



## Pest Alert: The Black Stem Borer



Adult *Xylosandrus germanus*

### Introduction:

*Xylosandrus germanus* (Blandford), Coleoptera: Scolytidae, also known as the black stem borer (BSB) is originally from southeast Asia. This beetle has been found in at least 17 states, primarily in the eastern U.S., including Georgia, Missouri, New York, and Texas. Although the Oregon Department of Agriculture has been surveying for exotic wood boring insects since 1997, established populations of BSB were first confirmed from Forest Park (Portland) and Oxbow Park (south of Corbett) in Multnomah County, Oregon in 2004. An infestation of this pest probably representing an established population was detected in June 2005 at a nursery in Clackamas County. This beetle is of particular concern because unlike most ambrosia beetles, it is known to attack apparently healthy plants.

BSB is reported to attack over 200 species of plants in 52 families, although it prefers hardwoods. Some hosts of concern to Oregon include apple, ash, black cherry, black walnut, cedar, dogwood, grape, oak, pear, pecan, pine, plum, poplar, rhododendron, and willow.

### Signs of infestation:

- Apparently healthy hosts may be attacked.
- Entrance holes are approximately 1 mm in diameter and round (Fig. 1). Long toothpick-like strings of compacted boring dust may be found emerging from these holes (Fig. 2). Unfortunately, other wood boring insects in Oregon cause similar damage.
- Hosts with a diameter of less than 2.5 inches (~6 cm) are preferred, but injured or stressed larger trees can be attacked. Newly transplanted trees are especially vulnerable.
- Adult beetles are small, stout, cylindrical, dark brown to black, and about 2-2.5 mm in length. Adults are unlikely to be seen and can only be identified by a trained entomologist.

### **It poses a threat to:**

BSB poses a threat to the nursery and orchard industries, as well as ornamental plantings, due to its apparent preference for attacking saplings and small diameter broad-leaved trees and shrubs, causing girdling, stunting, and death. It can attack and kill larger trees, particularly if they are stressed.

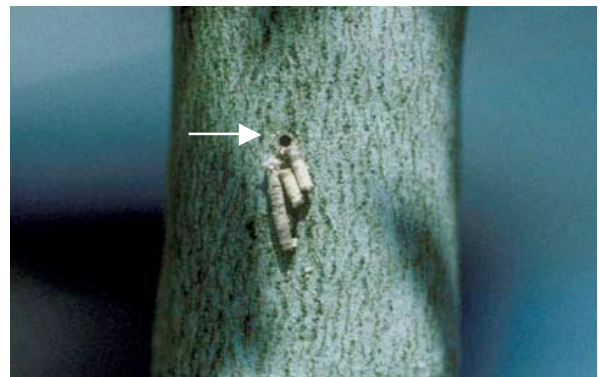
### **How it gets here:**

Infested woody nursery stock, raw wood products, crating and packing material, firewood, and raw logs are all means by which BSB could be brought into Oregon. Once BSB has infested a host or wood, it is in a protected environment allowing it to survive shipment. The sources of the Oregon infestation are unknown.

### **Life cycle:**

Adults and larvae feed on a symbiotic fungus (“ambrosia”) grown on wood tissue, not on the wood itself. Adults can be present from March through July. Females are the only sex to fly and leave the brood galleries. Males are flightless and remain inside. Females overwinter in galleries or in leaf litter near the base of trees. When conditions are right in the spring, they emerge and attack hosts. Females bore a tunnel with a brood chamber and one or more

branches into the sapwood and sometimes the heartwood. Eggs are laid in the brood chamber, and larvae hatch and feed on the symbiotic fungus growing on the gallery walls. There may be up to 100 larvae per gallery and usually two generations per year, although three generations per year are known to occur in the southern parts of the beetle’s range.



**Figure 1. Entrance hole.** By G.K. Douce. The University of Georgia, [www.forestryimages.org](http://www.forestryimages.org)



**Figure 2. Toothpick like boring-dust string.** By G.K. Douce, The University of Georgia, [www.forestryimages.org](http://www.forestryimages.org)

**If you see suspected BSB symptoms please contact ODA. Thank you for your cooperation.**

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