

Notes from a Rogue entomologist

Ladybugs: Lost and found

BY RICHARD J. HILTON

The other day my wife called out to me from the kitchen, "There's a lady beetle in here." Generally speaking, a lady beetle in the house is not that interesting—I was 99% sure that it would be a *Harmonia axyridis*, the multicolored Asian lady beetle, and indeed it was. As the common name implies, *Harmonia* has many different color forms, more than any other lady beetle, and the number of spots range from zero to more than 20. The color of the beetle's elytra, the hardened forewings that act as a sort of shell, can be bright orange or black. But the interesting thing is that, when we moved here 25 years ago, there were no *Harmonia* to be found in southern Oregon or really anywhere else in the United States for that matter.

What happened to change that state of affairs is a story of good intentions gone awry. As it turns out, two of the three most common lady beetles in the country are not native species. Besides *Harmonia*, another introduced lady beetle found in southern Oregon is the seven-spotted lady beetle, also known as C-7 (an abbreviation derived from its Latin name, *Coccinella septempunctata*). Even though C-7 is rarely seen indoors, they are very easy to find outdoors and quite possibly even more common than *Harmonia*. Both *Harmonia* and C-7 were brought to the states to combat pests, such as aphids and scale

insects, and they have done quite well for themselves in North America.

Many of the crop pests that we have in North America came here from other parts of the world. When these plant-feeding insects are transplanted to a new region that does not have the naturally occurring predators and parasites, the populations can often reach very high and very damaging levels. One way of controlling these invasive pests is to bring in predators and parasites from a pest's country of origin and release them. This is known as classical biocontrol. When this tactic is successful, it can be incredibly cost-effective and can result in major reductions in pesticide use. However, the problem with this method of pest control is that once the biological control agents are released and established, there is no way to put that genie back into the bottle. Now it is the flourishing population of imported ladybugs that pose a problem.

While these introduced lady beetles do help to reduce pest populations, there are downsides to this success. The *Harmonia* population can become a nuisance in the fall when they form large congregations that seek out concealed places to spend the winter. Nowadays, the most readily available concealed places are not caves or crevices, but garages and attics. These masses of beetles can get active

if they get warmed up to a sufficient degree. It is not well-known that ladybugs have defensive chemicals, which they use to repel attackers. A single ladybug might not have a noticeable odor, but when you get dozens or hundreds together, they can smell very pungent and unpleasant. *Harmonia*, sometimes called "Halloween beetles" because they show up in houses in the fall, are also quite voracious and are known to bite people who handle them. Once again, a single ladybug bite is no big deal, but if you are so unwise as to handle a mass of these beetles, then the number of bites can cause a certain amount of pain and discomfort.

Another problem associated with *Harmonia* occurs when they are inadvertently harvested with wine grapes. When the grapes are crushed, the pungent defense chemicals that the *Harmonia* release can affect the flavor of the wine. While one is tempted to joke about such things, it is no laughing matter to either the winemaker or the wine taster.

So, it began with the introduction of aphids and other pests, which was then followed by the introduction of nonnative lady beetles, such as C-7 and *Harmonia*, in order to control the pests. Ultimately, these two species have become the dominant lady beetles in many places throughout the country, including southern Oregon. You might think that there would be enough aphids to go around, but when species compete for the same niche, you will often get a winner and a loser. Right now, the invasive lady beetles, free of their own parasites, have the upper hand, and our natives, such as the convergent lady beetle and the ashy gray lady beetle, have become much less common.

If you want to help document the population of our current ladybug species, there is a website devoted to that task: the Lost Ladybug Project (www.lostladybug.org). You can send in pictures of ladybugs



Nonnative species *Harmonia axyridis*, top photo (www.lternet.edu/gallery/), and C-7, bottom photo (www.dpughphoto.com/).

that you find along with information about the location where you found them, and assistance is provided to identify the species. This is a good example of "citizen science" with the public contributing information that a single researcher cannot readily obtain, such as how ladybug populations are changing across the continent.

So feel free to start hunting for lady beetles, but don't be surprised when our native species prove hard to find.

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Native species convergent lady beetle, left photo (www.dpughphoto.com/images/), and ashy grey lady beetle, right photo (www.whatsthatbug.com/).



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