

The Elm Leaf Beetle

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THE ELM LEAF BEETLE, *Pyrrhalta luteola*, is the most serious defoliator of elm trees in Michigan. It often becomes a nuisance also by invading households in large numbers. It was introduced in Maryland over 100 years ago, and is now a pest in most areas of the United States where elm trees grow. It feeds on all types of elms; however, Chinese and Siberian elms are most severely attacked in Michigan.

Description

The adult beetles are yellowish green, dull-appearing beetles with black stripes along the outer margins of the wing covers. They are approximately 6 millimeters (mm) ($\frac{1}{4}$ inch) in length. Full-grown larvae are about 12 mm long and are dull yellow with two rows of black spots on their upper surface.

Injury

Both the larvae and adults cause injury to the tree by skeletonizing the leaf tissue. Heavy feeding may

result in perforations of the leaf surface, leaving an extensive lacy network of veins not consumed by the beetles. This feeding may give the tree an overall yellowish appearance.

Life History

The adult beetles spend the winter in any sheltered area available. Often, in searching for shelter, they will enter buildings through loose-fitting screens, doors, cracks in the siding, or attic vents. In this way, large numbers may congregate in wall spaces or attics, and cause concern during the winter if they become active and move to the living areas of the house.

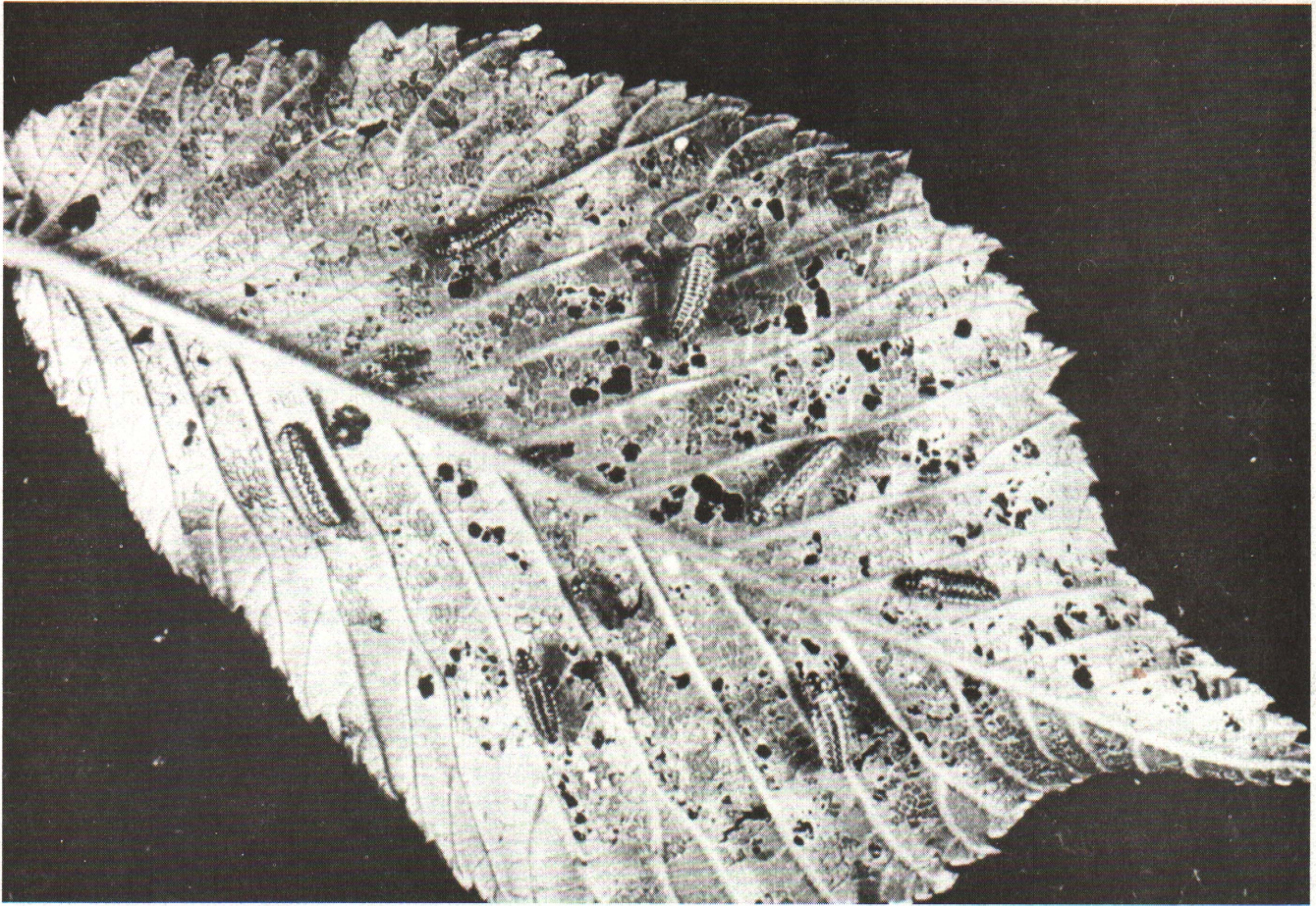
In spring, the beetles fly to elm trees just as the foliage is appearing, and feed on the unfolding leaves. They then lay their eggs on the undersides of the leaves. The larvae hatch out in early June and feed for two or three weeks on the undersides of the leaves. When the larvae become full grown, they migrate down the trunk of the tree and pupate in



Adult Beetle



Larva



Leaf Injury from Larval Feeding

bark crevices near the tree base. The adult beetles emerge in early July. They feed, mate, and lay eggs, giving rise to a second generation of larvae. Some first-generation adults may start searching for overwintering shelter in early August; however, the second generation larvae continue to develop, and a second brood of adults emerge in August and September.

Control

The feeding of the first generation of larvae causes the most damage because the tree is then growing most actively. Therefore, any control measures should be aimed at control of this first generation. A carbaryl (*Sevin*) spray applied when the leaves are fully expanded in late May to early June will give adequate control. Be sure to follow insecticide label directions when preparing the spray solution. Remember that carbaryl is very toxic to

honeybees, so trees adjacent to apiaries and near other trees in bloom should not be sprayed.

Since the first generation larvae cause the most damage, any treatment applied later in the summer is more like a punitive action for damage already done than an actual control measure. A properly timed spray is the best way to control this pest.

Elm leaf beetle adults create the greatest nuisance invading homes in late summer and early fall. From that time throughout winter they can become active inside the house if their hiding place becomes warm. At these times an insecticide spray inside the home may be needed. A household fly spray containing synthetic pyrethrins is the best answer for most situations. A malathion water solution is most convenient when spraying a mass of beetles congregating in an attic space. Finally, caulking cracks in house walls and making screens tight-fitting will reduce the number of beetles entering the home.