* are non-seasonal and can be adult at any time.

**Web:** Sac spiders derive their name from the daily sac of silk they produce for resting during the day. Females lay their eggs inside their sac and usually guard them. These small, white, paper-like sacs are often found along ceilings and corners, or behind pictures and shelves.

**Diet:** Any small invertebrate

**Medically Significant:** Yellow sac spider bites occur most frequently when the very defensive spider is trapped in clothing. Sac spider bites are not considered as serious as those of the brown recluse or hobo spiders. The severity of bites varies greatly. Typical symptoms of a bite include an immediate stinging sensation (like a hornet sting) followed by redness and mild swelling. Sometimes the bite will make a person mildly ill or result in a blister, which often breaks, leaving a sore that heals over a period of several weeks.



### **Fascinating Facts**

- Brown recluse spiders are often blamed for sac spider bites.
- Sac spiders are very active, nocturnal “hunt and seek” spiders. They emerge from their day resting sacs to run along walls and ceilings in pursuit of prey. If startled, they drop down on draglines and scurry away.

### **Conservation Connection**

Spiders, like many invertebrates, have received comparatively little attention from zoos or the conservation community as a whole. Moreover, they are subject to demonizing and a great deal of misinformation. Spiders are astounding both in their diversity and as an integral part of global biodiversity. They play important roles in ecosystems, both as predators and as sources of food for other animals. In addition, they control certain insect pests, provide silk for materials science, and supply venom for medical and chemical research. They are also model organisms for research in ecology, behavior and communication. Spiders may also prove useful as ecological indicators and measurements of healthy biodiversity.

Many human-caused changes in the environment affect the survival of spiders. These changes include urban development, air and groundwater pollution from pesticides and fertilizers, global warming, and the introduction of invasive species. Humans also collect charismatic and novel spiders for trafficking associated with the pet trade. These threats have already pushed a few species to the threshold of extinction, and this has recently attracted the attention of conservation professionals.

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Levi, Herbert W. and Lorna R. Levi. 2002. Spiders and their Kin. St. Martin's Press, New York, NY. 160p.

### **Yellow Sac Spider**

Websites: Bohart Museum of Entomology, University of California.  
<http://bohart.ucdavis.edu/bohart.asp?s=insects&f=sacspider>  
<http://www.srv.net/~dkv/hobospider/yellosac.html>

## **Western Black Widow**

(*Latrodectus hesperus*)



© Ann and Rob Simpson

### **Classification & Range**

Widow spiders belong in the class of arthropods called Arachnida. They are further classified into the order Araneae, and then into the family Theridiidae. Widow spiders are in the genus *Latrodectus*.

Western black widows live and are sometimes common in the western part of North America. Their range includes extreme southwestern Canada, south into Mexico along the Pacific coast, and east to Texas, Oklahoma and Kansas. They are abundant in regions of Arizona, California, and other westerly locales. In Washington state, western black widows live throughout the Columbia Basin and east of the Cascade Mountains. There are also small populations on some of the San Juan Islands and a very tiny colony of western black widows lives in a special habitat on the west coast of Whidbey Island. Other than specimens transported from elsewhere, there are no confirmed records from the mainland of western Washington; occurrence in the Sequim area is possible but unconfirmed.

### **Habitat**

Outdoors, western black widow spiders may be terrestrial or live above the ground. Indoors, they build their webs in undisturbed areas that are not frequented by humans.

### **Physical Description**

Black widows have a body length of  $5/16$ – $5/8$  inch (4–16 mm) and a fully extended leg span as long as  $1-9/16$  inch (40 mm). The mature adult female weighs between .004–.014 ounces (120–400 mg), while the male weighs just .0003–.0006 ounces (8–18 mg). Spiderlings of both male and female western black widows have the same coloration. Their topside is olive or gray, with white or yellow stripes. Even as spiderlings, both sexes have the characteristic pattern of two opposing triangles or an hourglass on the underside of their abdomen. As female western black widows grow older, they gradually develop into a shiny black or dark brown, with a bright red or orange hourglass. Mature male western black widows do not drastically change their body coloration and resemble juveniles of both sexes. Yet, like the female, the male's hourglass becomes brighter in color, usually yellow or orange.

### **Life Span**

In the wild: Males are short-lived, just 4–6 months. Females live much longer, 27–31 months.

In captivity: Males up to 2 years; females up to 4 years

### **Diet**

In the wild: Insects and other arthropods. They also eat other small animals that get caught in their webs.

At the zoo: 1 cricket per week

## **Reproduction**

After reaching sexual maturity, a male abandons his home web in search of a female. Arriving at a female's web, he vibrates his abdomen, sending signals through the web. When he is satisfied that she won't attack, the male slowly moves towards her. Then, he spins a thin layer of silk around her. If she remains still, he mates with her. After he is finished, he drops out of her web. Contrary to popular belief (and how these spiders were named), the female black widow does not always kill the male after mating. The female only kills the male if she is hungry or he makes an abrupt movement while in her web.

After mating, the female stores the sperm and can fertilize subsequent sets of eggs for the rest of her life. About one month after mating, she starts to create an egg sac. It is spherical or pear-shaped, about 1/2 inch (13 mm) long. The female suspends the egg sac within her web. A female makes 6–21 egg sacs from May through October. The number of eggs per sac ranges from 185–464, with a maximum of 917. The eggs take 8–30 days to incubate.

## **Life Cycle**

The eggs hatch within the egg sac and the tiny spiderlings remain inside for a few days. After emerging from the egg sac, the spiderlings stay near their mother's web for a while. About three weeks after hatching, the surviving spiderlings climb to a high point to find a suitable air current. Then, they spin silk threads to float out on passing breezes. Once they have landed, young black widows find a protected place to build their webs. Over time, they extend their webs to capture progressively larger prey.

The western black widow's time to maturity varies greatly, since it is dependent on temperature and on the availability of prey. After emerging from the egg sac, females mature in 3–8 months. Males mature faster than females, in just 2–5 months. Most spiderlings survive the winter as immature individuals, and with the arrival of spring, they develop into adults.

Black widows capture their prey in their web, and then wrap them with silk. However, western black widows have their own predators. Certain types of flies or wasps are egg predators of black widows. Other arthropods, birds, small mammals and certain lizards or snakes also eat black widows.

## **Where is your Web?**

Western black widows build irregular cobwebs that lack a regular shape or form. In its web, the fine strands of silk are for the widow to walk on, and the sticky strands trap potential prey. At the lower level of the web is a haphazard assortment of trap threads spreading out in all directions. At the ends of each trap thread is a sticky drop of silk. When prey becomes entangled in a trap thread, the trap thread breaks free, sticks to the prey animal and lifts it toward the web.

## **The Wound of a Widow**

While the black widow is considered the most venomous spider in North America, death from a black widow spider bite is highly unlikely. Furthermore, western black widows do not actively hunt humans in order to bite them. *Latrodectus* bites occur most frequently when the spider is trapped against human skin or provoked to defend itself. In the United States, no deaths from a widow spider have been documented for more than 20 years. Only the larger immature female and adult female spiders can bite through all layers of human skin and inject enough venom to cause a painful reaction. Juveniles and all ages of male black widows are essentially harmless.

All victims of a western black widow spider bite should receive prompt and proper medical treatment. The pain and other symptoms usually reach a peak within 12–48 hours of the bite, and then gradually subside over the next 2–5 days. To facilitate treatment, every effort should be made to capture the offending spider and bring it to the medical center where care is given to the victim. This is essential for identification purposes and ensures that the correct type of medical care is provided.

There are several ways to avoid widow spider bites. First, be aware of your surroundings and realize that black widows prefer areas of dimly lit shelter. Second, always wear gloves while working in these areas. Third, wear a long-sleeved shirt and long pants when working in areas of potential black widow habitat. If a black widow falls on the hand or arm, brush it off instead of swatting it.

### **Fascinating Facts**

- Certain spiders superficially resemble widow spiders. One of them is called the false black widow.
- Widow spiders live all over the world. It is more correct to use the term “widow spider”, since not all species in the genus *Latrodectus* are black!
- Widow spiders are called many different names. In South Africa, they are called the shoe-button spider; in New Zealand, the katipo; in Australia, the red back; and in Europe, they are the malmignatte and karakurt!

### **Conservation Connection**

The greatest threat to the western black widow’s existence is habitat destruction caused by excessive forestry, agricultural/residential/commercial development, or drainage of wetlands. Although several species of spiders are considered threatened or close to extinction, little is known about the future of western black widow spiders.

Western black widows are actually an invaluable aid in destroying harmful, crop-eating insects or other pests that carry diseases. To conserve the habitat for black widows and other spiders, reduce your use of pesticides, and work to preserve vegetation in your neighborhood and in tropical regions.

### **How You Can Help!**

The effort to save animals and their habitat requires cooperation and support at the international, national, regional and individual levels. You can help in this cause. Join and become active in Woodland Park Zoo and other conservation organizations of your choice. Discover more about spiders by contacting the International Society of Arachnology on the Internet at [www.arachnology.org](http://www.arachnology.org).

### **Want to Know More?**

Foelix, Rainer. 1996. *The Biology of Spiders*. Oxford University Press, New York, NY. 330 p.  
Roth, Vincent D. *Spider Genera of North America*. American Arachnological Society.

### **For Kids!**

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The Smallest Room: <http://www.smallestroom.pwp.blueyonder.co.uk/widows.htm>  
Ed Nieuwenhuys Spiders and Immunology: <http://www.xs4all.nl/~ednieuw/>  
<http://kaston.transy.edu/widow.html#return>  
<http://members.tripod.com/~LouCaru/index-13.html>

**Special Note on the Western Black Widow Medically Significant:** The infamous black widow (*Latrodectus hesperus*) is not found in the Seattle/Tacoma area. Its Washington range includes only areas east of the Cascade Mountains, a few San Juan Islands and a small part of Whidbey Island. Only the larger female spiders can bite through all layers of human skin and inject enough venom to cause a painful reaction. Small juveniles and all ages of male black widows are essentially harmless. All victims of a western black widow spider bite should receive prompt and proper medical treatment. The pain and other symptoms usually reach a peak within 12–48 hours of the bite, and then gradually subside over the next 2–5 days. To facilitate treatment, every effort should be made to capture the offending spider and bring it to the medical center where care is given to the victim. Alternatively, take the spider to a local spider specialist. It is essential to obtain proper identification to ensure that the correct type of medical care is provided. No deaths from black widows have been documented in the U.S. for more than 20

years. In comparison, about 30 deaths each year are attributed to bees and wasps. There are several ways to avoid widow spider bites. First, be aware of your surroundings and realize that black widows prefer areas of dimly lit shelter. Second, always wear gloves while working in these areas. Third, wear a long-sleeved shirt and long pants when working in areas of potential black widow habitat. If a black widow falls on the hand or arm, brush it off instead of swatting it.

**Interesting Facts:** Western black widows are an invaluable aid in destroying harmful, crop-eating insects or other pests that carry diseases. To conserve the habitat for black widows and other spiders, reduce your use of pesticides, and work to preserve vegetation in your neighborhood and in tropical regions.