PEACHTREE BORER

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The peachtree borer, *Synanthedon exitiosa* (Say), is a serious tree-infesting pest of *Prunus* species that is native to much of North America. It is a pest of peach, plums, nectarines, cherries, and related plant species.

DESCRIPTION

Figure 1. Adult female peachtree borer.

Figure 2. Adult male peachtree borer.

The adult of the peachtree borer is a clear-winged moth. The female moth is a rich dark blue, with a broad orange band around the abdomen (Figure 1). Forewings of the female are blue and opaque and the hindwings are clear except for their opaque blue margins. Female moths are slightly larger than males, having a wingspread of about 1-1/4 to 1-1/2 inches (30 to 38 mm). Males have a wingspread of about 1 to 1-1/4 inch (25 to 30 mm). The male moth (Figure 2) is dark blue, with several yellow-white stripes around the abdomen. Its wings are clear with dark borders. The males of peachtree borer and either sex of lesser peachtree borer are quite similar in appearance. Characters for distinguishing the two species follow. Peachtree borer males: the tip of the abdomen has a triangular tuft of scales; when viewed from the front, mouthparts and front legs next to the thorax are white. Lesser peachtree borer males: the abdomen is pointed, the mouthparts are black, and the legs have white tufts of hair at joints.

Larvae are yellowish-white to cream-colored caterpillars with brown heads and are 1 to 1-1/4 inches (25 to 30 mm) long when fully grown (Figure 3). When larvae are about half grown, the plate just behind the head also becomes yellowish-brown. Like most caterpillars, peachtree borers have three distinct pairs of legs just behind the head, and short, fleshy prolegs on the third, fourth, fifth, and sixth abdominal segments.

Figure 3. Larvae of peachtree borer.

PLANT INJURY

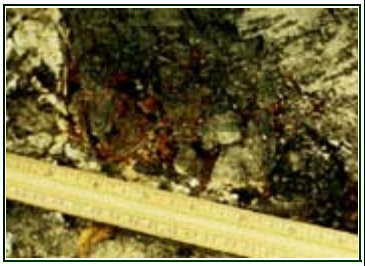

Figure 4. Damage from peachtree borer.

Only the larval stage of the peachtree borer causes injury. Larvae burrow in and feed on the cambium and inner barkof trees, usually at the base of the trunk from three inches below to 10 inches above the ground line. They also feed on large roots that are near the soil surface. Larvae construct and feed in galleries. Accumulating gum, frass, and bark chips are pushed out of galleries to the outside (Figure 4). These masses are often the first evidence of infestation. Several larvae may develop in one tree. Young trees are particularly susceptible to borers; when infested they are unthrifty and grow poorly. Borers easily damage large portions of the vascular tissue in small trees; mortality is common in these instances. Older trees infested by borers may exhibit partial die-back, yellowing of foliage, stunted growth, and loss of vigor and productivity.

SEASONAL HISTORY AND HABITS

The peachtree borer usually passes the winter as a larva inside its burrow beneath the bark. Some larvae may overwinter in silken coverings or hibernaculae constructed on the bark outside their burrows. Larvae overwintering in their burrows may feed during warm periods. Overwintering larvae vary in size, depending on when they hatched during the previous season.

As larvae mature, they leave their burrows in the trees, move to just beneath the soil line, at or within four inches of the tree trunk, and construct silken cocoons in which to pupate. The cocoons are elongate, brownish, and about 3/4 inch (20 mm) long. The pupal stage lasts three to four weeks, averaging about 28 days. Just before adult emergence, the dark-brown pupa forces its way out of the cocoon. The empty pupal case generally remains, protruding partially above the soil surface after the moth emerges.

Adult peachtree borers begin to emerge as early as April or May and may be present in orchards through November. In Georgia's Fort Valley plateau, most peachtree borer mothsemerge in July, August, and September, with peak emergence typically occurring in late August. In Georgia's primary coastal plain growing region, Brooks County, there is a period of heavy peachtree borer emergence in May and June, with the seasonal low of both peachtree borer and lesser peachtree borer moths in July and August. In the Georgia coastal plain, a second major adult emergence begins in early September; it may last through early October. In Oklahoma and Arkansas, the borer flight begins in early May, with over 80 percent of the moths emerging from June through August.

Moths are active during the day, and mating pairs are not an uncommon sight in infested orchards. Females normally mate and begin to lay eggs within a few hours after emerging. Each female lays 200 to 800 reddish-brown eggs, averaging about 400. They are usually laid singly in cracks, under loose bark, near wounds, or other rough areas on tree trunks. Occasionally, eggs are laid on leaves, weeds, or soil near the base of the tree.

Eggs hatch in eight to ten days and the tiny 1/25 inch (1 mm) long larvae immediately burrow into the bark in the lower part of the tree. Under favorable conditions, the larvae attain considerable size in a few weeks. Larvae overwinter in the tree.

CONTROL

Peachtree borers should be controlled with timely insecticide application(s) or by use of pheromone mating disruption. Young peach trees are particularly susceptible to borer injury. Trees are normally planted in the fall or winter, after the risk of borer infestation has past in all but the warmest southeastern production areas. Newly planted trees should be protected from borers and other tree pests by handgun application of insecticide to the trunks. This application should be made before borers and scale become active in the spring. Young trees should receive an additional treatment late that first season by re-treating with an appropriate residual insecticide or use of pheromone mating disruption.

Pheromone traps do not provide control, but they are useful monitoring tools to follow the progress of adult borer emergence and to assess the relative abundance of borers. Monitoring helps improve the timing of control treatments.

A drenching trunk spray of long-residual insecticides applied using a handgun is the standard treatment for borer control. This spray establishes a residual insecticide barrier that is lethal to borer larvae for several months. Borer sprays in the Ft. Valley, Georgia, area should be applied in August. In Georgia's coastal plain growing areas, borer treatments should be made to control the first emergence peak in May and June. Most peach varieties grown in the coastal plain should be treated for borers immediately after they are harvested. Sprays made for white peach scale from mid-September to late October or a delayed dormant oil spray plus a residual insecticide will also provide helpful control of peachtree borers. In many southeastern production areas, early- and mid-season varieties could also be treated with trunk sprays after harvest, as emergence runs from June through August. In Arkansas, successful control was achieved with a trunk drench spray of a residual insecticide applied at bud swell.

Peachtree borers can also be controlled without use of an insecticide. Commercially available, artificial sex pheromone of the peachtree borer, 96:04 Z,Z:E,Z, normally released into the orchard atmosphere from 100 or more slow-release dispensers equally placed throughout the orchard canopy, saturates the site’s atmosphere with the pheromone. Male and female borers use this pheromone, a volatile chemical emitted by receptive females, to locate one another for mating. The pheromone-saturated air confuses and repels the males. They respond by moving out and away from the pheromone-laden orchard. This tactic effectively disrupts and prevents peachtree borer mating.

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