



# Entomological Notes

Department of Entomology

## BLACK VINE WEEVIL

*Otiorhynchus sulcatus* Fabricius

The black vine weevil is a serious pest in nurseries and established landscape plantings. A native of Europe, this species was first reported in Connecticut in 1910. This key pest is the most destructive and widely distributed species of root weevils in the genus *Otiorhynchus*. Adults and larvae prefer rhododendron, *Rhododendron* spp., yew, *Taxus* spp., euonymus, *Euonymus* spp., and Japanese holly, *Ilex crenata*. Larvae also feed on the roots of hemlock, *Tsuga* spp. This pest has been recorded on more than 100 species of cultivated and wild plants. Some landscape pest managers refer to this insect as the taxus weevil.

### DESCRIPTION

The larval (grub) stage of this pest is white, legless, somewhat C-shaped with a brown head. Adults are slate gray to black, flightless, about 9-13 mm long, and have a short pronounced snout with elbowed antennae. Their front wings are covered with tiny concave areas and small patches of short golden hairs (Fig. 1). The strawberry root weevil, *O. ovatus*, closely resembles this species, but it's only half the size of the black vine weevil.

### LIFE HISTORY

This pest overwinters as immature larvae in the soil. Mature larvae are 10-15 mm long and form resting (pupal) cells in the soil in early spring. Adults usually emerge from late May through June and in North America only females are known. They are active night feeders and when disturbed, adults drop quickly to the ground. During daylight hours adults hide in dark places on stems of plants with dense foliage or in leaf litter and mulch.

Adults require 21-28 days of foliage feeding prior to producing eggs. They may lay as many as 500 eggs over a period of 14-21 days. Eggs are laid in the soil near the base of host plants. They hatch in 10-14 days into small larvae that feed on roots until fall temperatures cause them to move deeper into the soil where they overwinter. Occasionally, a few adults may survive the winter

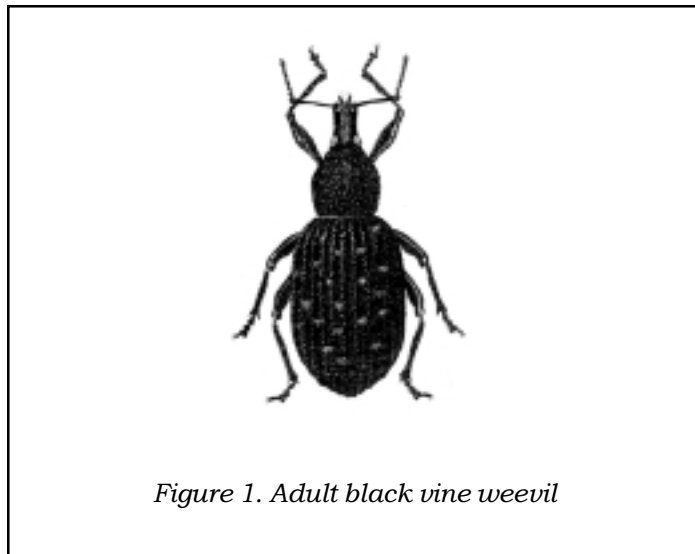


Figure 1. Adult black vine weevil

inside homes. Only one generation occurs each year in Pennsylvania.

### DAMAGE

Injury caused by the larval stage feeding on the roots is highly destructive to plants. Feeding by larvae occurs from mid-summer through fall and in early spring. At first larvae feed on small tender roots, but in early spring, they move to the bark of large roots or the stem, sometimes completely girdling them. Damage to roots may go undetected in nurseries, but infested plants that are placed in landscapes often die. Injury caused by adults is in the form of marginal notching of broadleaved evergreen foliage and other host plants. This foliar damage seldom impacts plant health, even though it may be extensive.

### MANAGEMENT

Manage adults by applying a registered insecticide according to label directions to host plant foliage during late May through June. Optimal timing of an application against the adult stage of this key pest may be achieved by doing the following. In early May place 6-inch by 6-inch boards on top of the mulch beneath several host plants. Pieces of burlap placed loosely around the base of a host plants may be substituted for the boards. During the middle of the day slowly turn over these boards or burlap. Note when you observe the

first adult black vine weevil on the bottom of one of these monitoring surfaces. Because adults need to feed on foliage for 21-28 days before they're able to lay eggs, the first foliar application should be made three weeks after detection of the first adult. Since adults do not emerge at the same time, a second foliar spray should be applied according to label directions three weeks after the first one. Spraying foliage in early evening may increase control because adults become active on the host foliage a few hours after sunset.

Applying registered materials according to label directions as soil drenches to container-grown plants from July to mid-October target the larval stage of this pest. The use of beneficial (entomopathogenic) nematodes applied according to label directions may be used to manage the larval stage of this pest in container-grown plants. Be sure to apply water as directed on the product label to the potted plants to be treated with these organisms.

## **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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