Every winter and spring we receive many calls, emails and samples in the Plant Diagnostic Clinic regarding insects that have invaded homes. There are typically four different insect home invaders we see in Vermont and none of them breed in the house or cause any damage to humans, pets, food items or structures. These nuisance pests commonly invade warm homes in the late fall looking for a protected place to overwinter and hibernate.

**WESTERN CONIFER SEED BUG** (*Leptoglossus occidentalis*)

The largest of the four pests is the western conifer seed bug (WCSB). This insect feeds primarily on the seeds and developing cones of several species of conifers and their respective hybrids. These true bugs in the order Hemiptera have been expanding their range eastward and it currently extends across the northern US into Canada. Adults are about 3/4 inch long, brownish in color with alternating light and dark bands running along the outer wing edges on the sides of their abdomen. The lower hind leg is widened on each side of the leg and looks like a tiny leaf has been attached. The insects move slowly but can fly and often make buzzing sounds when airborne. WCSB will give off a pungent odor if you handle them. With cold weather, adult western conifer seed bugs search for protected sites to overwinter and therefore become annoyances in and around houses.
Another home invader that can be confused with the western seed bug is the brown marmorated seed bug (BMSB). This insect is shield-shaped and about 5/8 inch long with a mottled brownish grey color. The next to last (4th) antennal segment has a white band and several of the abdominal segments protrude from beneath the wings and are alternatively banded with black and white. The hind leg on this nuisance pest is cylindrical unlike the western conifer seed bug. This insect was introduced to the US from Asia in 1996 and has become a destructive fruit and vegetable pest in the Mid-Atlantic States. Some homes in these states have been invaded by thousands of this nuisance pest. In Vermont, numbers of these insects have been low, and they have been noted only as home invaders as opposed to crop pests.

BMSB becomes a nuisance pest when it is attracted to the outside of houses on warm fall days in search of protected, overwintering sites. During the several weeks of peak flight, these pests can enter homes through any small opening. Once inside, they will often fly, causing a buzzing sound, but they do not reproduce, damage structures, bite people or harm pets. They exude a pungent chemical when they are handled or crushed. Adult BMSB mate in the spring outdoors approximately two weeks after emerging from a resting phase. After a short period, the females begin laying eggs. Egg masses are laid at weekly intervals, with each female laying as many as 400 eggs in her lifetime.
ASIAN MULTICOLORED LADY BEETLE (*Harmonia axyridis*)

(A) Distinguishing black ‘M’-shaped marking behind its head. UMN Extension (B) Variability in appearance. Michigan State Univ. (C) Typical alligator-like larvae - natural predator. UMN VegEdge.

The Asian multicolored lady beetle is a more colorful nuisance insect. This insect was introduced by the USDA as predator of aphids and scale insects. Asian lady beetles are slightly larger than native lady beetles. They are oval, yellow to red in color and can have no spots or up to 19. These beetles become a nuisance on sunny south southwest sides of houses in the fall and can inundate homes from September through April. It is not uncommon for tens of thousands of beetles to congregate in attics, ceilings and wall voids, and due to the warmth of the walls, will move around inside these voids and exit into living areas. In addition to beetles biting, they exude a foul-smelling defensive chemical which will sometimes cause spotting on walls and other surfaces.

BOXELDER BUG (*Boisea trivittata*)

Adult and nymph boxelder bug. David J. Shetlar, Susan C. Jones, Jennifer E. Andon, Department of Entomology, Ohio State University Extension. https://ohioline.osu.edu/factsheet/HYG-2106
Another red and black nuisance pest is the boxelder bug. These pests are flat-backed, about 1/2 inch long, 1/3 inch wide, and dark brownish-black with three lengthwise, red stripes on the thorax (area behind the head). Beginning around October, adults and large nymphs congregate in large numbers, primarily on the SW side of the house (and on boxelder trees) and then begin migrating to a place conducive to overwintering. The adults overwinter and hide in cracks and crevices in walls, in door and window casings, around foundations and other protected places. Removing boxelder trees may decrease their numbers in the fall but they can fly up to 2 miles. Boxelder bugs become particularly annoying because of their tendency to congregate in large numbers in the fall. They gain excess indoors via cracks and crevices in the walls, windows, and doors. Once inside they can spot curtains, furnishings, and clothing with their excrement and when crushed, they give off an offensive odor. They do not breed indoors, so once being trapped in the house, they will eventually die. These bugs do little damage to landscape or ornamental plants.

MANAGEMENT

Mechanical exclusion is the best method of control to keep all these nuisance pests from entering homes. Cracks around windows, doors, siding, utility pipes, behind chimneys, underneath the wood fascia and other openings should be sealed with good quality silicone or silicone-latex caulk. Damaged screens on doors and windows should be repaired or replaced. Attics, fireplace chimneys, and exhaust vents should be covered with number 20 (or smaller) screen mesh.

Exterior applications of insecticides may offer some relief from infestations where the task of completely sealing the exterior is difficult or impossible but this is usually not warranted. Once in the home, the use of a vacuum is still the most efficient method of collecting beetles. It is advisable to empty the bag and beetles after each vacuuming.