

Shothole Borer

Scolytus rugulosus (Muller)

Coleoptera: Scolytidae



Hosts: Fruit trees (particularly *Prunus* species) and a few other hardwoods like mountain-ash, hawthorn and, in rare cases, elm. Most infestations involve overmature or damaged plum and cherry.

Damage and Diagnosis: Shothole borer is the most common bark beetle affecting fruit trees in the region. The larvae stage develop under the bark, in tunnels they excavate parallel to the egg gallery of the female. This produces girdling wounds that can weaken, and sometimes kill, the plant beyond the damaged area. Trees in poor health are much more susceptible to shothole borer damage.

Oozing gum often occurs on *Prunus* species where beetles enter the wood to lay eggs. When the adult beetles emerge through the bark they chew small exit holes, the most commonly observed evidence of shothole borer activity.

Life History and Habits: The shothole borer spends the winter as a grub-like larva under the bark of trees. They continue to develop the following season, cutting a chamber into the sapwood in spring to pupate. The adults are small (1/10-inch), gray-black beetles that may begin to emerge in late April or May but can subsequently be found throughout the growing season. After mating the females seek out tree branches in poor health and chew out a one to two inch long egg gallery under the bark. Eggs are laid along the gallery and the newly hatched larvae later feed under the bark, making new galleries away from the central egg gallery. (The pattern made by the egg and larval galleries is useful for diagnosing shothole borer infestations).

There are likely to be two generations per year in the region. The larvae of the first generation become full grown by midsummer and give rise to a second generation period of adult activity and egg laying. However, emergence of adult beetles extends over a considerable period and there are no distinct generations.

Related Insects: The fir engraver, *Scolytus ventralis* LeConte, develops under the bark of true firs. Perhaps the most notorious of the *Scolytus* species is *S. multistriatus*, the smaller European elm bark beetle, vector of Dutch elm disease. *Scolytus fagi* Walsh has been recovered from hackberry in eastern Colorado.

Management: Shothole borer rarely attack, and survive poorly in, trees that are actively growing. Serious damage by shothole borer can be almost entirely avoided by growing trees under favorable growing conditions. Trees stressed by drought, winter injury, poor site conditions, wounding injuries, or other problems are at greatest risk of shothole borer damage.

Regularly prune dead or dying branches limbs in which shothole borers breed. Since the insects can continue to develop in pruned wood, remove or destroy it before adult beetles emerge.

On non-bearing trees, some insecticides are registered to control shothole borers (and other bark beetles). These need to be applied to the branches before the adult beetles have tunneled into the tree and laid eggs, typically before late May to early June.

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