

A3633

Euonymus caterpillar

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In July 1989 a new insect pest appeared in Wisconsin—the euonymus caterpillar (*Yponomeuta cagnagella*). The caterpillar was identified in locations throughout the southern half of the state on the spindle tree euonymus and the winged euonymus (also known as the burning bush euonymus). In subsequent summers, the euonymus caterpillar has reappeared, and its numbers and distribution seem to be increasing. In 1994, it was found damaging the eastern wahoo euonymus (*Euonymus atropurpureus*), winter creeper euonymus, and common buckthorn.



Figure 1. Euonymus caterpillars spin webs around the branches of susceptible species, starting at the tips.

Symptoms and effects

The euonymus caterpillar, a member of the ermine moth family (family *Yponomeutidae*), has long been a pest of the spindle tree euonymus in Europe, the Middle East, and parts of Asia. Since 1967, this caterpillar has also been noted in the eastern United States and Canada. The larvae of the caterpillar feed in colonies upon the foliage of preferred shrubs, within loose webs they have woven (figure 1). The larvae usually begin feeding on the ends of branches and work their way toward the center of the plant.

If not controlled early in their development, these caterpillars can defoliate entire plants over a brief time and envelop the plant in webbing. In severe attacks, the extensive webbing remains on the

plant for a long period, leaving the plant quite unsightly. The damage caused by the euonymus caterpillar does not typically kill its host, but repeated defoliation may weaken the plant and predispose it to attack by other insects or pathogens.

Life cycle

The euonymus caterpillar is colored creamy white with rows of black spots on each thoracic and abdominal segment. This contrasting coloration makes the caterpillar very distinctive and easy to identify (figure 2). The larvae reach $\frac{3}{4}$ inch long at maturity. The adult moth is also white and retains the distinctive spots; however, they are arranged in three longitudinal rows along the moth's forewings. The wingspan of the adult moth is approximately 1 inch.



Figure 2. The larva of the euonymus caterpillar is distinctively colored—creamy white with rows of black spots.

Adult moths appear in mid- to late July, at which time they mate and lay eggs. After mating, the adult female lays her eggs on twigs, branches, and in the bud axils of susceptible plants. The eggs are covered with a gummy substance that hardens and becomes virtually invisible. The eggs hatch in mid-August and the first-instar larvae (caterpillars) feed briefly before preparing to overwinter beneath the egg shells.

The following spring, the larvae produce webs and begin to feed on the new, growing foliage. Larvae typically feed in groups. As the larvae grow, so does the size of their webs. Often, the webs become so large that they envelop entire branches. In late June, cocoons form and the caterpillars pupate until late July, at which time adult moths emerge to repeat the cycle. There is only one generation per year.

Do not confuse the euonymus caterpillar with the eastern tent caterpillar. The eastern tent caterpillar makes more densely woven tents earlier in the year—from early May to early June—and it prefers wild cherry, choke cherry, apple, and ornamental crabapple. For more information on this pest, see Extension publication *Eastern Tent Caterpillar* (A2933).

Control

Scouting for euonymus caterpillars should begin in mid-May to early June. Examine susceptible species for small caterpillars and early signs of webbing. Small infestations may be successfully treated by hand pruning to remove the infested foliage. For larger caterpillar populations, several insecticides, including the bacterial agent *Bacillus thuringiensis* (Bt), are available. Bt *kurstaki* is the most effective variety against the euonymus caterpillar. Commercial growers should consult Extension publication *Woody Ornamentals Pest Management in Wisconsin* (A3597) for other specific insecticide recommendations. Regardless of the material selected for control, treatments should be made to the early larval instars to ensure success.

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