



# Pest e-alerts



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Vol. 8, No. 4

<http://entopl.okstate.edu/Pddl/>

Mar 17, 2009

## Ladybug Invasion: Coping with Multi-colored Asian Lady Beetle

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Without fail, the Plant Disease and Insect Diagnostic Lab at OSU receives tons of phone calls this time of year about how to get rid of those pesky ladybugs from houses and other structures. The ladybugs in question are of one species, *Harmonia axyridis*, officially known as multi-colored Asian lady beetle (ALB). In its native Asia, ALB dwells in trees and crop fields and feeds on soft-bodied insects such as aphids, scales, and psyllids. This exotic predator was introduced into the U.S. from Japan during the 1960's through 1990's by the USDA in an attempt to provide control of various agricultural pests. Reportedly, ALB has done a great job controlling serious pests such as pecan aphids, leading to significant reductions in

insecticide use in orchards. In fact, during spring and summer individual lady beetles are able to consume hundreds of aphids per day! However, ALB also has a darker side, playing the role of a nuisance pest in spring and fall.

**Identification and Life Cycle:** Multi-colored Asian lady beetles are oval, strongly convex, and measure about 1/4 inch long. Beetles range in color from deep red to light orange and have a variable number of black spots (some have none) on the wing covers (elytra). Despite the variable appearance among individual beetles, ALB has a distinctive "W"- or "M"-shaped marking on the whitish area just behind the head. The yellowish, oval eggs are laid in clusters on the underside of leaves. Larvae are orange and black (obviously OSU fans) and resemble tiny alligators. Both larvae and adults are predators of many plant-feeding insects. Mature larvae form a pupa (cocoon) on vegetation or artificial structures. The entire life cycle is

complete in four to five weeks and individual beetles may live up to three years. There are multiple generations per year in Oklahoma.



Diversity of colors and patterns among individual multi-colored Asian lady beetles. Notice the “W”- or “M”- shaped marking just behind the head and the yellowish, oval eggs.



Multi-colored Asian lady beetle larva (L) and pupa (R)..

**Pest Status:** Although ALB benefits agriculture, beetles seek out shelter during the fall in order to survive the cold winter months. Beetles are most active on warm, sunny days following periods of cool weather and are attracted to illuminated surfaces, especially the southwestern walls of buildings. Beetles will find refuge in cracks, crevices, and other voids that often lead to spaces behind siding, soffits, and inside attics. Most beetles will remain in these areas until the weather warms in late winter or early spring, at which time ALB will begin to wander and seek escape routes to the outdoors. Inevitably, many of these beetles end up finding their way into homes and other buildings, bringing ALB in close contact with people. In general, ALB is not

harmful, but beetles can bite and infestations may cause allergic reactions in sensitive people. It is also important to point out that unlike termites, ALB does not consume wood and so causes no structural damage. Unlike fleas, roaches, and fruit flies, ALB does not reproduce inside buildings—it is only hiding from the weather. However, ALB is a nuisance pest because it can accumulate indoors in large numbers and when disturbed, produces an unpleasant, acrid odor and yellowish fluid that can stain curtains and clothing.

**Management:** Several tactics can be used to manage ALB, and most infestations are controlled without the use of insecticides. This is especially important for those concerned with spraying chemicals in the home. These management options are classified as preventative measures for keeping ALB out of dwellings in the first place and remedial measures for getting rid of existing ALB infestations.

**Preventative tactics:** As mom used to say, an ounce of prevention is worth a pound of cure. Anyone who has dealt with an ALB infestation would certainly agree. The best way to prevent beetles and other insects from getting indoors is to seal all cracks and crevices in outer walls with mortar or a similar compound. Caulk should be used to seal openings around windows and doors. As a bonus, this will help reduce your heating bills. Also, be sure to repair all holes and tears in window screens. The outward appearance of a structure may also influence its likelihood of being invaded and, therefore, could be manipulated to reduce the number of beetles entering a building. There is some debate about exterior color as it relates to attractiveness to ALB, but light-colored buildings tend to be more attractive to these beetles than darker buildings. Contrasting light-dark colors, such as light trim on a dark base color, may also attract ALB.

**Remedial tactics:** Sealing exterior cracks and crevices can be impractical in some cases, so insecticides may be needed to reduce numbers of beetles entering the home. In these cases, contact insecticides can be applied as a barrier treatment around likely routes of invasion. These treatments usually work to repel/deter beetles, but some may be killed if they cross the chemical barrier. On taller structures, this is probably not a job for the do-it-yourselfer so be sure to hire a professional pest control operator who has the proper certification, equipment, and training to do the job right.

Indoor applications of insecticides, including “bug bombs” and sprays, aren’t generally recommended for use against ALB because they seldom work, may leave chemical residues on walls, furniture, and countertops, and can be hazardous to the health of people and pets. Therefore, a vacuum cleaner with a hose attachment is a simple tool that can be used to remove beetles from the interior of the home. However, I recommend disposing of the vacuum bag immediately after use, or simply releasing captured beetles outdoors. Otherwise, your captives can easily find their way out of the bag and re-infest the home. These beetles are also attracted to light. Interestingly, a light trap has been designed by entomologists from the USDA Agricultural Research Service for capturing ALB indoors. If you’re interested in trying an alternative to your old Hoover vacuum cleaner for ALB removal, you can construct your own

trap following plans found at <http://www.ars.usda.gov/is/br/lbeetle/001030.trap.pdf>. And don't forget to let me know if it actually works!

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*Issued in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Robert E. Whitson, VP, Dean, and Director for Agricultural Programs, Oklahoma State University, Stillwater, Oklahoma. This publication is printed and issued by Oklahoma State University as authorized by the Dean of Agricultural Sciences and Natural Resources.*