

# Shothole Borer (*Scolytus rugulosus*)

March, 2016

## Hosts

Fruit trees, native and ornamental hardwood (deciduous) trees; a major pest of stone fruits.

## Damage

The shothole borer is attracted not only to diseased, weak or recently dead trees and limbs, but also to apparently healthy trees.

**Buds** - small 1.5 mm-wide holes at base of buds can prevent full development of the leaves or blossoms.

**Leaves** - yellow and wilt due to disruption of sap flow in branches.

**Branches and trunk** - 1.5 mm-wide holes in the bark, sometimes with white strings of sap hanging from them; tunnels under the bark.

## Identification

**Larva** - White, legless, curved, up to 3 mm long.

**Adult** - 3 mm long, black beetle with reddish legs and antennae.



*Shothole borer damage on cherry*

*Photo courtesy of Agriculture & Agri-Food Canada*



*Shothole borer galleries*

## Life History

Shothole borers overwinter as mature larvae or pupae in tunnels under tree bark. Adults emerge in May and females fly to susceptible trees where they bore into the cambium and lay their eggs in pockets along the sides of their tunnels. Second generation adults emerge in mid-August.

## Monitoring

Use yellow sticky board traps (see cherry fruit fly) to detect adult emergence. Hang a piece of window glass vertically over a pan of soapy water and suspend in or near trees to detect when adults are flying. Check branches for entry holes at the base of buds in May and August; exit holes are randomly scattered along branches.

## Control

**Cultural** - Encouraging optimum tree growth and removing all dead or weak trees and wood from the orchard will aid control. Maintaining optimum tree vigour is important as beetles are attracted to trees weakened by drought, transplanting, disease, etc. Discarded orchard wood, including firewood, is a breeding source for this pest for up to one year. Do not pile wood within orchards because beetles breeding in wood will attack nearby trees. Repeated attacks by heavy populations will kill healthy stone fruit trees. Intercept beetles flying into orchards by placing bundles of three or four 1 to 2 metre-long hardwood tree logs (harvested within the previous year) at 10-20 metre intervals along borders adjacent to wooded areas. Puncture the bark several times to improve release of odours attractive to shothole borers. Destroy the trap logs before the new adults emerge (mid-August).

**Chemical** - Thionex applied against aphids at the peak of beetle flights will aid in control of shothole borer. Chemical control will not eliminate the problem. Where beetles are flying in from outside sources, spraying border rows (trees) in high water volumes will aid in protecting the rest of the orchard.



*Shothole borer larva*



*Shothole borer adult covered in sawdust*



*Shothole borer pupae in galleries*