


Disease Notes

First Report of Laurel Wilt Disease Caused by *Raffaelea lauricola* on Silk Bay in Florida

M. A. Hughes, Department of Plant Pathology, University of Florida, Gainesville 32611; **K. Shin**, School of Forest Resources and Conservation, University of Florida, Gainesville 32611; **J. Eickwort**, Florida Forest Service, Forest Health Section, Gainesville 32608; and **J. A. Smith**, School of Forest Resources and Conservation, University of Florida, Gainesville 32611

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Silk bay (*Persea humilis* Nash) is a member of the Lauraceae precinctive to the scrub forests of central and southern Florida and a sister species to the primary laurel wilt host, redbay (*P. borbonia* (L.) Spreng), which is generally not found in these ecosystems. In November 2011, observations of **silk bay** mortality near Lake Placid in Highlands County, FL, were reported to Florida Forest Service agents. A subsequent visit to roadside and homeowners' properties in the area revealed many dead and dying silkbays with characteristic laurel wilt symptoms, including wilted crowns with brown persistent foliage, frass accumulated at tree bases, sapwood with dark streaking, and ambrosia beetle entrance holes (1). Twig samples were taken and later confirmed as **silk bay** by the Florida Division of Plant Industry in Gainesville. Trunk samples were taken from four trees for fungal isolation. Stem sections with vascular discoloration were surface disinfested for 30 s in a 5% sodium hypochlorite solution and then plated onto cycloheximide streptomycin malt extract agar (CSMA) (1). All sapwood pieces from the four samples resulted in the same cream-buff submerged fungal growth characteristic of the laurel wilt pathogen *Raffaelea lauricola* T. C. Harr., Fraedrich & Aghayeva (2). DNA was extracted from a single-spore derived isolate, PL1389, and an 18S small subunit ribosomal RNA gene sequence was generated with primers NS1 and NS4, resulting in a 1,031-bp amplicon (3). A BLASTn search showed identical homology to *R. lauricola* strains PL159 and PL382 (GenBank Accessions No. EU257806 and JF797171, respectively, 100% similarity, e-value 0.0, and a total score of 1,982). The sequence was deposited into GenBank and assigned the accession No. JQ247569. In December 2011, a spore suspension was made by flooding a PL1389 culture plate with 2 ml of sterile water, collecting by pipette, and quantification and adjusting to 3.25×10^6 spores/ml by hemacytometer. Pathogenicity was tested on potted plants in a growth chamber experiment. Five **silk bays** and three redbays were drill-wounded with a 3/32" drill bit and inoculated with 20 μ l of the spore suspension. Three **silk bays** and two redbays served as water-inoculated controls. Within 5 weeks, all inoculated plants displayed the wilt and vascular discoloration characteristic of laurel wilt disease, while all water-inoculated controls remained healthy. Sapwood samples from all plants were plated onto the same CSMA media. *R. lauricola* was later recovered only from the wilted plants inoculated with PL1389, while no fungal growth was recovered from the asymptomatic water-inoculated controls. **Silk bay**, which plays a significant role in the limited scrub ecosystems of Florida, has now become another host in the laurel wilt epidemic, with its implications upon the scrub forests yet to be seen.

References: (1) S. W. Fraedrich et al. *Plant Dis.* 92:215, 2008. (2) T. C. Harrington et al. *Mycotaxon* 104:399, 2008. (3) M. A. Innis et al. *PCR Protocols: A Guide to Methods and Applications*. Academic Press. San Diego, CA, 1990.