



Redbay Ambrosia Beetle & Laurel Wilt in Georgia: History and Summary of Activities - January 2007

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Redbay (*Persea borbonia*) mortality has now been detected in 15 counties in the coastal region (and all of the barrier islands) of Georgia. There were six counties confirmed to be infested last year, and this mortality has been linked to the non-native redbay ambrosia beetle (*Xyleborus glabratus*) and an associated fungus, *Ophiostoma* (anamorph = *Raffaelea*) sp. This fungus causes a wilt disease which has almost completely eliminated redbay in areas close to Savannah, and the disease has advanced at an alarming rate. Other developments associated with this disease outbreak are cause for even greater concern:

- ❖ The discovery by the GFC of sassafras as another host for the wilt disease in Liberty, McIntosh, and most recently Screven counties has been confirmed in lab tests (Fraedrich 2005, personal communication).
- ❖ A formal survey has been funded through the USDA Forest Service Forest Health Monitoring Program and began in November 2006. This in-depth survey could reveal clues as to how susceptible sassafras is to this insect and wilt disease. Assessing the fate of pondspice and pondberry also will be a priority (see below). The possibility that other ambrosia beetles species are vectoring the fungus also will be examined.
- ❖ A site in Effingham County was surveyed for the federally endangered pondberry (*Lindera melissifolia*), and the state threatened pondspice (*Litsea aestivalis*). Several pondspice plants were dead and found to have been attacked by another species of ambrosia beetle (*Xylosandrus compactus*), but the *Ophiostoma* fungus was present and the likely cause of the mortality (Fraedrich 2006). Pondspice in SC was found to have been killed similarly (Fraedrich 2005). Specimens of pondberry were also dead and found positive for *Ophiostoma* sp. (Fraedrich 2006).
- ❖ Outreach work continues with numerous cities, homeowner groups, State Department of Natural Resources staff, and concerned environmental groups.

Brief History in Georgia:

- ❖ Summer 2002 – GFC temporary employee, funded under APHIS' Exotic Bark Beetle Survey, caught an unknown ambrosia beetle near Port Wentworth.
 - Dr. Bob Rabaglia identified the specimen as *Xyleborus glabratus* and completed a threat assessment of the species (mostly unknown, but listed as a moderate risk).
- ❖ Summer 2004 – unexplained redbay mortality was reported in the Savannah/Chatham County area. Initial diagnosis (GFC) attributed this mortality to a combination of drought stress and the Asian ambrosia beetle (*Xylosandrus crassiusculus*) due to typical frass tubes being present on many samples.
 - Insects were later recovered from samples and sent to Dr. Rabaglia who confirmed the presence of *Xyleborus glabratus*.
- ❖ The Georgia Redbay Task Force was formed in July 2005 to bring industry, government and academia together to share information and further study the problem. Task Force participants include: Georgia Forestry Commission, USDA Forest Service – Southern

Research Station & Forest Health Protection, Animal & Plant Health Inspection Service, University of Georgia, Georgia Forestry Association, Industry – Scott Cameron (IP) and Rob Hicks (Plum Creek), US Fish & Wildlife Service, Georgia Department of Natural Resources, The Nature Conservancy, National Park Service, and US Department of Defense (Fort Stewart).

- ❖ Currently, GFC is partnering with Dr. Rebecca Effler (UGA, Forest Entomologist stationed on Sapelo Island) in trials of 2 preventative insecticides: bifenthrin (Onyx®) applied as a prophylactic bark spray, and imidacloprid (Merit®) as a soil injected systemic insecticide.
- ❖ A suppression effort on Jekyll Island, cutting and removing infested redbay, took place in mid-December 2006 and limited insecticide treatments on significant trees are being tested for disease prevention.