

## Hickory wilt

### *Ceratocystis smalleyii*

#### Description

The *Ceratocystis* fungus is believed to be an exotic pest of unknown origin. The disease is caused by a combinations of the hickory bark beetle (*Scolytus quadrispinosus*) and the *Ceratocystis smalleyi* fungus. The decline and death of bitternut hickory (*Carya cordiformis*) was first reported in Michigan for the first time in 2010.

#### Identification

Hickory bark beetles are short, about 4-5 mm long, stout, thickly cylindrical, black to reddish-brown and almost hairless. They have a short curved spine or hook on the front tibia. *Ceratocystis smalleyii* is the sister species to *Ceratocystis caryae*

#### Hosts

Shagbark hickory (*Carya ovata*), Bitternut hickory (*Carya cordiformis*) and Pecan (*Carya illinoensis*).

#### Reproduction





### **Impact**

The first symptom of hickory wilt is thinning crowns with small, yellow leaves. Decline and tree mortality follow within a year or two. Loss of hickory historically has occurred after extended periods of drought predisposed trees to outbreaks of the hickory bark beetle.

### **Monitoring and Rapid Response**

Epidemics are most severe where hickory is abundant and tree numbers need to be lowered to reduce competition and improve tree vigor. Reduce the percentage of hickory in such stands by removing smaller, less vigorous trees. Report areas of declining and dying hickory.

### **Credits**

The information provided in this factsheet was gathered from the Michigan Department of Natural Resources and Michigan Department of Agriculture Forest Pest Alert, "Hickory Wilt: Rapid Crown Decline of Smooth Bark Hickories" by Jennifer Juzwik at the U.S Forest Service, and "Hickory Wilt Forest Health Report" by Robert Heyd at the Michigan Department of Natural Resources. Individual species images that appear with a number in a black box are courtesy of the Bugwood.org network (<http://www.invasive.org>). Individual photo author credits may not be included due to the small display size of the images and subsequent difficulty of reading the provided text. All other images appear courtesy of Google (<http://images.google.com>).