



# Ornamentals & Turf

Department of Entomology

## BRONZE BIRCH BORER

*Timothy J. Gibb and Cliff Sadof Extension Entomologist*

Chlorotic leaves, sparse foliage and dying upper branches of white, paper and yellow birch trees are often the first visible symptoms of bronze birch borer damage. Closer examination will reveal ridges and bumps on the limbs and branches as well as occasional D-shaped holes in the bark. Peeling back bark from infested trees will further reveal irregular, winding, sawdust-packed tunnels. It is these tunnels that girdle the branches and eventually kill trees. Trees that receive no corrective measures usually die within a few years after the first dead branches are found.

### LIFE CYCLE

The bronze birch borer is a serious native insect pest. The adult is a black beetle about 1/2 inch long and has bronzy iridescence on the back. It is a sun-loving insect and may be found crawling on the sunny side of the trunk during late May and early June.

The female deposits her eggs under cracks and crevices of the bark. Eggs hatch in 2 weeks or less, and the slender larvae tunnel immediately into the phloem tissue to construct their galleries. They may occasionally tunnel into the xylem (wood) to molt and overwinter. One or two years may be required to complete larval development. The larvae pupate in the xylem in late April or early May.



Bronze Birch Borer Larva



Bronze Birch Borer Adults

### PREVENTING INFESTATIONS

*By Maintaining Healthy Trees:* Vigorously growing trees are less inclined to be damaged by borers than are trees in poor condition. Birch trees are relatively short-lived and thus old age, adverse weather conditions or other insect-related stresses can all contribute to weakened trees. Most ornamental trees are grown in lawns, which is not usually conducive to healthy, vigorous growth. In fact, lawn conditions are opposite the normal habitat of birch trees. Thus, birch trees are often in a weakened condition, making them attractive to the bronze birch borer.

*By Using Resistant Varieties:* One way to lessen chances of borer attack is to plant borer-resistant species like river birch, Japanese birch or the variety "Heritage". Another way is to maintain healthy trees by watering.

Birches in lawns should be watered every 7-10 days IF rainfall amounts are less than normal. To water properly, allow the garden hose to run beneath the tree for several hours so that plenty of moisture reaches the root zone.

Prevent defoliation and injury by controlling other birch tree pests such as aphids, scales, leafminers and the sap sucker.

## CONTROLLING EXISTING INFESTATIONS

*Sanitation:* Remove dying trees and branches before adults emerge in early May. This can reduce the number of borers available to attack your trees.

*Insecticide Sprays:* Between mid-May and mid-June, homeowners can spray infested trees with permethrin (Eight) or Spectracide Bug Stop to kill adults emerging from bark and larvae that are hatching from newly laid eggs. Commercial applicators can spray Astro (permethrin) or Thiodan (endosulfan).

*Systemic Insecticide Sprays:* A soil drench of systemic insecticide between mid-May and mid-June can kill adult borers as they try to enter or leave the tree. Soil drench applications in late June and mid August can kill larvae that are already boring into trees. Homeowners may use dimethoate (Cygon, De-fend) or Imidacloprid (Bayer Advanced Garden Tree and Shrub). Commercial applicators may use Metasystox-R or commercial formulations of dimethoate or imidacloprid.



Bronze Birch Borer Damage



a



b

Tunnels under bark (a) caused by bronze birch borer feeding will cause bark to appear bumpy (b).

Bronze Birch Borer: *Agrilus anxius* Gory

READ AND FOLLOW ALL LABEL INSTRUCTIONS. THIS INCLUDES DIRECTIONS FOR USE, PRECAUTIONARY STATEMENTS (HAZARDS TO HUMANS, DOMESTIC ANIMALS, AND ENDANGERED SPECIES), ENVIRONMENTAL HAZARDS, RATES OF APPLICATION, NUMBER OF APPLICATIONS, REENTRY INTERVALS, HARVEST RESTRICTIONS, STORAGE AND DISPOSAL, AND ANY SPECIFIC WARNINGS AND/OR PRECAUTIONS FOR SAFE HANDLING OF THE PESTICIDE.

Revised 4/2002

It is the policy of the Purdue University Cooperative Extension Service, David C. Petritz, Director, that all persons shall have equal opportunity and access to the programs and facilities without regard to race, color, sex, religion, national origin, age, marital status, parental status, sexual orientation, or disability. Purdue University is an Affirmative Action employer.

1-888-EXT-INFO (398-4636)

<http://www.ces.purdue.edu/extmedia>