

HOBO SPIDER

The hobo spider, *Tegenaria agrestis*, is a European immigrant that has only recently (1980s) been implicated as a potentially poisonous spider in the United States. Other names used for this spider include the aggressive house spider (although this spider is not usually aggressive) and, less commonly, the Walckenaer spider and the Northwestern brown spider. However, in seeking name stability, the American Arachnological Society has chosen "hobo spider" as the spider's official common name. The name "hobo" is linked to the spider's presumed spread to distant cities via the railways.

The hobo spider is not known to live in California and has never been documented in the state. There are many cases, however, of common related spiders being misidentified as hobo spiders by the general public and even by pest control operators. In the United States, this spider lives in the Pacific Northwest from Washington east to Montana and south through Oregon and northern Utah, so it is conceivable that its range may extend into the northernmost areas of California. However, there have been no documented verifications by a qualified arachnologist (spider specialist) to date. A survey is currently under way to determine if it is present in northern California.

Although once common in Seattle, the hobo spider apparently is being competitively displaced by another European *Tegenaria* (TEGG-a-NAIR-ee-a) species so that it is now difficult to find hobo spiders in Seattle. Hobo spiders are more common further east and are easily found around Salt Lake City, Utah. Interest in this spider has been growing in California because it causes necrotic wounds similar to brown recluse bites, another spider that does

not occur in California. (For more information on the brown recluse, see *Pest Notes: Brown Recluse and Other Recluse Spiders*, listed in "Suggested Reading.") Some members of the California medical community have read about the hobo spider and the effects of its venom and have started to diagnose hobo spider bites without proof of the spider. The purpose of this Pest Note is to offer current information on the status of the hobo spider in California.

IDENTIFICATION

The hobo spider is a member of the spider family Agelenidae, a common group that has many species throughout California and the United States. Agelenid spiders can have very dense populations in certain habitats. The members of this family construct a snare referred to as a funnel web, which is a trampoline-like, horizontal web constricting back into a funnel or hole (Fig. 1). The web is typically found in a crack between bricks or under wood, stones, or vegetation. The spider waits in the mouth of the funnel for prey to fall onto the horizontal surface, and then it rushes out, grabs the prey, and takes it back to its funnel to consume. If you go outside on a dewy morning, you can often see many of these funnel webs.

The hobo spider shares traits with many of its relatives in the Agelenidae family, including coloration and web-building characteristics. It is a brown spider about $\frac{1}{4}$ to $\frac{5}{8}$ inch in body length and lives in a funnel web. There are dozens of similar looking spider species in California that build funnel webs, including members of the genera *Agelenopsis* (2 species), *Calilena* (13 species), *Hololena* (21 species), *Novalena* (4 species), and *Rualena* (8 species). There is even a unique wolf spider genus,

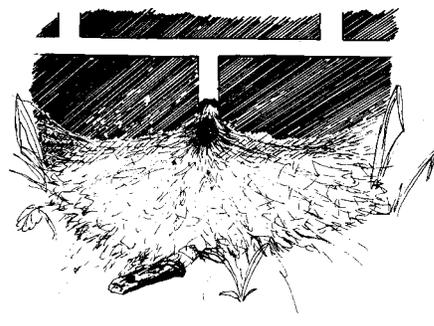


Figure 1. Funnel web of an agelenid spider.

Sosippus (1 species), in California that, unlike its free-hunting relatives, builds a funnel web. Therefore, if you see a funnel web in California, there are many other spiders you should suspect before even considering the hobo spider as a possibility. None of these species causes necrotic wounds or serious injury to humans.

To distinguish funnel-weaving spider species, the arachnid's genitalia must be examined, a task that requires the skills of a qualified arachnologist. Each spider species has a distinctive "lock and key" design of the male and female reproductive organs. Through evolution, the physical features of the males and females have become unique for each species and hence are used by arachnologists for species differentiation. Until someone has examined reproductive features on dozens of hobo spiders and also related species, it is unlikely that a hobo spider would be correctly identified with the naked eye. Therefore, virtually any "hobo spider" identification by a non-arachnologist in California should be suspect.

If you have access to a magnifying device (hand lens, microscope, etc.),

there is an easy way to determine if the spider you have IS NOT a hobo spider. First, the spider must be associated with a funnel web, otherwise it could easily be one of the hundreds of other non-agelenid spider species in California. All funnel-weaving spiders have eight eyes arranged in two rows. If you look at the spider head on, however, most of the agelenid spiders in California have their two rows of eyes curved so strongly that it appears that their eyes are actually in three horizontal rows with four eyes in the middle row with two eyes above and two eyes below this row (Fig. 2a). This is known as the 2-4-2 eye pattern. Exceptions are the spiders of the genus *Tegenaria*, which have eyes that are in the more common pattern of two rows of four (Fig. 2b). This is also the most common eye pattern for spiders in general, and unless you remove the spider from a funnel web, it will probably not be a funnel-weaving spider.

Nonetheless, it is not uncommon to find a funnel-weaving spider with two straight rows of eyes in California. There are two species of *Tegenaria* in the state, *T. pagana* and *T. domestica*. Neither species is native to the United States, and their coloration is similar enough to that of the hobo spider that anyone except a spider expert might confuse them with the hobo spider. *Tegenaria pagana* is found in coastal California regions to slightly inland. *Tegenaria domestica*, however, is an extremely common spider, about 1/4 to 1/2 inch in body length, that is found throughout California and is very often found inside homes, as is evident by the name "domestica." In fact, *T. domestica* is found throughout the world, having been carried by commerce. Neither of these spiders is considered poisonous to humans even though they are closely related to the hobo spider.

MEDICAL ASPECTS

Hobo spiders have been reported to have a bite that can leave a necrotic (i.e., rotting flesh) wound that progresses over several days—similar to that caused by a brown recluse bite. Another reported characteristic symp-

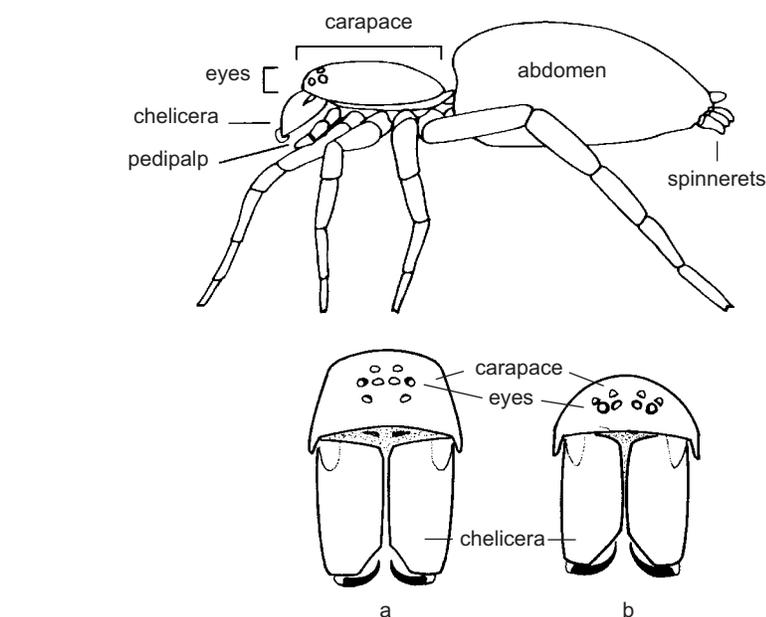


Figure 2. (Top) Side view of spider body. Closeups show face of (a) an agelenid spider, *Agelenopsis aperta*, with eyes in three rows; and (b) the hobo spider, *Tegenaria agrestis*, with eyes in two rows.

tom of hobo spider bites is a headache that persists for 2 to 7 days and does not abate with analgesics.

In its native European habitat, the hobo spider venom is not considered poisonous to humans. A research study was recently undertaken to compare hobo spider venom from both Pacific Northwest and European hobo spider populations. The venom from both populations was injected into the same strain of rabbits used in the initial research that implicated hobo spiders as potentially poisonous to humans. Neither venom in the study produced necrotic wounds in the rabbits. Although this does not exonerate the hobo spider as a culprit in necrotic wounds, it suggests that more research is needed before the full extent of its poisonous nature is understood.

If you do get a necrotic wound in California, you and your medical professional should consider many other common causes to be much more probable than a bite from a hobo or brown recluse spider. If an arthropod is involved at all, one should first consider all those creatures that seek out mam-

mals for blood meals and may cause necrotic-type wounds. These include mites, fleas, bed bugs, soft ticks, hard ticks, conenose bugs, and kissing bugs (see *Pest Notes on Fleas, Bed Bugs, Conenose Bugs, and Lyme Disease in California* listed in the "Suggested Reading"). In addition there is a long list of medical conditions and diseases that exhibit necrotic-type wounds. A few of these are *Staphylococcus* and *Streptococcus* bacterial infections; lymphomatoid papulosis (a non-Hodgkin's disease lymphoma); diabetic ulcer; pyoderma gangrenosum; infected herpes simplex; herpes zoster ("shingles"); and Lyme disease. Any and all of these situations are more likely than the bite of a hobo spider in California.

MANAGEMENT

Because the hobo spider is not thought to live in California, there is no need for control. However, reducing trash and rubble around the house and sealing windows and door jams will help to reduce the numbers of spiders and other arthropods that can gain access into the home. In the garage (a well-known haven for spiders), use spider-proof plastic bags to store all gardening

apparel (gloves, old shirts, boots) and sports gear (baseball mitts, roller skates) that is used only sporadically. Remember that this will minimize encounters with spiders but not eliminate them completely.

If you feel the information in this Pest Note is incorrect because you think you have a hobo spider that was collected in California, please mail the spider to the author at the following address for positive identification:

UC Pest Notes Spider ID
Dept. of Entomology
3401 Watkins Dr.
University of California
Riverside, CA 92521

The best way to preserve soft-bodied specimens such as spiders is to place them in a small jar or vial that contains

rubbing alcohol. Spiders in alcohol may be shipped within California via ground UPS or parcel post only. Put the spider in a small vial with alcohol and pack it with at least 2 inches of protective material; a small plastic container is better than glass. Please tape around the lid of the vial to reduce leakage possibilities. If you wish to send the package by overnight courier or Priority/First Class mail, you should not mail it in alcohol. Instead, preserve the spider in alcohol for a week, then pour off the fluid and send the spider without preservative. If the spider is dead, it can also be sent in a small box so it doesn't get crushed, but sending dead, dried spiders is the least preferred manner of shipping because important body features are difficult to see after the spider has withered.

SUGGESTED READING

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For more information contact the University of California Cooperative Extension or agricultural commissioner's office in your county. See your phone book for addresses and phone numbers.

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