

Take a Closer LOOK

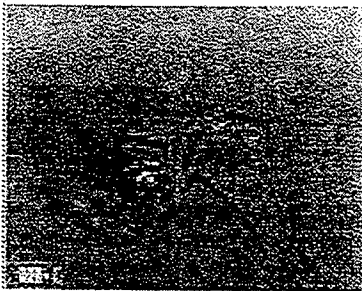


...at the common Oregon 'critters' in the household, garden and landscape!

Oregon State University
Master Gardener Program

Critter Identification Sheet
25

1st Edition,
December
1999



Male Black Widow

SPIDERS:

Black Widow &



Female Black Widow with Egg
Sac

Aggressive House (Hobo)

Most commonly found in the

House, Yard, and Outbuildings

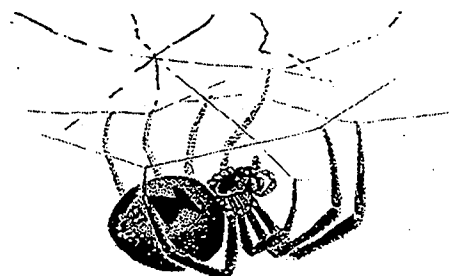


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<i>Phylum :</i> <i>Arthropoda</i>	<i>Class:</i> <i>Arachnida</i>	<i>Order: Widows &</i> <i>Funnel Spiders</i>
<i>Don't MISTAKE a common House (funnel-web) Spider for a poisonous Hobo spider.</i>		

Did you know...

- A spider is not an insect. It has eight legs, no visible antennae and a two-piece body. Spiders, along with ticks, mites, harvestmen, and scorpions, belong to the Class Arachnida.
- A spider has silk-spinning structures, called spinnerets, at the back end of its abdomen, and usually six to eight eyes of various sizes and shapes grace its furry face.
- Spiders existed over 300 million years ago. There are about 50 different families of spiders in the world today, containing 50,000 to 70,000 species. Almost all prey on insects. Common web spiders are the orb web weavers (Araneidae family) including the barn spider and garden spider; the funnel-web spiders (Agelenidae family) including the aggressive house, gigantic and the domestic

house spider; and the cobweb weavers (Therididae family) including the black widow and the American house spider.

- Almost all spiders prey on insects for food. Many spiders are too small to bite or possess poison, and too weak to harm humans. Only a few have bites that are dangerous. In Oregon, the only two dangerously poisonous spiders are the **Western Black Widow Spider** (*Latrodectus hesperus*) and the **Aggressive House Spider** (*Tegenaria agrestis*) (otherwise known as the **Hobo**) which will be highlighted in this article.
- The bite of the Aggressive House spider causes similar symptoms to the southern spider, the Brown Recluse. Therefore some medical personnel in Oregon will tell victims they have a Brown Recluse bite. This is incorrect. There are no populations of the Brown Recluse spider in Oregon. The only exceptions are a rare traveling spider that hitchhikes here with a moving van or goods from the Southeast, where they are common. It was not initially known that the bite of the Aggressive House spider was poisonous, until long after medical personnel were very familiar with the Brown Recluse bite. For that reason, medical personnel in Oregon may still mistakenly tell patients that they have been bitten by a Brown Recluse spider.
- Venom from bites can cause different reactions to individuals depending on their sensitivity level. There are no good indices of how common spider bites are or how many are reported to medical attention. If bites are reported, it is not clear whether the bite is from a spider species or another biting critter. In 1997, the National Poison Control Annual US Stats reported 2757 unconfirmed black widow bites and 0 deaths. In 1998 there were 2452 reported bites, 823 hospital treatments including single ER visits and 0 deaths. People usually get bitten by accident because spiders end up in their clothes, shoes, or in a log pile.

Appearance, Habits and Behaviors

- **Identification.** Identification of spider species is generally difficult for the novice and expert alike. Spider classification is based on external structures including eye arrangement, number of hairs and claws on the legs, complicated structure of reproductive organs, and how they build their web. Understanding the technical vocabulary in many spider keys often requires the assistance of a biologist. Your local Extension Service including Master Gardeners may be able to rule out your spider sample as being the black widow, or hobo spider or whether the spider belongs to one of the many other beneficial spider families such as hunting spiders, orb-weavers or crab spiders. However, because spider id is difficult, it may be necessary to send the to the OSU Entomology lab for definite identification.
- Spiders have two body regions. The cephalothorax (head and chest) has 8 legs attached to it. The underside is called the sternum (breast bone), just as with humans. The rear portion of the body is the abdomen, which can be larger or smaller than the cephalothorax. Scientific language is used to indicate the back or top of a spider as dorsal (or dorsum); the belly or down side of a spider is called the venter (or ventrum). Many features such as extra spines, abdominal hair,

classic markings and color all help to identify a spider. Male spiders can be distinguished by the heavy swellings at the ends of their palps (a modified paw-like mouthpart). A poor specimen is hard to identify - hairs can be rubbed off on sternum, spines broken, and color may have changed by drying, friction, or other injury. The best specimen for identification is a live spider. If the spider is killed, put it in a small container of rubbing alcohol as soon as possible. The "quick and dirty" visual key at the end of this article helps distinguish among the three *Tegenaria* species (including the Aggressive House spider) and includes the European House spider for contrast.

- **Western Black Widow** (*Latrodectus hesperus*). The adult black widow females are shiny jet black with slender longer legs and a red or orange design. This design usually resembles an hourglass, on the underside of her bulbous abdomen. The harmless males and immature males and females are smaller with fawn-like markings of white, yellow, and pale brown on the back of the abdomen. The males do have venom, but have weak fangs that cannot pierce human skin. The black widow is shy, nearly blind, and rarely bites, only when directly disturbed. WEB: The black widow constructs a loose, irregular, and very strong web that will be found in dry, dark protected corners, crawl spaces, outbuildings, garages, log piles, and underneath chairs or benches that may be sitting outside. BEHAVIOR: The male is sometimes consumed by the female after mating, if she is hungry and he is unable to escape. She will gain extra nutrients for laying her eggs by eating the male, but most of the time this does not happen. The male is smart and will leave the web, soon after mating, before the female has time to act. This action is more common in the laboratory than in natural situations. Thus, the title "widow" is largely undeserved. The egg sacs (smooth, round, and white) are frequently guarded by the female spider.
- **Aggressive House Spider** (*Tegenaria agrestis*). The aggressive house (or called hobo spider) is a relatively large, brown and swift running spider. Do not mistake it for the domestic house or gigantic funnel-web spider, or a wolf spider. Mature aggressive spiders can be well over an inch long including the legs and a pair of silk spinning tubes at the rear of the abdomen. The oblong, lightly hairy abdomen is tanish-brown with broad reddish-brown zigzag (also called chevron or herringbone) stripes on top. The sternum is marked with a pair of broad dark brown bands running lengthwise, placed around a light tan central band like parentheses. Male Aggressive House spiders have a double spine on their claws, at the tips of each leg. This can be seen with a dissecting microscope, but not easily seen with the human eye. Contrast this with the description of the other two *Tegenaria* species listed below. (All three *Tegenaria* species have three pairs of eyes, rather than the more common 4 pair). WEB: The Aggressive House spider builds webs in dark, moist areas, often in basements. This web looks like a tornado, it is flat and has a funnel in the center. The webs of funnel-web spiders are not sticky. BEHAVIOR: The Aggressive House spider spends the day at the mouth of its web waiting for prey. She will often retreat to this tunnel when she is disturbed. When prey becomes entangled in the web, she feels the vibration and dashes out. The hobo prefers to remain at or near ground level. Eggs are laid into spherical silken sacs. Males tend to wander long distances in search of

females. Aggressive House spiders are more active at night.

- **Domestic House Spider or Gigantic House Spider** (*Tegenaria domestica* and *Tegenaria gigantea*). These spiders are also funnel-web spiders and are commonly mistaken for the Aggressive House spider. These spiders are harmless and beneficial. Generally the domestic house is smaller and a bit darker than the Aggressive House spider, but this is all relative. The Gigantic House spider is somewhat larger than the Aggressive House spider. The legs of the domestic are ringed, unlike the ringless legs of the Aggressive House spider and Gigantic House spider. Leg rings can be difficult to see in some specimens, but can usually be examined by placing the spider in a "zip-lock" bag and looking at the legs through a strong light source. The markings on the sternum for both these spiders have three large dots within a dark stripe on either side (remember the Aggressive House spider has solid dark bands on either side of the sternum). The Gigantic House spider has a darker margin around the dorsal side of the cephalothorax. If you rub or disturb the hairs on these spider's ventral sides, the characteristic markings may disappear! Both these spiders have a single claw at the tip of each leg, used by the spider to handle silk. This differs from the double claw of the Aggressive House spider. **WEB:** Both of these spiders build a non-sticky funnel web like the Aggressive House. **BEHAVIOR:** The Gigantic has no aversion to heights, often being sighted in lofty areas such as high ledges inside houses. You will find the Domestic spider inside houses, garage, and in barns, but is not as common at high ledges.

Life Cycle

- **Black Widow.** The western black widow female will lay up to 150 eggs in a sac. The eggs take about 30 days to hatch. The baby spiders of the black widow are whitish in appearance when they leave the egg and will continuously get darker. Most widows live one or two seasons.
- **Aggressive House Spider.** In October, eggs are deposited in one to four egg cases into a spherical silken sac spun by the female. The egg sac (~100 eggs) is laid near the funnel, usually on the undersides of rocks, wood or other objects. Eggs hatch the following spring. Most young molt about 10 times over a span of one to two years before reaching sexual maturity.

Impact on the Ecosystem

- **Spider Bite Reactions.** Anyone who has been bitten by mosquitoes, fleas or bedbugs recognize the itchy red bumps that occur soon afterwards. Two different types of allergic reactions can occur following these bites. The most common being a very fast appearing itchy lump that lasts a day or two. The other reaction is a firm, persistent itchy red lump that takes 2 to 3 weeks to disappear. Many people experience both types of reaction following a bite. The bite of a spider is different in that they inject true venom (poison) rather than saliva or digestive enzymes when they bite. Many spider bites can cause a similar reaction

to a mosquito bite, as their venom is too weak to injure anything but a small prey insect. The two poisonous Oregon spiders inject different types of venom. The Aggressive House spider injects a coagulant/hemotoxin, while the Black Widow injects a nerve toxin. This explains the different symptoms caused by their bites. Fortunately, over 50% of spider bites are "dry", that is the bite contains no venom. Spider bites are actually a rare outcome of human-spider encounters, and almost all occur when the spider is trapped between clothing, between carried objects (such as firewood) and skin, or when a human hand lands right on the spider.

- **Injury from Aggressive House Spider Bite.** The initial Aggressive House spider bite is often painless. The venom causes clotting in the tiny capillary blood vessels near the bite. The skin, fatty tissue and muscle near a bite will die from a lack of oxygen. This results in a painful red lump, which swells and develops a blister, that then breaks down to an ulcer on the skin. The ulcer can go on to form a deep injury to tissue beneath the skin, and may take months to heal. This type of injury often leaves a permanent scar. Some people also get an allergic reaction to the Aggressive House venom, causing severe headache, chills, nausea, and vomiting. This pattern is also seen with a Brown Recluse bite.
- **Injury from Black Widow Bite.** The Black Widow venom is a nerve toxin, therefore effects from a significant bite will occur throughout the body. The initial bite, while occasionally painless, usually feels like a needle prick, and quickly worsens over a 15-60 minute period. The pain can be quite severe, spreading to other parts of the body. The toxin causes muscles to cramp and go rigid, difficulty breathing, and nausea. The stomach (abdominal muscles) are most often affected, with chest, thigh, and back muscles being other common sites. Medical personnel should evaluate anyone bitten by a Black Widow spider. Only 1 in 15 who gets bit by nerve toxins need to be hospitalized, and deaths are very rare.
- **Benefits of Spiders** The two poisonous (to humans) spiders in Oregon are a small proportion overall compared to the numbers of beneficial spiders in the house and garden! Spiders are almost all generalist predators, which means they will eat anything they can catch. They are probably the best pest control in the garden, preying on a wide variety of insects such as pesky caterpillars, flies, mosquitoes, grasshoppers, aphids, and even Aggressive House spiders. They prevent a significant amount of damage to our gardens. It is interesting how many Americans fear spiders, or consider them villains, when the evidence is clear they are enormously beneficial to mankind. Many native and eastern cultures revere the spider as the enduring weaver of our fates.

Least Harmful Recommendations for Managing the 'P.E.S.T'

(Click here to read about the philosophy and definition of Integrated Pest Management (IPM) and learn the 'P.E.S.T' acronym)

Disclosure Statement

The mention of the following practices and treatments does not constitute endorsement by the Oregon State University Extension Service, nor should exclusion be interpreted as criticism of any item, form, or service. Information provided is accurate to the best of our knowledge. Readers must assume all responsibility for their own actions based on information found. If, and when, a company, product or reference is named, it is not an endorsement from the OSU Extension Service. Alternate gardening methods are presented for your consideration, but not necessarily the only approach. Please note: treatments and/or management strategies are based on research, personal experience, other written materials or preliminary work that may not have been extensively experimentally tested.

Detection and Sampling

- **Monitor for black widows and aggressive house spiders at night with a flashlight or a lantern.** This is when they move to the center of their webs or go wandering. During the day they keep themselves hidden. When you are looking for black widows check areas with small crevices, like around the foundation of your house, garage, shed, or outbuildings. You may find a black widow amongst a wood pile, between stones, flower pots, or other materials that are stored outdoors. They make their nest within a few feet of the ground, and thus can be a big threat to children. Children can help but should be cautioned not to touch or poke at the spider. It is difficult to distinguish an aggressive house spider from a gigantic or domestic house spider wandering through your house or garage.

Prevention and Exclusion

- **Common Sense.** To prevent yourself from getting bit while working outside, use common sense and relax around spiders. Make sure you look where you are placing your hands and wear gloves along with a long sleeve shirt and pants. Remember to be particularly careful when you are working around wood piles, or whenever you move stored items in storage or an undisturbed area.
- **Good Housekeeping.** Another way to fight spiders and other unwanted critters in the home is routine household cleaning. Respect spiders by removing them from the house and placing them in a more desirable habitat so they can work for you. An inverted glass (over the spider) and piece of stiff paper (to slide under the opening of the glass) make a convenient "spider carrier" as you move them outdoors. Vacuum cleaners or brooms effectively remove spiders, their webs and egg sacs. Make certain to thoroughly vacuum in corners and closets of your home, behind furniture, and underneath beds. Keep cellars, rooms, closets as clean and clutter-free as possible. This rule can provide a powerful incentive for children to clean their rooms. Shake clothing, blankets, towels, sleeping bags if they have remained in an area where these spiders may be found.

These spiders usually will not remain in a continuously disturbed area, so frequent cleanup in storage areas and outdoors is helpful. A significant number of Aggressive House spider bites occur in bed, when a sleeping person inadvertently rolls over or places a limb on the spider. Keep the sides of your bedspreads above the floor by at least 8 inches. This reduces the possibility of the spider crawling into the bed.

- **Avoidance.** Keep away from areas where spiders are known to concentrate. Put rubber bands over pant legs and sleeves to minimize the possibility of a spider running up your sleeve or pant leg.
- **Glue Traps.** Sticky spider traps may be commercially available in your area. Sticky traps are effective on funnel web spiders since they are not adapted to sticky webs. Set up a sticky trap on the floor along the base of walls and stairways, away from pets.
- **Seal Cracks.** One should inspect the foundation of dwellings and seal off potential entry-ways, loose panels in window wells and entry into dryer vents. Install tight fitting window screens and door sweeps to keep spiders and other unwanted guests out. Yellow or sodium vapor light bulbs outside door entrances are less attractive to night-flying insects and spiders than the usual incandescent types.
- **Competitors.** The domestic house spider is a competitor of the aggressive house spider. They can successfully prevent the invasion of the aggressive house spider. If domestic house spider colonies are destroyed, there is an open invitation for subsequent invasion by the aggressive house spider.

Suppression and Treatment

- **Habitat Modification.** If you see a place where the spiders frequently like to make nests, make the spot unappealing to them. Bring in some more light or if there is a crack or a crevice use some caulk and close the hole. You may want to check to see how tight fitting your doors and window are. Do they have proper seals? Spiders are not very big, so they can get into your house from almost any little crack or crevice. You may also want to check the areas at night. The spider you thought was not there may be lurking in the shadows until night fall.
- **Removal.** Most spiders are very shy and will not bite you unless you provoke them. If you see a spider that you are not likely to come across again or is completely out of the way, leave it alone. They are shy and stay in their webs most of the time. If it is becoming a nuisance, take a container and gently slip it over the spider and seal with a lid. To avoid potential bites, remove spiders from your home when you find them.
- Due to constant changes in regulations of **Chemical Treatments**, please refer to the most recent copy of the "**PNW Insect Control Handbook**". This publication is revised annually and can be purchased from Extension and Station Communications at Oregon State University, (541)

737-2513 or e-mail: puborder@ccmail.orst.edu. Remember to read the product labels closely.

Additional Information

Other References. See the reference materials for future reading and additional resources.

- POISON CONTROL CENTER in the PNW area for what to do if someone is bitten: 1-800-452-7165.
- Berry, R.E. 1998. Insects and Mites of Economic Importance in the Northwest. OSU Bookstore.
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- Levi, H.W. and L.R. Levi. 1990. A Golden Guide: Spiders and Their Kin. Golden Press. New York.
- Smith, Michael D. 1982. The Ortho Problem Solver. Fourth Edition. Ortho Information Services, San Ramon, California.

- **Websites:**

<http://hobospider.org/index>

<http://redtail.eou.edu/catalog/>

<http://scarab.msu.montana.edu/extension/extension.html>

<http://axp.ipm.ucdavis.edu/PMG/selectnewpest.home.html#structures>

<http://www.ent.orst.edu/urban/spiders.html>

<http://www.uky.edu/Agriculture/Entomology/entfacts/efstruc.html>

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

Comments and Feedback

Your feedback and comments are welcomed and appreciated. Contact Amy J. Dreves, Oregon State University Master Gardener Program, drevesa@bcc.orst.edu

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- OSU Extension Service County Agents.

Web site

“How to identify (or misidentify) the hobo spider” by Rick Vetter and Art Antonelli
<http://www.puyallup.wsu.edu/plantclinic/resources/pdf/pls116hobospider.pdf>