



Entomological Notes

Department of Entomology

ELM LEAF BEETLE

Xanthogaleruca luteola (Muller)

The elm leaf beetle is an introduced pest that feeds only on species of elm, *Ulmus spp.* Although all elm species are subject to attack, this species usually prefers Chinese elm, *Ulmus parvifolia*. Trees growing in landscapes are more heavily infested than those found in forests.

DESCRIPTION

Eggs are orange-yellow and spindle-shaped. Larvae are small, black, and grublike. At maturity larvae are approximately 13 mm long, dull yellow, and with what appears to be two black stripes down the back. Adults are about 6 mm long, yellowish to olive green with a black stripe along the outer edge of each front wing (Fig. 1).

LIFE HISTORY

This species overwinters as adults in houses, sheds, and in protected places outdoors such as under loose bark of trees or house shingles. In late spring adults leave their overwintering sites, fly to nearby elms, mate, and begin laying eggs. Adults eat small, rough circular holes into the expanding leaves.

Eggs are laid on end in groups of 5-25 on the underside of host plant foliage (Fig. 1). Each female may lay 400-800 eggs over her life span. Larvae feed on the lower leaf surface. Larvae feed for 3 weeks resulting in skeletonization of the foliage. The upper leaf surface and veins are left intact.

At the end of the feeding period larvae migrate to lower parts of elm trees in cracks, crevices, or crotches on the trunk and larger limbs. It is in these protected places that pupation occurs, and adults emerge 7-14 days later during mid- to late summer. There is one complete generation and a partial second generation produced each year in Pennsylvania.

DAMAGE

Injury caused by this pest may result in partial or complete defoliation of trees. Heavily infested foliage will turn brown and often drops prematurely. In some cases by mid-summer an entire tree may be defoliated.

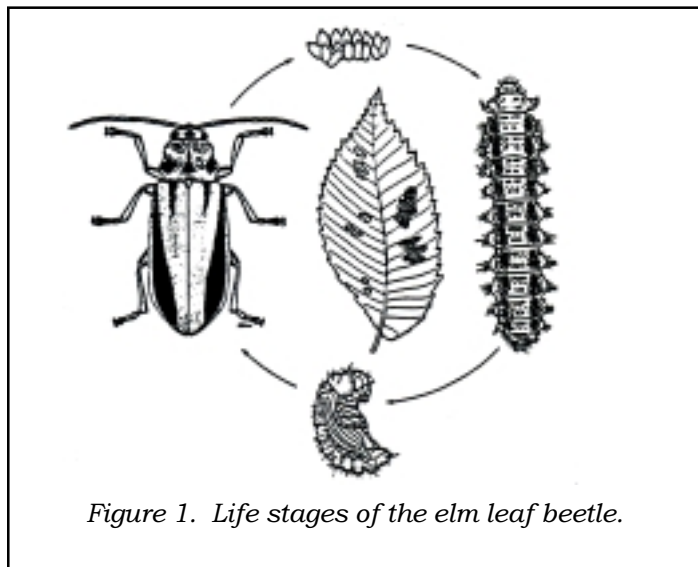


Figure 1. Life stages of the elm leaf beetle.

The majority of damage is caused by larvae feeding on the lower leaf surface. Trees that lose foliage as a result of heavy damage by this pest commonly produce a new flush of growth that may be consumed by the remaining insects found on the host tree. Hibernating adults in homes do not cause structural damage but may be a nuisance.

Feeding damage by this key pest seldom kills an elm tree. Severe defoliation may weaken a tree, making it more susceptible to attack by other insects and diseases such as Dutch elm disease. This pest does not carry Dutch elm disease, but the smaller European elm bark beetle, *Scolytus multistriatus*, and the native elm bark beetle, *Hylurgopinus rufipes*, that attack weakened trees, do. Even without secondary attack by other insects and diseases, repeated attacks by the elm leaf beetle may eventually weaken trees to the point of death.

MANAGEMENT

Application of a registered insecticide should be timed to impact early instar first generation larvae and later the second generation larvae. Make the first application according to label directions in late May or early June, and a second application in late July or early August.

In the home:

Adults seek winter hibernating sites in attics, garages, and other protected places in late summer and fall. In the spring they migrate back to their original host, elm trees. These beetles are a nuisance in the home, especially in the spring when they become active and are attempting to find their way out. However, they cause no damage.

Most beetles can be kept out of the home by screening or caulking voids or openings. Dead beetles should be picked up with a vacuum cleaner to avoid subsequent infestations of larder or dermestid beetles.

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.

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