SEED BUGS AND LADY BEETLES

—*SEARCHING FOR BEDS BUT NOT BREAKFAST!*

By Douglas C. Allen

In recent years, the tranquility of New York's fall season has been marred by increasing numbers of unwanted guests that invade homes and other dwellings. Generally this is a relatively quiet time of year as far as insect 'pests' are concerned. Except for the occasional problem with yellow jackets and cluster flies, we anticipate insect activity around the home to subside as temperatures cool and day length shortens. This expectation, and the fact that large numbers of conspicuous insects inside the home are, at best, a nuisance is probably why the increasing abundance of a seed bug and a lady beetle over the past few falls has been so annoying. It is unlikely that these fall invasions will subside in the foreseeable future, so I thought while the intruders were fresh in your mind it might be an opportunity to tell you something about them!

THE CULPRITS

The larger of these two insects, known as the leaf-footed seed bug because a segment of each hind leg is expanded and "leaflike", is native to North America *(Fig 1.)* Apparently its original distribution was limited to the west coast, but during the mid-1980s and early 1900s, it was discovered in eastern Canada and the northeastern United States. Since then populations have increased rapidly, and now it is a common member of the insect fauna throughout eastern North America. The immature stages (nymphs) feed on seeds in developing conifer cones, including Norway spruce *(Fig. 2)*,

Fig. 1. *Adult seed bug. Actual length = 0.7".*

Fig. 2. Norway spruce cones.

Douglas fir and several species of pine. Adults feed on developing flowers, succulent shoots and young cones. In the southeastern and western parts of the country seed bugs are considered important pests in seed orchards. The latter are plantations of trees managed specifically to provide genetically superior seed.

BIOLOGY

After mating in the spring, light brown, cylindrical eggs approximately 0.1" long are deposited in neat compact rows on the needles of the host tree. Following egg hatch the young nymphs move to developing cones and feed on the seed within by inserting their piercing-sucking mouthparts. The insect injects saliva into the seed which partially dissolves the endosperm (the solid portion or center part of the seed) and this liquid is then sucked into the bugs digestive system.

Generally, feeding causes no detectable problems on conifers in urban forests or trees maintained for ornamental purposes. When the brightly colored nymphs complete feeding by late August or early September and transform into adults, the insect's status changes from one of entomological interest to that of a major household pest. It is in early to mid-fall that adults seek suitable habitat for overwintering. In nature, this is accomplished under loose bark, in stone walls and other substrates where there is a degree of protection from the elements.

Unfortunately, these bugs have "discovered" that dwellings, woodpiles, stacked lumber, and other habitats created by humans also are ideal refuges. Leaf-footed seed bugs are strong fliers and recent studies with a western species indicate that the male produces an odor which is very attractive to both sexes, called an aggregating pheromone (*ferro-mone.*) This ability to fly significant distances and to attract conspecifics accounts, in part, for the large concentrations of bugs that can be found overwintering in certain locations.

Members of this family of bugs possess a scent gland on each side of the body between the bases of the middle and hind legs. These glands emit an unmistakable odor when the insect is disturbed. This odor probably plays a role in discouraging predators.

The second invader that has gained much notoriety in the fall is known as the **Asian Lady Beetle**. As the name suggests, this insect is native to eastern Asia. These voracious predators were purposely introduced into several states for the biological control

(Cont'd)

Fig. 3. *Adult of the Asian lady beetle. Actual length = 0.25".*

of aphids and scale insects that infest pecan and various fruit crops. The oval, brightly colored beetles vary as to size and color. They may be as large as 0.25" in diameter *(Fig. 3)* and range from a mustard yellow to dark red. Most are clearly marked with varying numbers of conspicuous black spots, but spots can be very indistinct or totally absent.

BIOLOGY

The eggs are deposited in the spring on the undersides of tree leaves. The immature stages, called larvae, are very effective predators of many sucking insects. When larvae have completed development, they transform into the pupal (*pew-pull*) stage, from which the adults eventually emerge. With the arrival of fall, the beetles begin to disperse in search of suitable overwintering sites. It is at this time that large numbers collect on the sides of houses and, if they can gain entrance around windows, doors or other openings, soon become a nuisance inside. When disturbed, the beetle exudes a droplet of yellowish liquid which can stain walls and ceilings. As in the case of the odor given off by the seed bug, this liquid probably has an antipredator function.

MANAGEMENT

First of all, it is important for homeowners to realize that neither the bug nor the beetle will do physical damage to buildings or consume food stuffs. They invade structures solely for the purpose of overwintering. When warm weather arrives in spring, both insects will leave as quickly as they arrived.

There are two tactics at your disposal to minimize this nuisance. First, a good defensive measure is to be sure that storm windows and doors fit tightly and attic vents are properly screened. The best offensive weapon is a vacuum cleaner! This approach is especially useful for removing the lady beetles without leaving a yellowish stain. Vacuum window sills and remove insects from walls and ceilings in this manner to save time and avoid handling. Neither insect will bite and both can be handled safely, but a vacuum cleaner is quicker and leaves no residue.

Check firewood before bringing it into the house. Wood piles are favored habitats for the seed bug, and serve as a source of repeated introduction even after cold weather arrives. ▲

Douglas C. Allen is Professor of Forest Entomology in the Faculty of Forestry at the State University of New York, College of Environmental Science and Forestry (SUNY/ESF); 146 Illick Hall, One Forestry Drive, Syracuse, NY 13210. All photos are by Professor Allen unless acknowledged otherwise.