DISJUNCT POPULATION OF REDBAY AMBROSIA BEETLE AND LAUREL WILT DISEASE DISCOVERED IN MISSISSIPPI

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ABSTRACT

Laurel wilt is an aggressive, non-native vascular wilt disease of redbay trees (*Persea borbonia*), sassafras (*Sassafras albidum*), and other plants within the Lauraceae family. The laurel wilt pathogen, (*Raffaelea lauricola*), is vectored by the redbay ambrosia beetle (*Xyleborus glabratus*), which was first detected in Georgia in 2002. Since then, laurel wilt disease has caused severe mortality to redbay trees in Georgia, Florida, and South Carolina.

In June of 2009, a landowner in Gautier, MS, contacted the Jackson County, Mississippi Extension Service and reported dead redbay trees on his property. Signs and symptoms identical to those reported for laurel wilt along the Atlantic coast were observed at the home and several other sites in the surrounding area. In July 2009, chips of discolored sapwood were collected from three symptomatic redbay trees in Jackson County, MS. Molecular confirmation of the identity of the fungus was completed using 18S sequences of rDNA and exhibited 100 percent homology to previously submitted isolates of *R. lauricola*. Redbay ambrosia beetle was also positively identified at the site.

This discovery of a disjunct infestation of laurel wilt disease in Mississippi is at least a decade ahead of previous predictions, and no records of laurel wilt have been reported from western Georgia, all of Alabama, or the Panhandle of Florida. At this time, the only confirmed infested locations in Mississippi are in Jackson County, along the Interstate 10 corridor and the Pascagoula River drainage. The mode of introduction is still unknown.

Twenty-six Lindgren funnel traps baited with phoebe and manuka oils were installed in the six southeasternmost counties of Mississippi and monitored bi-weekly from July to November 2009. Peak beetle capture occurred in early October, slightly later than reported in other parts of the U.S. The number of beetles captured per trap per day in Mississippi during 2009 ranged from 0.02 to 1.22. Previous reports of infestations in Georgia and South Carolina reported that “older infestations” usually yielded 0.04 to 0.12 beetles/trap/day, while “newer infestations” yielded 4 to 7 beetles/trap/day. This, along with the lack of fallen, decomposed redbays in Mississippi, seems to indicate that the Mississippi infestation began 2 to 3 years ago.