

Pupae

Warm soil temperatures in late spring initiate the development from prepupa to pupal stage. Differences in soil temperatures from one locality to another can cause variation in timing of pupation. Pupation occurs in clay cells in the soil. Pupae are ivory in color and possess wing stubs. They are non-feeding, can wiggle, and are legless.

Adults

Newly molted adults are pale white and soft. It takes several days for them to harden and exhibit adult colors. Size of adults can vary even within species. Adults feed mainly on the foliage at night causing characteristic circular or irregular notching at the edges of leaves. Daytime feeding adults can become a contaminant if berries are machine harvested. When disturbed, adults will feign death and drop from the foliage.

MONITORING

Adults can easily be collected using the following methods:

- Check suspect plant foliage after dark with a flashlight to observe adults.
- After dark, place a sheet under the plant and shake the plant or use a beating stick to knock them onto a cloth-covered tray.
- Lay burlap in folds snugly around the base of a plant to provide a hiding place then carefully unfold to check for adults.
- Place boards on the ground touching the base of canes to attract adults. Later, check for weevils under the boards.



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Western Washington field guide to

Common Small Fruit Root Weevils

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How to Use This Field Guide

This guide divides weevils into three groups:

1. weevils without scales on their body
2. weevils with scales and a broad head behind antennae
3. weevils with scales and narrowed head behind the antennae

Using a hand lens, check for the presence of scales. If the body lacks scales, choose the column with that heading to determine the species. If the weevil has scales, decide if the head is narrow or broad behind the antennae then continue in the appropriate column.

LIFE CYCLE

Eggs

Otiorhynchus females lay their eggs indiscriminately in the soil beneath the host plants in the evening, while species of *Sciopithes* and *Strophosoma* lay their eggs on the leaves. Freshly laid eggs are yellowish-white and darken with age. Eggs hatch in 10 to 15 days under summer field conditions. Estimates of eggs laid by a single female vary from 150–500.

Larvae

Larvae of root weevils are ivory colored with a mahogany brown head capsule. They resemble grubs but are legless. This is the most damaging life stage because larvae feed on the small roots of plants. They will also girdle plant stems. The larvae pass through several molts. They spend the winter as late stage larvae or pupae.

WEEVIL IDENTIFICATION

Weevils without scales on body



Black vine weevil
Otiorynchus sulcatus



Rough strawberry root weevil
Otiorynchus rugostriatus



Strawberry root weevil
Otiorynchus ovatus



Thorax with round bumps and golden hairs.



Thorax with round bumps, lacking golden hairs.



Thorax with ridges.



Leg I with tooth.

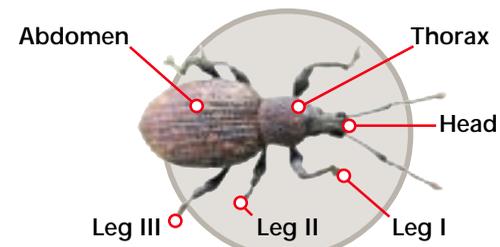


Leg I without tooth.



Leg I with notched tooth.

Notched tooth (enlarged).



Weevils with scales on body
Head not pinched in behind antennae



Obscure root weevil
Sciopithes obscurus



Thorax with 2 stripes.



Abdomen ornately patterned with dark "V" at rear.



Nut leaf weevil
Strophosoma melanogrammum



Thorax without stripes, with stiff bristles.



Abdomen with short mid-dorsal stripe.

Weevils with scales on body
Head pinched in behind antennae



Raucus
Otiorynchus raucus



Dark thorax with tan setae.



Abdomen covered in brown and tan scales, "furry appearance."



Leg I without tooth.



Clay colored weevil
Otiorynchus singularis



Thorax with round bumps and golden scales.



Abdomen covered in golden scales circled with dark brown pigment.



Leg I with tooth.