

plant disease

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Disease Notes

First Report of Laurel Wilt Disease Caused by *Raffaelea lauricola* on Sassafras in Florida and South Carolina

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Laurel wilt disease, caused by *Raffaelea lauricola* (T.C. Harr., Fraedrich & Aghayeva sp. nov.), which is a fungal symbiont of the nonnative redbay ambrosia beetle (*Xyleborus glabratus* Eichhoff), has caused widespread mortality of native redbay (*Persea borbonia* (L.) Spreng) in Georgia, South Carolina, and Florida since 2002. The disease has been noted on other species in the Lauraceae including sassafras in Georgia (1), and more recently, on **avocado** and camphor in Florida (4). Since 2005, **wilted** shoots, branch dieback, and tree death have been observed in sassafras trees (*Sassafras albidum* (L.) in Liberty, McIntosh, Chatham, Effingham, Bulloch, Evans, and Screven counties in Georgia; Bamberg, Beaufort, Charleston, Colleton, Hampton, and Orangeburg counties in South Carolina; and Putnam County in Florida. Symptomatic sassafras trees ranged from 1 to 12 m high and 2.5 to 25 cm in diameter at breast height. In contrast to redbay trees that retain **wilted** foliage, symptomatic sassafras defoliate rapidly as trees **wilt** and die. Multiple symptomatic ramets originating from a common root system have been observed. Removal of bark from stem and root sections from **wilted** trees revealed black-to-brownish staining in the sapwood, characteristic of **laurel wilt**. Wood chips from symptomatic areas of branches and roots were surface sterilized and plated on cycloheximide-streptomycin malt agar as previously described (1) and *R. lauricola* was routinely isolated. Small subunit (18S) sequences from rDNA were amplified by PCR and sequenced using primers NS1 and NS4 (3) for isolates from sassafras from Florida and South Carolina. BLASTn searches revealed homology to *Raffaelea* sp. C2203 (GenBank Accession No. EU123076, 100% similarity) described by Fraedrich et al. (1) from redbay and later named *R. lauricola* (2). The small subunit rDNA sequences for these isolates have been deposited into GenBank (<http://www.ncbi.nlm.nih.gov/Genbank/index.html>) and assigned Accession Nos. EU980448 (Florida) and GQ329704 (South Carolina). Koch's postulates have been completed with *R. lauricola* on this host previously (1). **Laurel wilt** on sassafras often was geographically isolated from other symptomatic hosts in Georgia and South Carolina and appears to occur on this host independently of proximity to redbay. Further studies to determine the epidemiology of **laurel wilt** on sassafras, potential resistance, and impact on sassafras life history and distribution are needed. Given the clonal nature of sassafras, the disease would appear to have the potential to move through roots of trees once established in a stand.

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. (4) J. A. Smith et al. *Plant Dis.* 93:198, 2009.

Cited by

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