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Buprestid Beetles and Flathead Borers

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Introduction

Buprestid beetles (Coleoptera: Buprestidae) belong to a large family of beetles with hundreds of species in North America. The adults also are known as metallic wood-boring beetles or jewel beetles, while the larvae are called flathead borers.

Description

Adult buprestid beetles are usually somewhat flattened, squat to narrowly elongated beetles. The head is often blunt and the abdomen is somewhat tapered. Some species have a slight constriction along the sides of the abdomen while others are broadly oval. They have prominent eyes and serrated antennae.

Buprestid beetles vary widely in their appearance. Many adults are dull and dark-colored while others show brilliant, metallic colors (Fig. 1). Some have flat patches of setae that create patterns on their bodies, some have long hairs, and others are highly sculptured (Fig. 2). Some adults have a nondescript appearance with limited color (Fig. 3), or only glints of color on their underside or the top of the abdomen under their wings.

Figure 1. An adult *Buprestis confluenta* (Steven Valley, Oregon Dept. of Agriculture, Bugwood.org).

Buprestids also vary widely in size. Some adults are very small, measuring only several mm in length, while larger species may reach 2.5 cm (1 inch) long.

Figure 2. An adult sculptured pine borer (Steven Valley, Oregon Dept. of Agriculture, Bugwood.org).

Figure 3. Adult rednecked cane beetle (Johnny N. Dell Bugwood.org).

The larval form of the buprestid beetle is a flathead borer. Flathead borers are flattened grubs with a broadly enlarged segment immediately behind the small head capsule (Fig. 4). Their bodies are strongly segmented and pale in color. The strong jaws are prominent and dark colored (Fig. 4). Larvae are not commonly observed as they live and develop within their host plant.

Life History

Buprestid beetles have a complete life cycle with egg, larval, pupal, and adult stages. Most develop as wood-boring beetles under the bark of trees and shrubs or deeper in the wood, but some are miners in

leaves and grass stems. Adult females lay their eggs on the host plant. Larvae chew extensive, frequently winding galleries in the host as they feed (Fig. 5). The larvae pupate in these tunnels and the adults emerge from the host plant through oval or D-shaped holes. Some species of buprestids, especially those developing in wood, may take years to reach the adult stage. Sometimes adult buprestids emerge from finished wood products like furniture and flooring.

Figure 4. A closeup of a flathead borer, the larval stage of a buprestid beetle (David Cappaert, Bugwood.org).

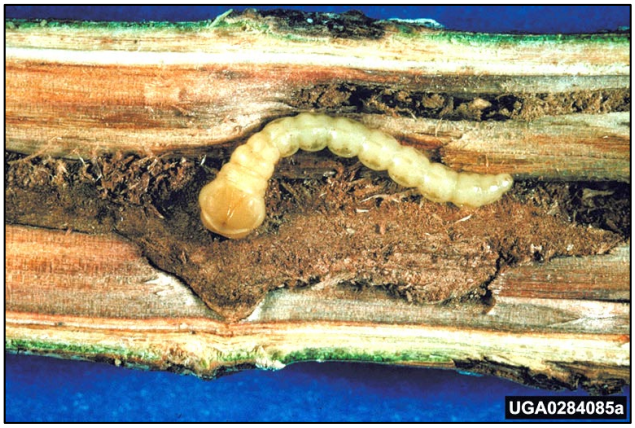

Figure 5. A flathead borer in its tunnel (James Solomon, USDA Forest Service, Bugwood.org).

Damage

Many flathead borers are secondary pests that feed in stressed, dying, or recently dead branches and trunks. Their long galleries may weaken and destroy the wood. Species that develop under the bark of a tree, such as the emerald ash borer, may girdle the tree over time. Some species will attack healthy green wood and are considered economically important pests of trees and shrubs. Adult buprestid beetles feed on pollen and nectar from flowers and are not considered pests.

Control

Properly planted, watered, and fertilized trees maintained in vigorous condition are less likely to be attacked by borers. Wounded, damaged, or otherwise weakened areas of a tree are susceptible to borer attack and should be pruned or chemically treated to prevent borer infestation. Promptly burn, chip, or otherwise destroy pruned material to prevent borers emerging and attacking nearby trees. Soil drenches or trunk and branch sprays are effective against flathead borers. See the Virginia Pest Management Guide for Home Grounds and Animals (PMG 456-018) for current recommendations for insecticides and treatment times for flathead borers in Virginia.

For control recommendations against emerald ash borer, also see Emerald Ash Borer: Options for Landowners (VCE publication ENTO-76NP); Emerald Ash Borer (VCE 2904-1290); and Emerald Ash Borer (VCE HORT-69).

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2020 ENTO-441NP