



Black vine weevil

Otiorhynchus sulcatus

Order Coleoptera, Family Curculionidae; snout beetles

Introduced pest

Host plants: Arborvitae, azaleas, English ivy, hemlock, juniper, euonymus, rhododendron, yews, and other trees, shrubs, and herbaceous perennials.

Description: Adults are 9–13 mm long and black with gold flecks on the forewings. Larvae are 12.5 mm long, C-shaped, legless and white with brown heads.

Life history: Females begin to emerge in late May. Eggs are laid in the soil in June and July and into the fall. Newly hatched larvae move to plant roots where they remain feeding until the following spring. There is one generation a year. Males are unknown.

Overwintering: In the soil as immature larvae. Development is completed the following spring.

Damage symptoms: Adults chew the margins of leaves, leaving small notches around leaf edges. Heavy infestations may lead to complete defoliation. Larvae feed on roots and girdle the plant at the root crown, causing wilting and even death.

Monitoring: Adults emerge when black locust and multiflora rose bloom in late May to early June (Herms). Beginning in late May, look for notched leaf margins from adult feeding, particularly on interior leaves. Look for signs of wilting and for larvae on roots of plants that are either wilting or have notched leaf margins.

Cultural control: Select resistant varieties of rhododendron.

Chemical control: Foliar insecticides (bifenthrin) applied in July kill adult beetles before they lay many eggs. Soil drenches of imidacloprid and bifenthrin starting in August kill larvae and pupae. Soil drenches of *Beauveria bassiana* and entomophagous nematodes (*Heterorhabditis bacteriophora*, *Steinernema carpocapsae*) starting in August kill larvae and pupae in soil. Soil must be kept moist to be effective.

Biological control: Few parasitoids or predators are found attacking larvae or adults. The adults and larvae are susceptible to infections of soil inhabiting fungi, such as *Beauveria bassiana*, *Paecilomyces farinosus*, and *Metarhizium anisopliae*. Entomopathogenic nematodes may control larvae, if applied after thorough watering of the soil. They are usually more effective in containers than in soil.

Plant mortality risk: High

Biorational pesticides: adults and larvae, *Beauveria bassiana*; larvae, entomophagous nematodes *Heterorhabditis bacteriophora*, *Steinernema carpocapsae*



Leaf notching damage caused by black vine weevil adult feeding. (20)

Photo: unknown



Black vine weevil adult female. (21)

Photo: John Davidson



Black vine weevil larva. (22)

Photo: John Davidson



Black vine weevil (continued)

Conventional pesticides: adults: bifenthrin, chlorpyrifos (nursery only), cyfluthrin, deltamethrin, fluvalinate, lambda-cyhalothrin; larvae: bifenthrin, carbofuran



Black vine weevil adult killed by the fungus, *Beauveria bassiana*.
(23)

Photo: Vera Krischik