

The Brown Recluse Spider Does NOT Occur in California

If you were to ask an audience of more than a few people if they or anyone they know has ever seen or been bitten by a brown recluse spider (Figure 1) in California, many hands would be raised. This is quite remarkable because the brown recluse spider has NEVER established breeding populations in California!

The myth of the brown recluse has been generated and sustained by 1) physician misdiagnoses (where many skin lesions of diverse non-spider origin are blamed on a non-existent spider), 2) media articles that report claims of horrendous bite injury without proof of spider involvement, and 3) misidentification of harmless brown spiders as brown recluses by the general public as well as “authorities” who lack adequate spider identification skills.

Brown recluse mythology is persistent throughout North America, even in places such as Alaska and Canada, which are far from where the spider is actually found. In some places, it is easy to argue against this myth because no recluse spiders have ever been found there. For California, this argument is less definitive because the state’s southeastern deserts are home to several related native species such as the desert recluse spider (a different species than the brown recluse). Additionally, in urban Los Angeles County, there have



Figure 1. Adult brown recluse spider, *Loxosceles reclusa*.

been rare records of isolated populations of the Chilean recluse spider. However, the native desert species occur where few people live and the Chilean recluse has only been found in commercial buildings, never in homes. There have been no confirmed bites by this non-native Chilean recluse since it was originally found in Los Angeles in the late 1930s. There have been rare findings of brown recluse in California, but these have occurred as hitchhikers in moving boxes from other areas of the country and the spider was destroyed after locating.

Although there are some recluse spiders in limited areas within California, this does not explain the hundreds (and maybe thousands) of brown recluse bite misdiagnoses made in California each

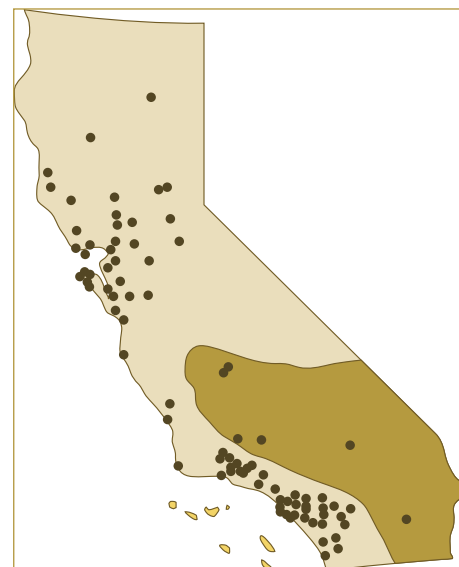


Figure 2. Misdiagnoses of brown recluse spider bites (represented by dots) in California, compared to the known distribution (shaded area) of the native California desert recluse. Some dots represent a city with more than one diagnoses.

Modified from Vetter et al. 2003, *Toxicon* 42:413-418. Redrawn by K. Fontecha, 2019.

year. In a study mapping out such misdiagnoses vs. known populations of recluse spiders in California, more than 95% of the purported brown recluse bites occurred in urban areas where the spiders are not known to inhabit (Figure 2).

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Brown Recluse Spider *...continued from p.1*

For many decades throughout North America, it has been readily assumed by the medical community that many skin lesions resulted from brown recluse spider envenomation. However, recent research shows that most of these lesions are unrelated to spiders. Causes include some medical conditions that are much worse than any recluse bite would be.

One real danger of such a recluse bite misdiagnosis is that the actual causal condition will not respond to recluse bite remedy, allowing the real condition to

continue on unabated, worsening and potentially leading to death. Some of these afflictions misdiagnosed as recluse bite include: cancer, leukemia, lymphoma, Lyme disease, bacterial infections, anthrax, adverse reaction to blood thinners, poison ivy, poison oak, chemical burn, thermal burn, and more. One of the most common conditions misdiagnosed as a spider bite is the bacterial infections caused by methicillin-resistant *Staphylococcus aureus* (MRSA).

To find out more about the different species of recluse spiders, identifying features of the brown recluse, and other spiders commonly mistaken for recluses, see the recently updated [Pest Notes: Brown Recluse and Other Recluse Spiders](#) on the UC IPM website.

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Reading the Pesticide Label

You've probably heard it's important to read the label on a pesticide bottle, but you might not know why or what to even look for on the label.

Understanding pesticide labels is critical for choosing the appropriate products for the right pest, in the right situation, and for using the correct amounts. Make sure that the pest your customer wants to treat is on the label. The location

where they want to apply the product must also be listed.

Labels are legal documents providing directions on how to mix, apply, store, and dispose of a pesticide product. This means that using a pesticide in a manner inconsistent with its labeling is a violation of federal law. Make sure your customers know to always read the label

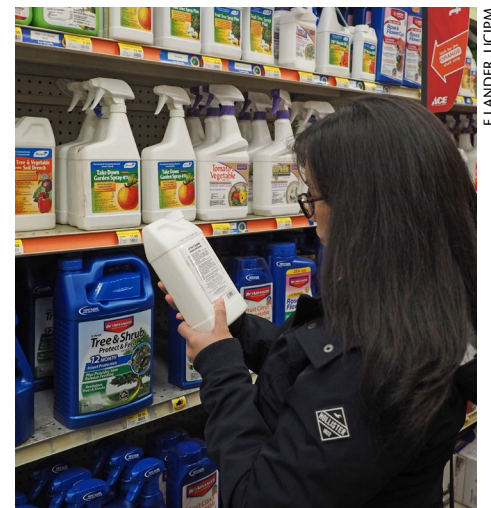
before buying and using any pesticide product.

See the figure on page 3 for some of the essential information found on pesticide labels, including ingredients, precautionary statements, directions for use, and signal words. Table 1, shown below, explains what the signal words on a label mean.

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Table 1. A pesticide label usually includes a signal word which indicates the acute or short-term hazard to humans when using the product.

CAUTION	Slightly toxic either orally, dermally, or through inhalation; causes slight eye or skin irritation.
WARNING	Moderately toxic either orally, dermally, or through inhalation; causes moderate eye or skin irritation.
DANGER	Can cause severe eye damage or skin irritation.
DANGER-POISON	Highly toxic by any route of entry into the body.



Encourage customers to read the label before purchasing to ensure they choose the correct product for their needs.



Reading Pesticide Labels ...continued from p.2

Essential information on a pesticide label includes:



1 Trade or Brand Name. This is the name the manufacturer has given the product. It is used for marketing purposes and is not a reliable guide to the actual chemical makeup of the product. Products with similar names may contain very different ingredients. Manufacturers sometimes change the active ingredient of a product but keep the same brand name. See the Summer 2018 issue of the [Retail Nursery & Garden Center IPM News](#) for more details.

2 Ingredients. The active ingredient is the part of the product that kills or otherwise affects the target pest. Inert ingredients may have been added to help the active ingredient work better. Both are listed as percentages.

3 Precautionary Statements. These describe the known human and environmental hazards associated with the pesticide, how to avoid exposure, which personal protective equipment is required, and how to store and dispose of the product. These statements also include first aid instructions and may include directions for physicians.

4 Signal Word. The signal words “CAUTION,” “WARNING,” “DANGER,” and “DANGER-POISON” (in order of increasing toxicity) indicate the relative acute toxicity, or short-term effects, of the active ingredients to humans (Table 1). They do not refer to long-term effects to humans nor do they indicate the potential toxic effect on other organisms. There may not be a signal word if the product has very low acute human toxicity.

5 US EPA Registration and Establishment Numbers. Every registered pesticide has a number assigned to it, indicating that the product has been reviewed by the United States Environmental Protection Agency (US EPA) and found effective to use with limited risk if you use it according to label directions. The establishment number is the code that identifies the site of manufacture or repackaging. Some pesticides are exempt from registration and won't have a US EPA number.

6 Manufacturer. The manufacturer's name and address are always shown on the product label in case you need to contact them for any reason.

7 Directions for Use. This section lists the plants or sites and the target pests on which the pesticide may legally be used. It tells how to mix and apply the pesticide and how much to use. Always follow these instructions carefully.

Modified from *Lawn and Residential Landscape Pest Control*, UC ANR Publication 3510.

—Karey Windbiel-Rojas, Associate Director for Urban and Community IPM, UC Statewide IPM Program, kwindbiel@ucanr.edu

Recently Revised Pest Notes

Asian Citrus Psyllid and Huanglongbing Disease



Updated September 2018. In order to bring the latest information about the Asian citrus psyllid's spread through the state which brings with it the threat of the fatal citrus disease, huanglongbing disease, UC entomologists Elizabeth Grafton-Cardwell and Matthew Daugherty have updated the *Pest Notes: Asian Citrus Psyllid and Huanglongbing Disease*. Recent

research on biological control of the psyllid is included, as well as an expanded section on what home gardeners can do to help stop the spread of the pest and its associated disease.

Online at ipm.ucanr.edu/PMG/PESTNOTES/pn74155.html

Brown Recluse and Other Recluse Spiders



Updated November 2018. The brown recluse spider, despite not being a California resident, is a pest that worries many people. UC arachnologist Richard Vetter is a world expert on this spider and has recently updated the *Pest Notes: Brown Recluse and Other Recluse Spiders*. This revision includes new photographs to help distinguish common spiders from the brown

recluse and new information about misdiagnosis of spider bites.

Online at ipm.ucanr.edu/PMG/PESTNOTES/pn7468.html

Ground Squirrel



Updated December 2018. The newly updated *Pest Notes: Ground Squirrel* includes more information about identification and management. UC scientists Niamh Quinn, Roger Baldwin, and Monica Dimson revised this document with an updated range map and the latest research on management of the California ground squirrel such as methods that are most

efficacious at different times of the year.

Online at ipm.ucanr.edu/PMG/PESTNOTES/pn7438.html

Glassy-winged Sharpshooter



Updated April 2019. While eradication efforts have succeeded in some parts of California, the glassy-winged sharpshooter remains a threat to hundreds of different plants. This insect can spread several important fatal plant diseases like Pierce's disease of grape and oleander leaf scorch. Find more information in the revised *Pest Notes: Glassy-winged Sharpshooter*.

Online at ipm.ucanr.edu/PMG/PESTNOTES/pn7492.html

Visit UC IPM's *Pest Notes* web page for these and many more titles.

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Produced by the University of California Statewide Integrated Pest Management Program with partial funding from the USDA NIFA CPPM Extension Implementation Program.

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Always read and carefully follow all precautions and safety instructions provided on the pesticide container label, as well as any other regulations regarding the use of pesticides. Not following label directions, even if they conflict with information provided herein, is a violation of state and federal law. No endorsements of named products are intended, nor is criticism implied of products not mentioned.

WHAT IS IPM? Integrated Pest Management (IPM) programs focus on long-term prevention of pests or their damage through a combination of techniques including resistant plant varieties, biological control, physical or mechanical control, and modification of gardening and home maintenance practices to reduce conditions favorable for pests. Pesticides are part of IPM programs but are used only when needed. Products are selected and applied in a manner that minimizes risks to human health, beneficial and nontarget organisms, and the environment.