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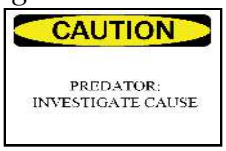
Western Conifer Seed Bug

Leptoglossus occidentalis



DIAGNOSTIC MORPHOLOGY

Adults:

- About 20mm long
- Generally long, boxy shape with six long legs and and antennae about 3/4 the length of the body
- Overall brown color
- Upper abdomen is yellow to light orange with five transverse black spots beneath the wings
- Flat, leaf-like projections on the hind legs

Immature Stage:

- Nymphs progress through five instars, gradually developing deeper color from orange to brown

GENERAL INFORMATION

The western conifer seed bug is an occasional overwintering pest with a rapidly expanding geographical distribution. It is indigenous to the western United States, southern British Colombia, and northern Mexico, and has been described as an invasive species in eastern North America, Europe, and Japan. This true bug feeds on the developing seeds and cones of a variety of pine, spruce and fir species during the warmer months of the year leading to a potentially drastic reduction of conifer seed crop in orchards and forests. Though their feeding habits pose no risk to museum collections, they occasionally enter buildings in alarming numbers during the fall, potentially creating a serious problem for museums and historic houses.

The large number of dead western conifer seed bugs that accompany the live populations that enter structures can attract dermestid beetles. Many species of dermestid beetles will feed on dead insects. These same dermestid beetles can then transferto and potentially damage museum collections.

SIGNS OF INFESTATION

Western conifer seed bugs are usually detected as museum or household pests in the fall or spring as they transition from feeding to overwintering or vice versa. Usually, they are noticed entering or exiting the building by way of doors, windows, chimneys, or any other openings in the structure. They are also sometimes found congregating on external southern facing walls in the autumn and may become active inside an infested building on unseasonably warm days during the winter. In some cases, thousands may converge on a single building. When the adult beetles are handled or crushed, they will emit an odor that can be described as vanilla-like or piney in nature.

FOOD SOURCES

Both nymphs and adults feed on the developing seeds, cone tissue, and needles of live conifers. Thus, in their feeding habits, they pose little threat to museum collections but are significant pests to conifer seed plantations, and their threat to coniferous ecosystems outside their indigenous range is yet to be determined. Though primarily attracted to conifers, they are apparently not limited to this division as they have also reportedly fed on pistachio trees.

LIFE CYCLE

The two millimeter long, brown eggs of the western conifer seed bug are laid in linear clusters on the needles of a suitable conifer host plant during the late spring and hatch ten days later. Nymphs begin feeding immediately upon hatching, progress through five instars, and reach adulthood by mid-August. Adults continue feeding until early autumn, when they begin to search for suitable overwintering sites. A male aggregation pheromone may attract hundreds or thousands of individuals to a particular location. Natural sites might include the underside of pine bark, dead trees, or the nests of rodents or birds. In the developed landscape, suitable sites are often found in the walls, attics, basements, or false ceilings of buildings. The insects emerge from overwintering sites in mid-sping to resume feeding. In Mexico, up to three generations may occur annually rather than one.

CONTROL & TREATMENT

As with other overwintering pests, mechanical prevention is the best management strategy for the western conifer seed bug. Structures with a prior history of infestation should be treated during the summer before the insects begin their search for overwintering sites. All windows, vents and chimneys should be tightly screened, and weep holes should be plugged with wire mesh or screening. The exterior walls of the building should be scoured for small gaps or cracks which can then be caulked or otherwise resealed. Be sure to check around window frames, door frames and soffits. These steps should be avoided during colder months, when the insects are believed to have already entered the structure however, as sealing them inside may cause them to enter interior rooms after overwintering in the gaps inside walls and ceilings. Instead, if the insects are already inside the structure, similar efforts should be made to seal gaps along the interior walls, ceilings, and floors of the building, such as those around door and window frames and fixtures, to prevent their entry into interior rooms. The exterior of the building should be treated the following summer.

Information current as of 8 April, 2012
For more information visit www.museumpests.net

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