

# Black Vine Weevil

Los Alamos Cooperative Extension

475 20th Street

Los Alamos, NM 87544

(505) 662-2656, FAX (505) 662-2913

Email: losalamo@nmsu.edu

**NM**  
**STATE**  
UNIVERSITY

**Carlos F. Valdez, Extension Horticulture Agent**

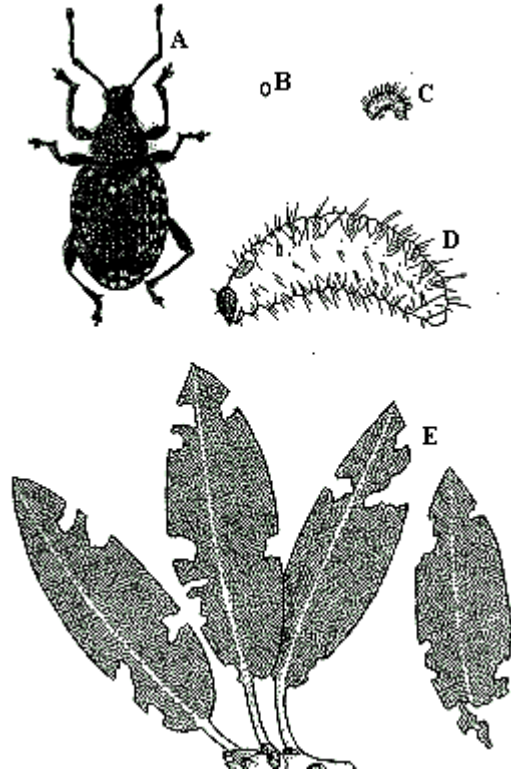
## DESCRIPTION

**Adult** -The oblong black vine weevil is 10 to 11 mm long and has a short snout. The elytra possess many rounded tubercles, each with a short seta. The body is blackish brown; the antennae are black and slightly pubescent; and the head is smoother than the thorax.

**Egg** -The egg is approximately 0.7 mm in diameter, with a smooth, shiny surface. It is white when first deposited but becomes brown as it ages.

**Larva** -As the legless larva matures, thickening thoracic segments cause its body to become curved. The fully grown larva is dirty white with a brown head.

**Pupa** -The pupa is white with prominent dusky spines on the head, abdomen, and legs.



## BIOLOGY

**Distribution** -The black vine weevil has the name "vine" in its common name because it was first recognized as a pest of grapes in Germany in 1934.

About 1910 the beetle was found in Connecticut, and has since become an ornamental pest in most of the United States, including New Mexico.

**Host Plants** -Many herbaceous and woody plants have been listed as hosts for the black vine weevil. Some of the preferred woody hosts include lilac, viburnum and yew. **Damage** -Black vine weevil larvae can stunt the growth of a plant by feeding on the roots. Larger roots are stripped of their bark or girdled, or they have notches chewed out of them. The adult weevils chew the edges of the leaves, cut off the tips of needles, or devour entire needles. The interior, older foliage is preferred to the terminal growth.

**Life History** -Black vine weevils overwinter as mature larvae or as pupae. However, a few adults also survive the winter to feed and deposit eggs during a second season. This weevil is parthenogenetic. Although one female was recorded as laying 863 eggs, the average number of eggs deposited by each female is probably about 200. During the preoviposition period, which lasts about 45 days, the adults feed most extensively. The longevity of the adult usually ranges from 90 to 100 days. Eggs, deposited in the soil and leaf litter, hatch in 2 to 3 weeks. Initially the young larvae feed on rootless; but after the third molt, the larvae move to the larger roots. During their development, the larvae molt five or six times within earthen cells in the soil constructed by the larvae prior to molting. After a quiescent prepupal stage that lasts from 3 weeks to 8 1/2 months, the larvae pupate. Three weeks later, adults emerge. Adults feed at night and drop from the plant, feigning death when disturbed. These weevils cannot fly; so they must be carried or must crawl to uninfested areas.

**Control:** Both cultural and chemical control strategies may be used.

*Cultural:* Because this weevil cannot fly, infestations spread slowly to distant areas but may spread rather rapidly locally. Only one weevil is necessary to start a new infestation. BVW movement is generally restricted to relatively adjacent areas which they can reach by traveling over the soil surface. Nursery plantings should be kept cleanly cultivated to eliminate hosts. Rotating between susceptible and non-susceptible stock helps prevent BVW buildup. Weevil-resistant cultivars or weevil repellents may be developed in the future.

*Chemical:* Both adults and larvae may be controlled using chemical insecticides. Check with the county agent for specific recommendations.

1. Adults: First determine when adults are present. This is best done at night after 10 p.m. Start in early June and repeat weekly through August. Place a white sheet under suspected plants and shake, dislodging adults onto the sheet. Pit traps (cans buried in the ground) may also be used. The first foliar application should be delayed until about 3 to 4 weeks after first activity is noted (leaf notching or actual capture as new adults must feed for 3 to 4 weeks before laying eggs).

Treat the foliage and soil surface by spray or drench. Repeat at 3 to 4 week intervals through mid-August. Check plants 4 to 7 days after the last spray. If new adults are found, repeat treatment immediately. Foliar sprays for adult control are best if applied after dark or in the very early morning when adult exposure is greatest and direct contact control is optimized. Treatments are aimed at the adults that feed on the plant foliage at night and hid in the duff below the plant during the day. Therefore, spray the foliage, including the undersides of leaves, and especially on lower part of plant, with enough volume to run off onto ground below the plant.

2. Larval Control: Because the larvae feed deep in the ground on roots of plants, they are difficult to reach with insecticides on field or landscape-grown plants. Insecticides are effective against larvae in container-grown plants. Insecticides may be applied both as foliar sprays or as soil drenches. The drench treatment is particularly important in the fall when the larvae are small and are feeding close to the surface. Because presently registered insecticides do not have a long residual life, one treatment usually will not provide adequate control in heavy infestations. Multiple applications, at 3 to 4 week intervals, most likely will be needed, depending on the insecticide used.

**New Mexico State University is an affirmative action, equal opportunity employer and educator. NMSU and the U.S. Department of Agriculture cooperating.**