Pest e-alerts

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Return of Multicolored Asian Lady Beetle

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Where are all these ladybugs coming from? This is an all-too-familiar question heard around Oklahoma the past few days. The ladybugs in question are of one species, *Harmonia axyridis*, also known as multicolored Asian lady beetle (MALB). In its native Asia, MALB 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 by the USDA during the 1960's through 1990's in an attempt to provide control of various agricultural pests. Reportedly, MALB has done a great job controlling serious pests such as pecan aphids, leading to significant reductions in insecticide use in orchards. However, these beetles have a dark side as they can invade homes and other structures, acting as nuisance pests fall through spring.

Figure 1. Multicolored Asian lady beetle adults, showing variation in color of elytra (left). Characteristic black "W"- or "M"-shaped marking on pronotum (right, arrow). Photos by Bill Ree, Texas A&M University, Bugwod.org; and Scott Bauer, USDA-ARS, Bugwood.org, respectively.

Identification and Life Cycle

Multicolored Asian lady beetles are oval, strongly convex, and measure about 1/4 inch long, making them slightly larger than our native lady beetles. These beetles range in color from light orange to

deep red and have a variable number of black spots (some have none) on the wing covers (elytra) (Fig. 1). Despite the variable appearance among individual beetles, MALB has a distinctive “W”- or “M”-shaped marking on the pronotum just behind the head (Fig. 1). The yellowish, oval eggs are laid upright in clusters on the underside of leaves (Fig. 2). Larvae are blueish-black and orange and resemble tiny alligators (Fig. 2). Both larvae and adults are predators. Mature larvae form a pupa on vegetation or artificial structures (Fig. 2). 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.

Figure 2. Multicolored Asian lady beetle eggs (left), larva (center), and pupa (right). Photos by Whitney Cranshaw, Colorado State University, Bugwod.org; David Cappaert, Michigan State University, Bugwood.org; and Cheryl Moorehead, individual, Bugwood.org, respectively.

Pest Status

Although MALB 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 houses and other 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 MALB will begin to wander and seek escape routes to the outdoors. In general, MALB 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, MALB does not consume wood and causes no structural damage. Unlike fleas, roaches, and fruit flies, MALB does not reproduce inside buildings; it is only overwintering (hibernating). However, MALB is a nuisance pest because it can accumulate indoors in large numbers and when disturbed, it produces an unpleasant, acrid odor and yellowish fluid that can stain curtains and clothing. These ladybugs also bite readily, although they cause no serious injury to people and pets.

Management

Several tactics can be used to manage MALB, 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 MALB out of dwellings in the first place and remedial measures for getting rid of existing infestations.

Prevention is the first and best option for managing MALB and other home invaders. Keep MALB and other insects from getting indoors by sealing 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 MALB, 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 MALB.

If sealing exterior cracks and crevices is impractical, remedial measures including insecticide sprays 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 MALB 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 or trap immediately after use, or simply releasing captured beetles outdoors, assuming routes of entry have been sealed. 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 MALB indoors. If you're interested in trying an alternative to your old Hoover vacuum cleaner for MALB removal, you can construct a trap following plans found at http://www.ars.usda.gov/is/br/lbeetle/001030.trap.pdf.

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