

WESTERN CONIFER SEED BUG

Leptoglossus occidentalis

INTRODUCTION

The western conifer seedbug was first described in the western United States. This true bug of the family Coreidae feeds mainly on the seeds and developing cones of several species of conifers and their respective hybrids. This bug has been expanding its range eastward and was first detected in Pennsylvania in July 1992. Today, its range extends across the northern United States into Canada. Recent records from Pennsylvania and several other areas of the northeastern United States suggest that interstate commerce has been a factor in extending the insect's range.

The western conifer seed bug, which has been seen indoors in western North America, bothers people in homes, offices, and laboratories. In Pennsylvania and other parts of the northeastern United States, this leaf-footed bug becomes a nuisance when it enters homes in search of overwintering sites.

DESCRIPTION

Adults are 3/4 inch long and brownish on top. The upper (dorsal) side of the abdomen is yellow or light orange with five transverse black patches (Fig. 1). This orange and black pattern on the abdominal dorsum is revealed during flight. The flight pattern and loud buzz produced by this strong flying conifer pest resemble those of a bumble bee. The young nymphs of *L. occidentalis* are orange, and they become reddish brown after a few molts (Fig. 2). The eggs, which are laid in chains on conifer needles, measure about 2 mm each in length.

Several morphological characteristics allow *L. occidentalis* to be distinguished from another native species, *L. corculus*, which has a similar appearance. First, *L. corculus* (the leaf-footed pine bug) has a predominantly black abdominal dorsum. Second, while the hind legs of both *L. occidentalis* and *L. corculus* have a leaf-like tibial dilation or expansion, the inner and outer dilation of the hind tibia are equal in length in *L. occidentalis*, whereas in *L. corculus*, the outer dilation is distinctly longer than the inner one.

LIFE HISTORY

According to observations made in the western United States, the western conifer seed bug produces a single generation each



Figure 1. Western conifer seed bug adult



Figure 2. Western conifer seed bug nymph

season. Adults emerge from overwintering sites in late May or early June and feed on one-year cones and inflorescences. Eggs laid on host conifers hatch in ten days, and first instars feed on the needles and tender tissue of cone scales. Later, nymphs use their piercing-sucking mouthparts to feed on developing seeds. Nymphs in all five stages of development and new adults can be observed feeding on the same group of cones by mid-August, at which time the nymphs begin to reach adulthood. Adults feed on ripening seeds until early fall and then seek overwintering sites under pine bark, in dead and dry Douglas firs, and in hawk and rodent nests. At the onset of cold weather, adult western conifer seed bugs may also enter buildings in search of protected overwintering sites.

DAMAGE

The western conifer seed bug's consumption of Douglas fir seeds and seeds of various other species of pine results in a substantial loss of seed crop. Thus, its direct economic impact is a reduction in the quality and viability of conifer seed crops.

Even though this insect does not bite or sting, it causes concern among occupants of homes, offices, and laboratories when it comes indoors. Complaints from residents increase as the insect becomes more active and conspicuous on days in the fall and spring when the temperature is above freezing. In several areas in the northeastern United States, this insect has created great alarm when large numbers of adults suddenly invade houses looking for overwintering sites.

MANAGEMENT

Before Bugs Enter a Building

Mechanical exclusion is the best method to keep stink bugs from entering homes and buildings. Cracks around windows, doors, siding, utility pipes, behind chimneys, and 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.

Exterior applications of insecticides may offer some relief from infestations where the task of completely sealing the exterior is difficult or impossible. Applications should consist of a synthetic pyrethroid (i.e., deltamethrin, cyfluthrin, lambda-cyhalothrin, cypermethrin, sumithrin or tralomethrin) and should be applied by a licensed pest control operator in the fall or just prior to bug congregation. Unfortunately, because insecticides are broken down by sunlight, the residual effect of the material will be greatly decreased and may not kill the insects much beyond several days or a week.

After Stink Bugs have Entered the Structure

If numerous bugs are entering the living areas of the home, attempt to locate the openings where the insects gain access. Typically, stink bugs will emerge from cracks under or behind baseboards, around window and door trim, and around exhaust fans or lights in ceilings. Seal these openings with caulk or other suitable materials to prevent the insects from crawling out. Both live and dead stink bugs can be removed from interior areas with the aid of a vacuum cleaner.

It is not advisable to use an insecticide inside after the insects have gained access to the wall voids or attic areas. Although insecticidal dust treatments to these voids may kill hundreds of bugs, there is the possibility that carpet beetles will feed on the dead stink bugs and subsequently attack woolens, stored dry goods, or other natural products in the home. Although aerosol-type pyrethrum foggers will kill stink bugs that have amassed on ceilings and walls in living areas, it will not prevent more of the insects from emerging shortly after the room is aerated. For this reason use

of these materials is not considered a good solution to long-term management of the problem. Spray insecticides directed into cracks and crevices will not prevent the bugs from emerging and is not a viable or recommended treatment.

WARNING

Pesticides are poisonous. Read and follow directions and safety precautions on labels. Handle carefully and store in original labeled containers out of the reach of children, pets, and livestock. Dispose of empty containers right away, in a safe manner and place. Do not contaminate forage, streams, or ponds.

Steven B. Jacobs
Sr. Extension Associate
Dept. of Entomology
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