The Multicolored Asian Lady Beetle

If you are having problems with clusters of lady beetles entering your house in the fall or winter, the Asian lady beetle is the most likely culprit. *Harmonia axyridis* is a large and colorful beetle that is easily identified by the large, black 'W' on the thorax, behind the head. The background coloration of the wing covers varies greatly, from yellowish to pale orange to bright red, depending on the type of food consumed in the larval stage. The spotting pattern is genetically determined. Spots vary in number and intensity and are often absent entirely in males. There is also a melanic (dark) form that bears two or more large red spots on a black background, but these are rare in North America.

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Lady beetles are widely recognized as beneficial insects for the services they provide consuming large numbers of garden pests such as aphids. The Asian lady beetle was intentionally introduced to North America on multiple occasions in the 20th century in hopes it would contribute to biological control of various pests, but established populations were only discovered in the 1980's along the Gulf Coast, far from any release sites. However, this population underwent rapid range expansion and, in less than 20 years, the beetle has invaded most of continental North America. Recently, South America, United Kingdom, Europe and South Africa are also experiencing invasions of *H. axyridis* and this species is now listed as an invasive pest on the Global Invasive Species Database.

Although the beetle is a valuable agent of pest control in various crops and horticultural settings, it has displaced many less competitive native lady beetles from particular habitats and poses a potential threat to biodiversity in some ecosystems. It also causes problems in fruit crops such as pears and peaches because of its habit of nibbling on ripe fruit. When abundant in vineyards, it becomes a serious flavor contaminant in wine production.

Harmonia axyridis prefers arboreal habitats. Although it will venture into field crops such as corn, soybean and alfalfa, it is more common in Kansas near parks, wooded areas, and shelter belts. The arid range and grasslands that typify Kansas are less than ideal habitat for this species and this may explain why it has not achieved the large populations observed in other regions despite being present in the state for over ten years.

In response to short days and cooler weather in fall, adult *H. axyridis* form aggregations and seek to enter protected sites that offer shelter for overwintering, including barns, sheds and houses. For this reason, they are considered by many to be an urban pest. Fortunately, flat landscape and sparse populations mean aggregations in Kansas are rarely large. The ancestral overwintering sites in Asia appear to be mountain caves and the beetles tend to follow topography to high ground, with prominent hilltops sometimes accumulating large aggregations from the surrounding area. On warm sunny days in the middle of winter the beetles may become active and swarm outside, especially on the sides of pale-colored buildings with good exposure to sunlight, but they will not become reproductive until spring.

An aggregation of *H. axyridis* attempting to enter under a door.
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Not only can large numbers of overwintering *H. axyridis* foul living quarters and create an offensive smell, they can cause allergic reactions in some people and have been known to nip human skin with their mandibles. The best prevention is physical exclusion. Seal all gaps around windows, door frames, eaves and soffits with caulk, silicone, or other suitable compounds. Pesticide barrier sprays applied along cracks and other routes of entry can help, but effective materials will require the services of a certified applicator. Removal of aggregations can be accomplished with a broom and dust pan, or by use of a vacuum cleaner. Vacuuming will kill almost all the beetles - you don't have to worry about them crawling back out. This is best accomplished during a period of cool temperature when the beetles are unable to fly.

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