Forest Health Fact Sheet
Bark Beetles

Bark beetles in the subfamily *Scolytinae* are among the most damaging insects in North American forests. They kill trees by direct feeding and by vectoring fungal pathogens.

Exotic Bark Beetles

A one year project was initiated in 2010 to detect, delimit, and monitor newly introduced exotic bark and ambrosia beetles. Twelve forest locations in ten counties were selected as high-risk sites due to the importing, storing or recycling of potentially infested solid wood packing material, crating, pallets or other items nearby.

Three 12-unit funnel traps were used at each site, with each trap baited with one of three lures (ethanol, alfa-pinene plus ethanol, and Ips). A total of 13,622 non-native bark and ambrosia beetles from 52 species were recovered through the survey.

Xylosandrus germanus (Blanford) was by far the most abundant species, making up 36% of the beetles collected. Other frequently encountered species include *Gnathotrichus materiarius* (Fitch) (9%) and *Xyleborus pelliculosus* (Eichhoff) (7%). No *Anisandrus maiche* (Stark) were recovered from this survey although it has been found in nine counties in southwestern Pennsylvania.

Xylosandrus germanus, ambrosia beetle

Conifer Bark Beetles

There are numerous species of bark beetles which attack weakened or dying pines, spruces and firs. Bark beetles usually attack trees that are under stress, have been recently killed or are in the process of dying. Healthy trees may be attacked during high levels of bark beetle infestation.

Damage by bark beetles

How To Recognize Infestations – Bark beetle attacks can be recognized by the presence of boring dust or pitch tubes on the outside of the bark and characteristic galleries under the bark. In addition, adults and larvae may be found in the inner bark. The presence of pitch tubes on the mid to upper trunk of trees is the most common method to identify bark beetle attack. However, pitch tubes may not form on severely stressed trees; instead, brown boring dust can be found in the bark crevices or at the base of the tree. Tree crowns will begin to fade from green to yellow to red to brown as the infestation progresses. Some species of bark beetles will initially attack the larger limbs of trees.

Management – Bark beetles commonly attack trees weakened by drought, disease, injuries, or lack of proper cultural care. Although beetles can contribute to the decline and eventual death of trees, they are usually not the primary cause. Except for general cultural practices to improve tree vigor, little can be done to control beetles and larvae beneath the bark once trees have been attacked.

Homeowners should plant trees that are adapted to their area. Learn the cultural requirements of your trees in order to provide proper care and keep them growing vigorously. Healthy plants are less likely to be attacked and are better able to survive the damage from a few beetles. For landscape trees or small wood lots that have been attacked, remove all dead and dying trees as well as any trees showing symptoms of attack.

Peach Bark Beetle

Phloeotribus liminaris Harris

Peach bark beetle by J. Young, USDA, Bugwood.org

The genus *Phloeotribus* is represented by a number of eastern species. The adults are distinguished from other bark beetles by the loosely jointed antennal club, all three parts of which extend into a leaflike structure. Localized outbreaks of the peach bark beetle in black cherry are usually found after periods of drought or where site disturbances, such as logging or thinning, have weakened residual trees.

Description – The adult peach bark beetle is light brown to nearly black. The elytra are somewhat shiny and sparsely covered with long, fine, whitish hairs. The adults range from 1.5 mm to 2.2 mm in length.

Distribution and Host Plants – The peach bark beetle is found in southern Canada and from New Hampshire to Michigan and south to the Gulf Coast. In Pennsylvania, the preferred host of the peach bark beetle is black cherry. This beetle occasionally damages other stone fruit trees such as peach and plum.

Gummosis due to bark beetles.

Damage – Individual or groups of adults burrow into the bark of weakened or damaged trees. Their burrows often extend into the living tissue beneath the bark causing an external flow of resin that is readily visible. Damage to the cambial layer and outer cortex often causes gummosis and localized growth abnormalities. Trees are rarely killed but are usually weakened which may predispose the tree to other diseases or insects. Veneer quality of attacked trees is often diminished.

Life History – The peach bark beetle spends the winter as young adults in galleries beneath the bark. These overwintering adults emerge in May and remain active until late August. Mating occurs soon after the spring emergence. Female beetles deposit eggs in niches along the sides of nuptial galleries constructed by the adults. The newly hatched larvae begin to feed along the inner bark of the host tree. This feeding results in the development of short, deeply engraved tunnels

that extend transversely from the egg niches. Adults may reemerge and construct several additional galleries during the season. There are normally two generations per year.

Control – Natural enemies, such as birds, and predaceous and parasitic insects, play an important role in reducing beetle populations. Chemical insecticides are effective in protecting high-value trees. For information concerning registered chemicals and formulations, see the current Pennsylvania Department of Agriculture recommendations or contact your county Penn State Extension Office.

For more information concerning bark beetle control, contact your local Penn State Extension office or private pest control specialist