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SP290-C-Dogwood Borer, Infestation, Damage and Control

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UT Extension
SP290-C

Insects

Dogwood Borer
Infestation, Damage and Control

Frank A. Hale, Professor
originally developed by Harry E. Williams, Professor Emeritus
Entomology and Plant Pathology

The flowering dogwood (*Cornus florida*) is one of the most popular ornamental plants in Tennessee landscapes. Native trees also flourish in the forest understory.

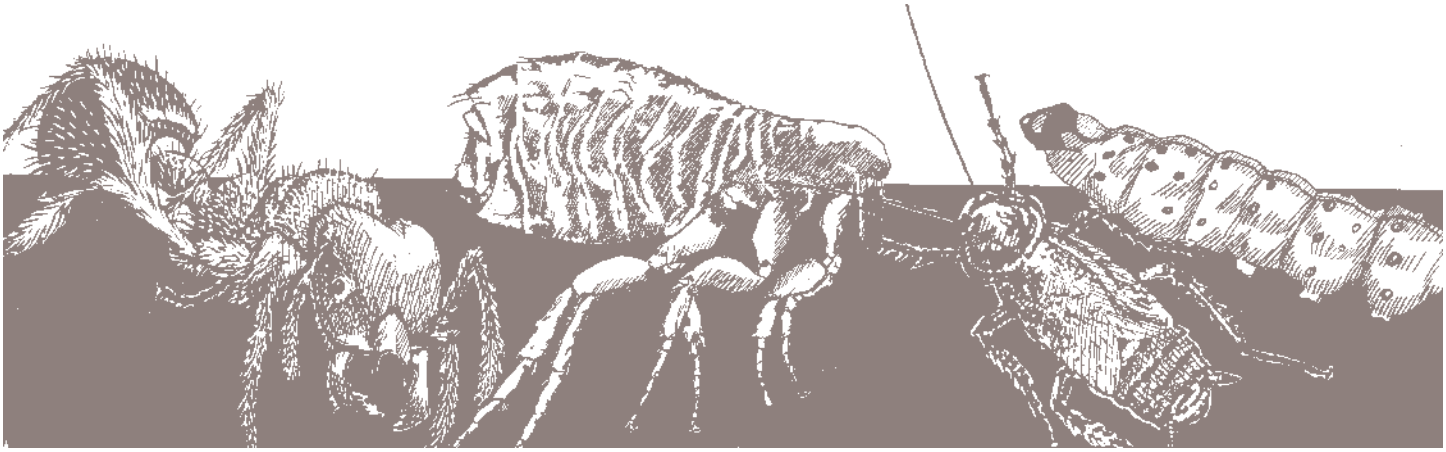
The dogwood tree is damaged by the feeding activity of the dogwood borer larva under the bark of the trunk and limbs. In a single year, one borer can completely girdle and kill a tree 4 inches in diameter, but death is more often brought about by the combined activity of several larvae or by successive infestations with concurrent mechanical injury or pathological problems. Cultivated trees growing in full sun are usually more heavily infested than those growing in shaded or forested areas.

Dogwood borer damage
John A. Weidhass, Virginia Polytechnic Institute and State University, www.forestryimages.org

The dogwood borer, *Synanthedon scitula* (Harris), is found throughout the area where flowering dogwoods are grown. In addition to dogwoods, the borer also infests oak, chestnut, elm, hickory, willow, pecan and apple. The borer infests a wide range of host plants, and dogwood trees may be infested from a variety of nearby host plants. A native pest, the borer is known by several other common names: pecan sesia, nine-bark borer, woody gall borer, oak gall borer and others.

Adult moths emerge from late April to mid-October, with the first peak of adult activity occurring in mid-May and the second peak in early August. Eggs are laid singly on the bark. When first laid, the egg is pale yellow and turns only slightly darker before the larva hatches. The female may lay more than 100 eggs that usually require eight to nine days to hatch.

Newly hatched larvae enter through wounds, calloused areas, cankers or some broken bark site. Larval feeding is confined to the inner cambium and bark. The dogwood borer hibernates in the larval stage within its tunnel. Pupation takes place the following season. Although there is only one generation per year, borers may be found in various stages of development throughout most of the year because eggs are laid over a period of several months.



The moth passes through four separate stages in its life cycle (egg, larva, pupa and adult). The basic color of the adult moth is dark blue, appearing almost black, with occasional yellow markings on the body. The dark thorax is marked with yellow lines and a yellow patch below. The abdomen is dark with yellow on the second and fourth segments. The wings are mostly clear with dark scales along the veins and margins and a span of about three-fifths of an inch. Dogwood borer moths are in the same family of clearwing moths (*sesiidae*) as the peachtree borer, rhododendron borer and the lilac borer.

Adult female

Adult male

James Solomon, USDA Forest Service, www.forestryimages.org

The larvae are off-white to cream-colored with a reddish-brown head. The front thoracic segment has two reddish-brown spots on the upper surface. The newly hatched larvae are 1/16 of an inch, and the mature larvae are 3/5 of an inch long. The pupae are light brown and 2/5 of an inch long.

Control Measures

Dogwood trees may be infested in a nursery as 1-, 2- or 3-year-old seedlings or as older trees growing in the landscape. Trees should be inspected for depressed, wet or loose areas of bark indicating possible borer infestation prior to purchase.

Physical damage to the bark of the trunk or limbs from lawnmowers, string trimmers, dogwood canker, pruning cuts or freezing the bark aid borer entry. Trees that have been previously infested have wounds that provide easy entry for borers. Avoid physical damage to the trees.

Spray the trunk and lower limb scaffold with the recommended insecticide in late April and mid-July for full-season control. Apply the insecticide from the lower limb scaffold, down the trunk to the soil line. Landscape trees can be treated with bifenthrin (Onyx) or permethrin (Astro, Permethrin Pro). Use permethrin (Perm-Up 3.2 EC) or chlorpyrifos (Dursban) for dogwood borer control in commercial nurseries.

If a protective insecticide spray is not used, a parasitic nematode, *Steinernema carpocapsae* (Guardian), can be applied to the infested tree truck as a coarse, low-pressure spray to the point of runoff. Make applications during May through September when signs of larvae are apparent.

References

Pless, C.D and W.W. Stanley. 1967. Life history and habits of the dogwood borer, *Thamnosphecia scitula* (Lepidoptera: Aegeriidae) in Tennessee. Journal of the Tennessee Academy of Science. 42(4): 117-123.

Rogers, L.E. and J.F. Grant. 1990. Occurrence of dogwood borer and other selected species of clearwing borer in Eastern and Middle Tennessee. Tennessee Farm and Home Science. Issue 154. The University of Tennessee Agricultural Experiment Station, Knoxville.

Precautionary Statement

To protect people and the environment, pesticides should be used safely. This is everyone's responsibility, especially the user. Read and follow label directions carefully before you buy, mix, apply, store or dispose of a pesticide. According to laws regulating pesticides, they must be used only as directed by the label. Persons who do not obey the law will be subject to penalties.

Disclaimer Statement

This publication contains pesticide recommendations that are subject to change at any time. The recommendations in this publication are provided only as a guide. It is always the pesticide applicator's responsibility, by law, to read and follow all current label directions for the specific pesticide being used. The label always takes precedence over the recommendations found in this publication.

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