AN *OPHIOSTOMA* SP. CAUSING A VASCULAR WILT DISEASE OF RED BAY (*PERSEA BORBONIA* [L.] SPRENG) IS ALSO PATHOGENIC TO OTHER SPECIES IN THE LAURACEAE FAMILY

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ABSTRACT

Extensive mortality of red bay *(Persea borbonia* [L.] Spreng) has been observed in the coastal plains of South Carolina and Georgia since 2003. Dead and dying trees exhibit wilt-like symptoms, and a fungus (an *Ophiostoma* sp.) and an exotic ambrosia beetle (*Xyleborus glabratus* [Eichhoff]) have been implicated in the disease. Additional information about this disease is provided by Rabaglia and Fraedrich (this proceedings). Sassafras (S*assafras albidum* [Nutt.] Nees) mortality was also observed at several sites in Georgia during the spring of 2005. Wilted sassafras exhibited sapwood discoloration, and *X. glabratus* and the *Ophiostoma* sp. were also associated with these trees.

The objective of this study was to evaluate the susceptibility of sassafras, red bay, swamp red bay (*P. palustris* [Raf.] Sarg.) and spicebush (*Lindera benzoin* [L.] Blume) to wilt caused by the *Ophiostoma* sp. Ten plants of each plant species were wounded and inoculated with drops of conidial suspensions of the *Ophiostoma* sp. Five control plants of each species were also wounded and inoculated with drops of sterile water. Plants were placed in a growth chamber, and observations of disease progression were made periodically. After 5 weeks, the sapwood of all plants was evaluated for discoloration, and samples from plants were plated on a media selective for the *Ophiostoma* sp.

Spicebush, sassafras, swamp red bay as well as red bay were all susceptible to wilt caused by the *Ophiostoma* sp. All plants inoculated with the *Ophiostoma* sp. wilted within 2 to 5 weeks. Sapwood discoloration was noted in plants of all species inoculated with the *Ophiostoma* isolates, and the *Ophiostoma* sp. was reisolated from these plants. Based on the results of this study, and recent observations of the wilt on sassafras in Georgia, there is reason to be concerned that the disease could affect other plant species. Additional species of Lauraceae in the southeast include pondberry (*Lindera melissifolia* [Walt.] Blume) and pondspice (*Litsea aestivalis* [L.] Fernald), which are both listed as endangered or threatened plants. Other species in the Lauraceae are common components of forests in other areas of the United States and neighboring countries.