

## **The Asian Ladybeetle**

**by Lloyd Eighme, retired entomologist**

Many people have asked about the ladybugs that invade their houses in the late fall when the weather begins to turn cold. These ladybugs often come by the hundreds and are very obnoxious, crawling into everything. Most people recognize ladybugs as a beneficial insect and are therefore reluctant to kill them, but want to know where they come from and why they are in the house rather than out in the garden where they belong.

These house invaders are the Asian ladybeetle (*Harmonia axyridis*) that were imported to help control insect pests of trees. They are from China and Japan and were imported and released many times from as early as 1916 in California and later from 1978-1985 in Washington State, but they apparently did not survive in the new environment. Suddenly in 1993 large populations of Asian ladybeetles appeared in Western Washington. It is not known whether these were from earlier introductions that took many years to become established or from more recent unintentional introductions through commercial freight shipments from Asia.

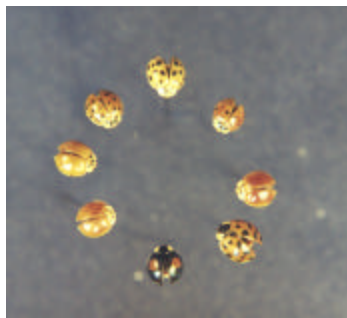
Why are the Asian ladybeetles invading peoples houses? Our native ladybeetles, of which there are at least 15 species found commonly in Western Washington, are rarely seen in houses and then only as accidental wanderers. The Asians aggressively search for ways to enter houses when the weather turns cold in the fall. It has been observed in the Asian homelands of this ladybeetle that they typically fly to cliffs and rocky hillsides in the fall to hibernate in cracks and crevices where they find some protection from enemies and extreme cold. It seems as though that instinctive pattern of behavior takes them to the south facing walls of a house where the sun provides some warmth in shorter days of fall. I have observed hundreds of Asian ladybeetles crawling on the south side of my two story house on a sunny fall day. They are persistent in searching for small openings and even good window screens do not keep them out. Once inside the house, they crawl and fly everywhere searching for a hiding place in which to spend the winter. The longer days of spring awakens the second instinctive pattern of returning to the forest from which they came. Only a small fraction of those that invaded the house in the fall survive in the extremely low humidity of our heated houses through the winter, but there are always plenty to make the occupants of the house think they are being invaded a second time.

Many people feel that killing ladybugs is a crime that deserves punishment. What then should be done with ladybeetles that are in the house? Some recommend that they be captured and returned to the garden where they can feed on aphids. That is much easier said than done. They not only smell bad when handled, they can pinch you with their mandibles if they are mistreated. What if the ladybeetles

in the house are vacuumed up and destroyed? Does that mean more aphids in the garden? Were our native resident ladybeetles doing their job of controlling aphids before the Asians arrived? These and many other questions need answers. The Asian ladybeetles were imported to control insect pests of trees. They are seen in gardens along with our natives. Is it possible that the aggressive Asian ladybeetle might compete with the native species to the extent that the native populations decline and are replaced by the Asians? Ladybeetles do not feed on aphids only, they eat any small insect they can find including beneficial insects.

How can you tell if a ladybeetle is one of our native species or the Asian? All ladybeetles exhibit variability in color patterns, but Harmonia axyridis is the most extreme in this regard. It mimics most of our natives, including those with many spots, those with no spots and almost everything in between (see photo). There is one characteristic though that only the Asian has and that is the preapical transverse elytral ridge! Do not let that awesome description discourage you. The close-up photo of the tips of the wing covers shows a small ridge that looks like it was pinched up between two fingers when soft and then hardened that way. That structure is just as variable in this species as its spots, so you may have to examine some specimens carefully under the microscope and even then use your scientific imagination to see a ridge. In other specimens the ridge may be so obvious you do not need the microscope to see it. There are other ways of recognizing the Asian ladybeetle, but only if you are an expert in the field of insect morphology.

So, whether you call them ladybugs or ladybeetles, these little creatures are an important part of our ecosystem and we need to learn more about how to identify them and how to live with them.



Variations on a theme  
Asian Ladybeetles - Harmonia axyridis



The pre-apical transverse elytral ridge is in the black spot nearest the tail end.