

# Household and Structural

Department of Entomology

## THE ELM LEAF BEETLE

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Elm leaf beetles are less common than they were two decades ago, but it is important to recognize them and the damage that they can cause. In Indiana, the elm leaf beetle can be found wherever elm trees are growing, but is usually more troublesome in the southern part of the state. Although all elm species are subject to attack, the beetle prefers “Chinese” elm. Trees growing in urban areas are usually more heavily infested than those in forests or woods. The Wilson variety of elm is resistant to the beetle.

### DESCRIPTION

The adult beetle is somewhat oval and about 1/4 inch long. When newly emerged from the pupal stage, it is light yellow with a black stripe along each outer margin of the back. As the beetle ages, the yellow color dulls to an olive green, and the black stripes become less distinct.

The eggs are bright yellow and spindle-shaped. They are laid in clusters of 5-25 on the underside of elm leaves. New young larvae are black and slug-like. Full-grown larvae are about 1/2 inch long, dull yellow with black head, legs and hairs, and a pair of black stripes along the back.

### LIFE HISTORY AND FEEDING HABITS

The adult elm leaf beetle passes the winter in protected places, like under rough bark, in cracks and crevices, or in buildings, including houses and especially attics. Inside homes, adult beetles may become a nuisance both in the fall when

they are actively entering and again in the spring when they attempt to leave the house.

Starting about mid-May, overwintering beetles deposit their eggs on the underside of leaves. These eggs hatch in about a week, and the larvae feed on the underside of the leaves for the next 2-3 weeks. Only the veins and upper surface are left, giving leaves a “skeletonized” appearance. Those heavily infested turn brown as if scorched by fire.

When full-grown, the larvae crawl down the trunk or drop to the ground and pupate at the base of the tree or in crevices in the bark. The adults emerge in about 10 days (during July), feed again on the elm leaves, and lay eggs for a second generation. Adults from this second generation go into hibernation as described earlier. The number of generations a year depends upon the length of the growing season, but in Indiana, the number usually is two.

Most of the tree damage is done by the first generation insects. Defoliated trees may grow new leaves the same season; but this second leafing becomes subject to attack by the second generation beetles.

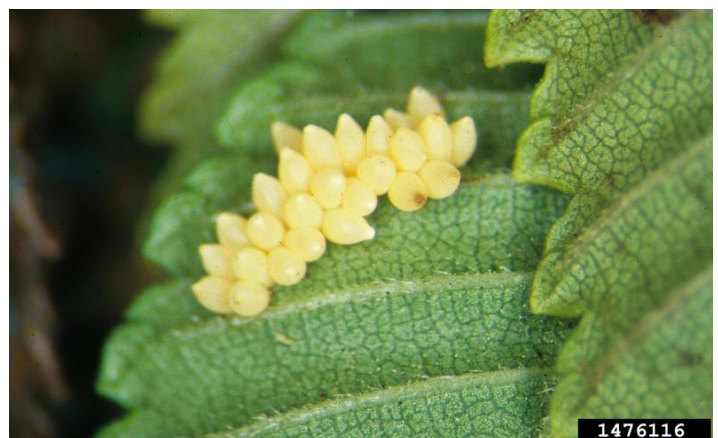
### DANGERS OF SEVERE FEEDING

Beetle-feeding alone will not generally kill an elm tree. However, severe feeding will weaken a tree, making it more susceptible to attack by other insects and diseases, especially Dutch elm disease. Although the elm leaf beetle does not carry



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Elm leaf beetle adult. (Photo Credit: Whitney Cranshaw, Colorado State University, Bugwood.org)



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Elm leaf beetle eggs. (Photo Credit: Whitney Cranshaw, Colorado State University, Bugwood.org)



Elm leaf beetle larva. (Photo Credit: Whitney Cranshaw, Colorado State University, Bugwood.org)

this disease, the elm bark beetle, which will attack weakened trees, does. Even without secondary attack by other insect and disease pests, repeated elm leaf beetle damage may eventually weaken trees to the point of death.

## CONTROL ON TREES

**Spraying.** Spraying the canopy of infested trees should be timed to kill the young first-generation larvae and later the second-generation larvae. Any of the insecticides in Table 1 will give satisfactory control when properly used.

**Tree Banding.** Apply a band of insecticide (from Table 1) one foot wide where the lowest branches meet the trunk. This will kill larvae of the first generation that crawl down the trunk to make their cocoons. This practice has less drift than canopy spray.

## CONTROL IN HOMES

Most beetles can be kept out of homes by screening all openings. It will also help to spray cracks around window screens and outside foundation walls with appropriately labeled insecticides.

Hibernating elm leaf beetles in houses do no damage but are a nuisance. Household sprays or aerosols will give temporary control. Beetles can be picked up with a vacuum sweeper.

Table 1. Pesticide List

Insecticide	Formulation	Amount per 100 Gal.	Amount per Gal.	Suggested Use	General Use Restriction (Check Label) H=Homeowner C=Commercial
Acephate (Orthene)	75% S 15.6% EC	1/3 lb. 1 1/5 cup	1/3 tsp. 1 1/2 Tbsp.	Rescue	H, C
Betal-Cyflurin (Tempo)	20 WP 0.75 EC	1.9 oz. -	- 1 Tbsp.	Rescue	C H (Bayer)
Bifenthrin (Talstar L&T and other site specific products)	0.7 F	5.5 - 10.9 oz.	1/3 - 2/3 tsp.	Rescue	H, C
Carbaryl (Sevin and others)	4 F 2 F	1 qt. 2 qt.	2 tsp. 4 tsp.	Rescue	H, C
Cyfluthrin (Decathalon) (Bayer Lawn & Garden)	20 WP 0.75 EC	1.9 oz. -	- 1 Tbsp.	Rescue	C H (Bayer)
Deltamethrin (Deltagard T&O)(Suspend SC)	4.75% EC	4 - 8 oz.	1/4 - 1/2 tsp.	Rescue	H, C
Fluvalinate (Mavrik)	2 F	5 - 10 oz.	1/4 - 1/2 tsp.	Rescue	H, C
Lambda-cyhalothrin (Scimitar, Demand)	9.7% EC	1.5 - 5 oz.	-	Rescue	H, C
Permethrin (Astro EC) (Spectracide Bug Stop) (Eight)	36.8% EC 2.5% EC	4 - 8 oz. -	1/4 - 1/2 tsp. 2 Tbsp.	Rescue	C H

READ AND FOLLOW ALL LABEL INSTRUCTIONS. THIS INCLUDES DIRECTIONS FOR USE, PRECAUTIONARY STATEMENTS (HAZARDS TO HUMANS, DOMESTIC ANIMALS, AND ENDANGERED SPECIES), ENVIRONMENTAL HAZARDS, RATES OF APPLICATION, NUMBER OF APPLICATIONS, REENTRY INTERVALS, HARVEST RESTRICTIONS, STORAGE AND DISPOSAL, AND ANY SPECIFIC WARNINGS AND/OR PRECAUTIONS FOR SAFE HANDLING OF THE PESTICIDE.

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