Asian Lady Beetle (Harmonia axyridis)

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Harmonia axyridis is a large coccinellid beetle originally native to eastern Asia, but which has been introduced to North America and Europe to control aphids and scale insects. It is now common, well known and spreading in those regions.

It is commonly known as **Asian lady beetle** in North America, and **Harlequin ladybird** in the United Kingdom (the latter name because it occurs in numerous color forms). It is also known as the **Multicolored Asian lady beetle**, and **Halloween lady beetle** (because it invades homes in October in preparation for hibernation).

When the species first arrived in the UK, it received the label of "the many-named ladybird". Among the names listed were: Multivariate, Southern, Japanese, and Pumpkin ladybird.

Description

Harmonia axyridis is a "typical" coccinellid beetle in shape and structure, being domed and having a "smooth" transition between its elytra (wing coverings), pronotum and head. It occurs in three main color forms: red or orange with black spots (known as form *succinea*); black with four red spots (form *spectabilis*); and black with two red spots (form *conspicua*). However, numerous intermediate and divergent forms have also been recorded. The species is typically large (7–8 mm long) and even more dome-shaped than native European species (these characteristics distinguish *Harmonia axyridis* from native species in the UK). It often has white markings (typically defining an "M"- or "W"-shaped black area) on its pronotum, and usually brown or reddish legs.

Range

Harmonia axyridis is native to eastern Asia from central Siberia, Kazakhstan and Uzbekistan in the west, through Russia south to the Himalayas and east to the Pacific coast and Japan, including Korea, Mongolia, China and Taiwan. As a voracious predator, it was identified as a biocontrol agent for aphids and scale insects. Consequently, it has been introduced into greenhouses, crop fields and gardens in many countries, including the USA and parts of Europe. The species is now established in the USA, Canada, the UK, The Netherlands, Belgium, Luxembourg, France, Germany, Poland, Greece and Egypt.

North America

This species was possibly established in North America as the result of introductions into the United States in an attempt to control the spread of aphids. Whatever the source, in the last two decades, this insect has spread throughout the United States and Canada and has been a prominent factor in controlling aphid populations.

In the U.S., the first attempts to introduce it took place as far back as 1916. Repeated efforts were not successful. In the early 1980s, aphids were causing significant problems for growers of pecan trees, so the United States Department of Agriculture again attempted to bring the insect into the country—this time in the southeastern United States, using beetles brought from their native region in northeastern Asia. After a period of time, USDA scientists concluded that their attempts had been unsuccessful. However, a population of beetles was observed near New Orleans, Louisiana around 1988, though this may have been an accidental introduction event independent of the original, planned efforts. In the following years it quickly spread to other states, being occasionally observed in the Midwest within 5–7 years, and becoming common in the region by about 2000. The species was also established in the northwest by 1991, and the northeast by 1994, in the former case quite possibly involving additional introductions, rather than reaching there from the southeast. It is reported that it

has heavily fed on soybean aphids (which recently appeared in the U.S. after coming from China), supposedly saving farmers vast sums of money in 2001.

Many people now view this species as a nuisance, partly due to their tendency to overwinter indoors and the unpleasant odor and stain left by their bodily fluid when frightened or squashed. (It is also currently increasing in Europe to the detriment of indigenous species, due to its voracious appetite which enables them to out-compete and even eat other lady beetles, as it also does in the United States.)

In addition to its household pest status, it has been reported to be a minor agricultural pest (contaminating crops of tender fruits and grapes) in Iowa, Ohio, New York State, and Ontario. The contamination of grapes by this beetle has been found to alter the taste of wine.

Native ladybird species have experienced often dramatic declines in abundance in areas invaded by *H. axyridis*.

Life cycle

Despite the troubles the Asian lady beetle causes, many farmers still view it as a beneficial insect.

Biology and behavior

Asian lady beetles hibernate in cooler months, though they will wake up and move around whenever the temperature reaches about 50°F (10°C). Because the beetles will use crevices and other cool, dry, confined spaces to hibernate, significant numbers may congregate inside walls if given a large enough opening. They often congregate in sunlit areas because of the heat available, so even on fairly cold winter days, some of the hibernating beetles will “wake up” because of solar heating. These large populations can be problematic because they can form swarms and linger in an area for a long time.

The Asian lady beetle, like other lady beetles, uses isopropyl methoxy pyrazine as a defensive chemical to deter predation, but also contains this chemical in its hemolymph at much higher concentrations than many other lady beetle species. These insects will “reflex bleed” when agitated, releasing hemolymph from their legs. The liquid has a foul odor (similar to that of dead leaves) and can cause stains. Some people have allergic reactions, including allergic rhinoconjunctivitis when exposed to these beetles. Sometimes, the beetles will bite humans, presumably in an attempt to acquire salt, although many people feel a pricking sensation as a lady beetle walks across the skin. Bites normally do no more harm than cause irritation although a small number of people are allergic to bites.

Different patterns

Different patterns

These beetles can sometimes be difficult to identify because of the variations in color, spot size, and spot count of the elytra. The easiest way to identify an Asian lady beetle is to look at the pronotum and see if the black markings look like a letter “W” or “M” (depending on if the marking is viewed from the front or the back). There is more white on the pronotum in this

species than in most native North American species.

Control

Numerous methods of control have been investigated in areas where this beetle has been introduced and causes a threat to native species and biodiversity and to the grape industry. These include insecticides, trapping, removal of aggregates of beetles and mechanically preventing entry to buildings. Methods under development involves the investigation of natural parasites and pathogens, including the use of parasitic sexually transmitted mites and fungal diseases.

Control that Works

They are awful! I found something called "Bugmax 365" at a farm/home supply store. It WORKS! You just spray it around, and the little devils disappear for a full year!
There's no odor, you can spray it directly on fabric, etc. I don't know what I'd do without it, because we are under siege! Bugmax 365 is in a red spray bottle, but once word gets out, it's hard to find, so grab it if you see it!

Asian Ladybug Trap

Ladybugs are beneficial insects that become a nuisance when they hibernate in homes. The Asian Ladybug Trap uses a special wavelength ultra-violet fluorescent light, as well as a pheromone lure, to attract indoor ladybugs. The ladybugs fall through the funnel and are trapped in the jar so you can safely dispose of them or release them outdoors.

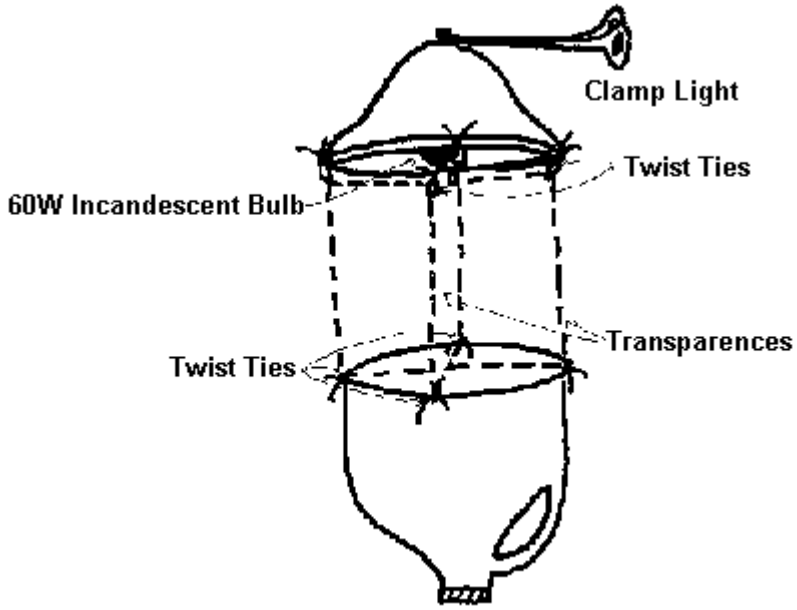
Easy to Use
Pour contents of Bug Booster lure (included) into jar, fill jar 1/3 full with water and add a few drops of dish soap (if eliminating ladybugs). Attach funnel and lamp as per the instructions on the box. Lures should be replaced every 4-6 weeks.

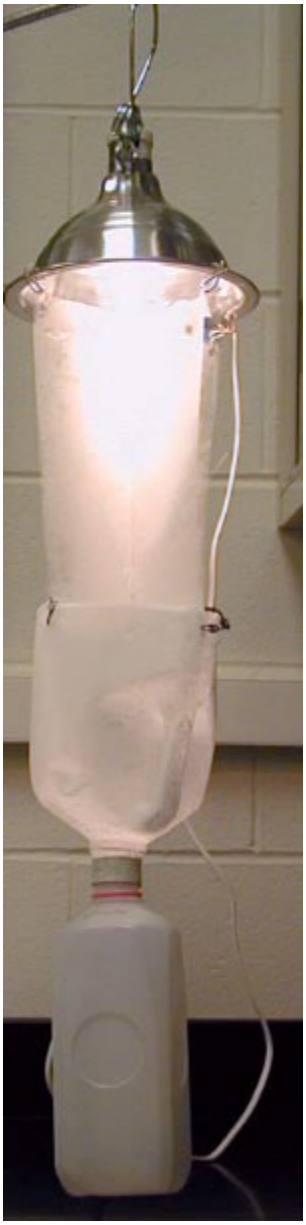
To Trap And Keep Ladybugs Alive
To keep ladybugs alive for release in your garden in the spring, place a moist paper towel in the bottom of the jar. Add fruit such as raisins or cut apple pieces. Place live ladybugs in a mesh bag with fruit. Keep in a cool place until spring.

Power Supply
The trap comes with a AC/DC power supply. The trap can also be powered with 4 alkaline-type AA batteries (not included).

Asian Lady Bug Modified Light Trap

This trap will catch up to 70% of the Asian Lady Bugs in your house.
Cost to make $10 - $20.





Drill 4 holes, evenly placed around the rim of the light. Cut both transparencies half way lengthwise. Invert one transparency and slide it through the slit in the other. Tape the two sheets together along the four seams. Punch one hole in each corner of the transparencies on the top and bottom. Cut the bottom off of one milk container. Punch four holes, evenly placed along cut line. Use twist ties to attach top of transparencies to clamp light and the bottom to the inverted milk container. Remove caps from milk jugs and cut holes in each nearly the diameter of the caps. Put one cap back on the inverted milk container then tape the second cap, top to top to the first. This will allow you to easily attach and remove the second milk jug which will serve as your collecting container. Attach the second milk jug and then paint both containers black. When operating, the light will illuminate the milk containers drawing the beetles to them instead of the transparencies. Before use, make sure to liberally apply talc or baby powder to the transparencies and down into the milk containers. Re-apply powder as needed and empty collecting container often.