

SUSCEPTIBILITY OF NATIVE AND FOREIGN SPECIES IN THE LAURACEAE AND OTHER FAMILIES TO LAUREL WILT



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Laurel Wilt Conference
Savannah, GA
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Camphor Tree, Shellman Bluff, GA (June, 2007)

Observations of Field Mortality Southeastern USA



Redbay, Hunting Island, SC



Sassafras, Oliver, GA



Pondberry, Clio, GA



Pondspice, Lady's Island, SC

Laboratory Assessments

Susceptibility of Native, Southeastern Species



Redbay; *Persea borbonia*



Swampbay; *Persea palustris*



Sassafras; *Sassafras albidum*



Pondberry; *Lindera melissifolia*

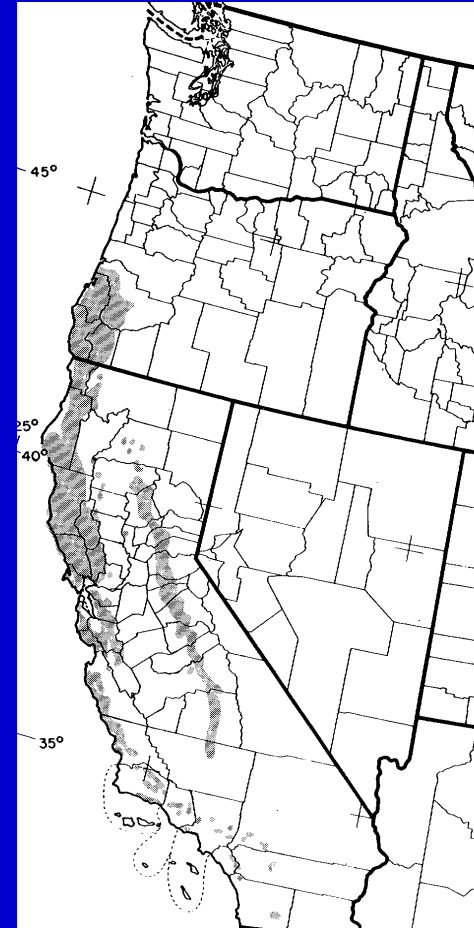


Pondspice; *Litsea aestivalis*



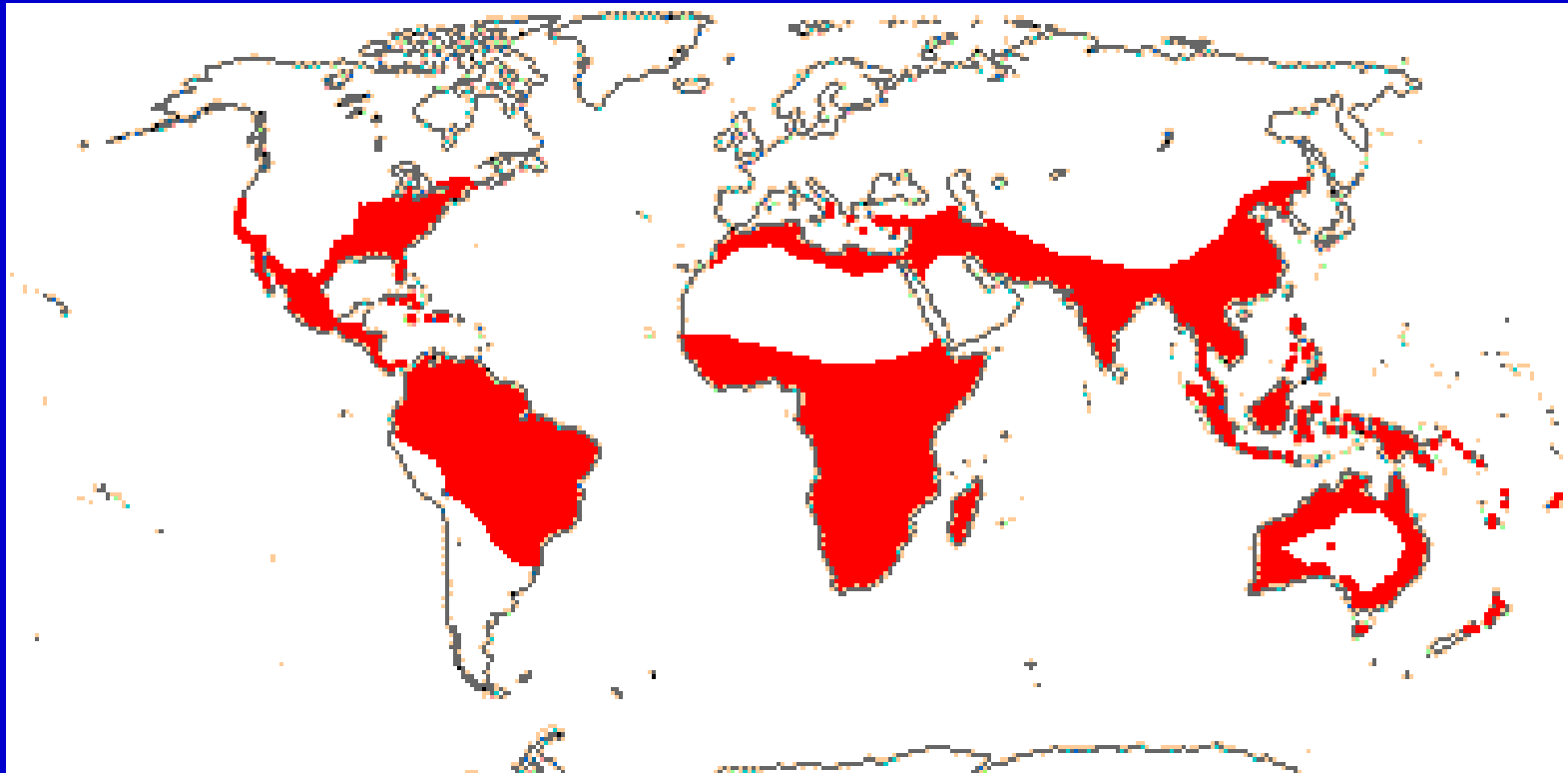
Spicebush; *Lindera benzoin*

Umbellularia californica (California bay)



Fraedrich, S. W. 2008. California laurel is susceptible to laurel wilt caused by *Raffaelea lauricola*. Plant Dis. 92:1469.

Distribution of species in the Lauraceae



Stevens, P. F. Angiosperm Phylogeny Website. Version 9, June 2008 .
<http://www.mobot.org/MOBOT/research/APweb/>.

Persea americana; Avocado

(Central America: Mexico, Guatemala, Honduras, etc)



R. lauricola inoculated plants

3 of 20 plants -- Wilted

12 of 20 plants -- Shoot/Foliage Dieback

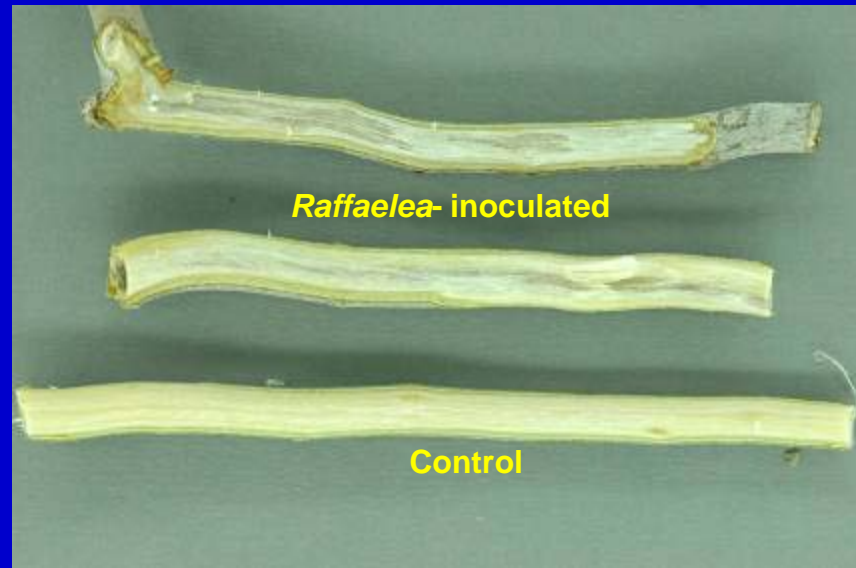
19 of 20 plants -- Vascular stain

19 of 20 plants – *R. lauricola* recovered

Fraedrich, et al. 2008 Plant Disease
92:215-224

Ocotea coriacea (Lancewood)

Distribution: South Florida



R. lauricola inoculated plants

0 of 10 plants -- Wilted

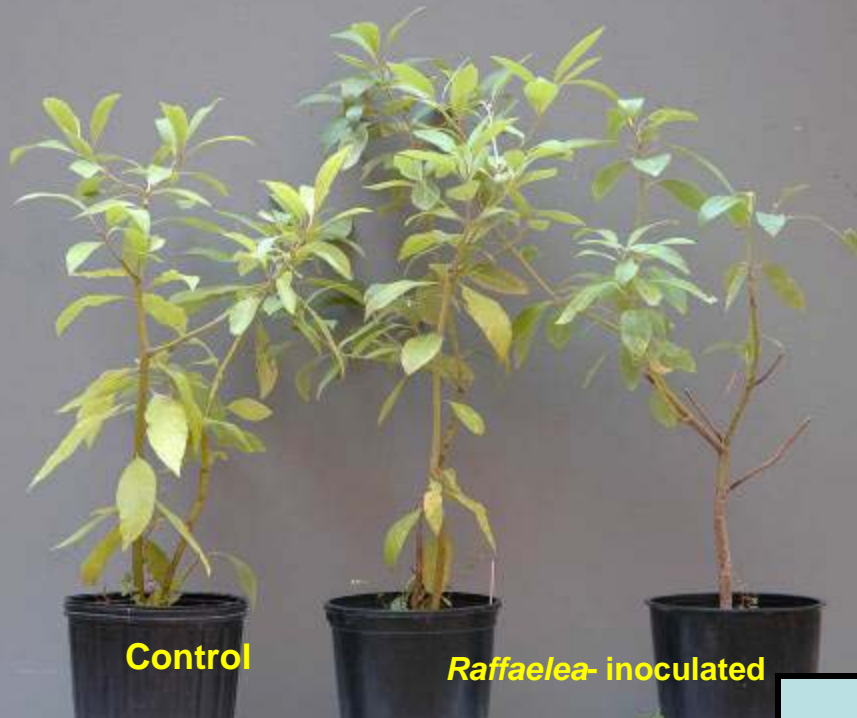
2 of 10 plants -- Shoot Dieback

10 of 10 plants -- Vascular stain

8 of 10 plants – *R. lauricola* recovered

Persea liebmannii (syn. *Persea pododenia*)

Distribution : Mexico, Guatemala



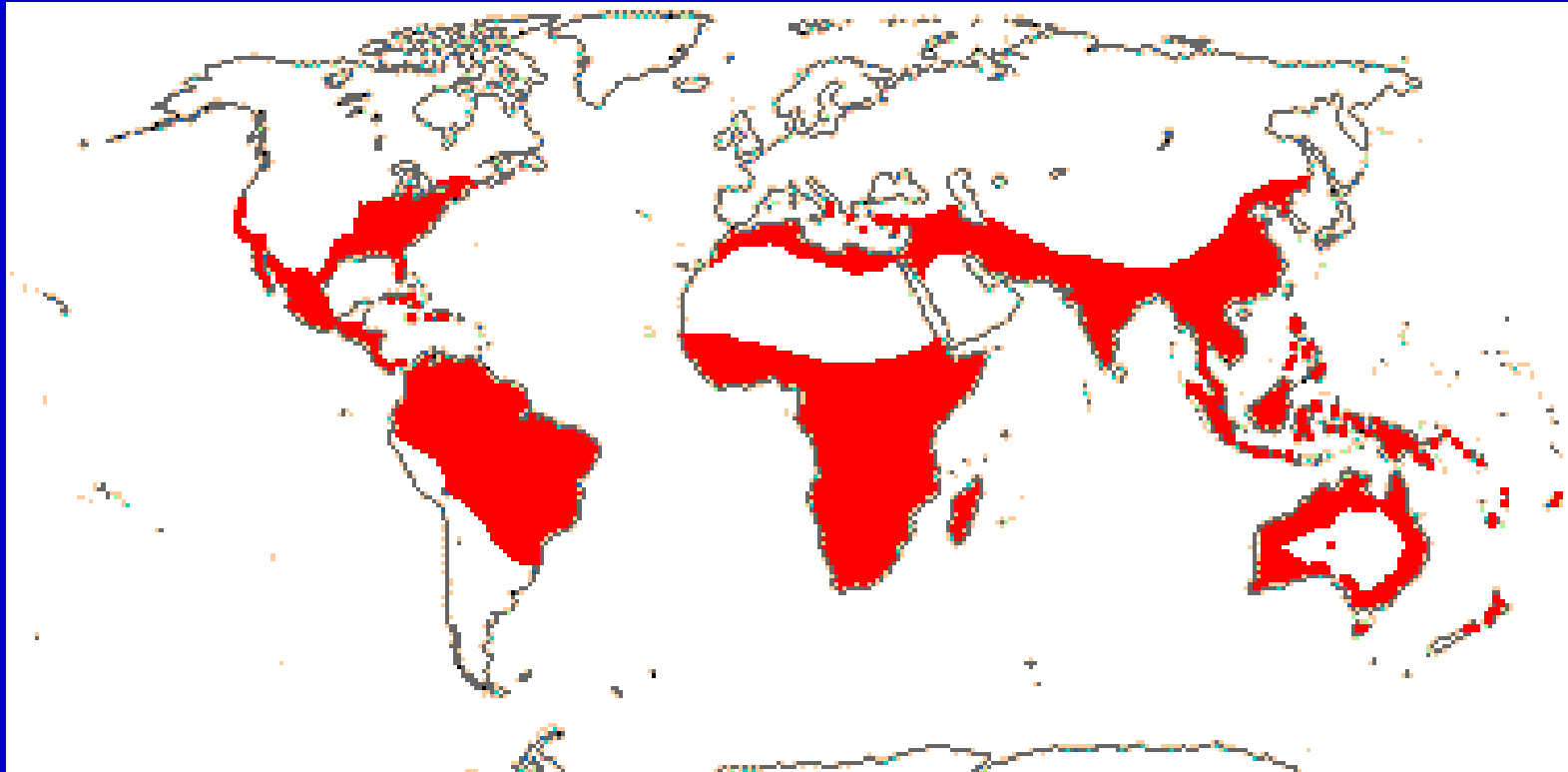
R. lauricola inoculated plants

0 of 10 plants -- Wilted

7 of 10 plants – Slight vascular stain

8 of 10 plants – *R. lauricola* recovered

Distribution of species in the Lauraceae



Stevens, P. F. Angiosperm Phylogeny Website. Version 9, June 2008 .
<http://www.mobot.org/MOBOT/research/APweb/>.

Laurus nobilis; Bay Laurel

(Distribution: Southern Europe)



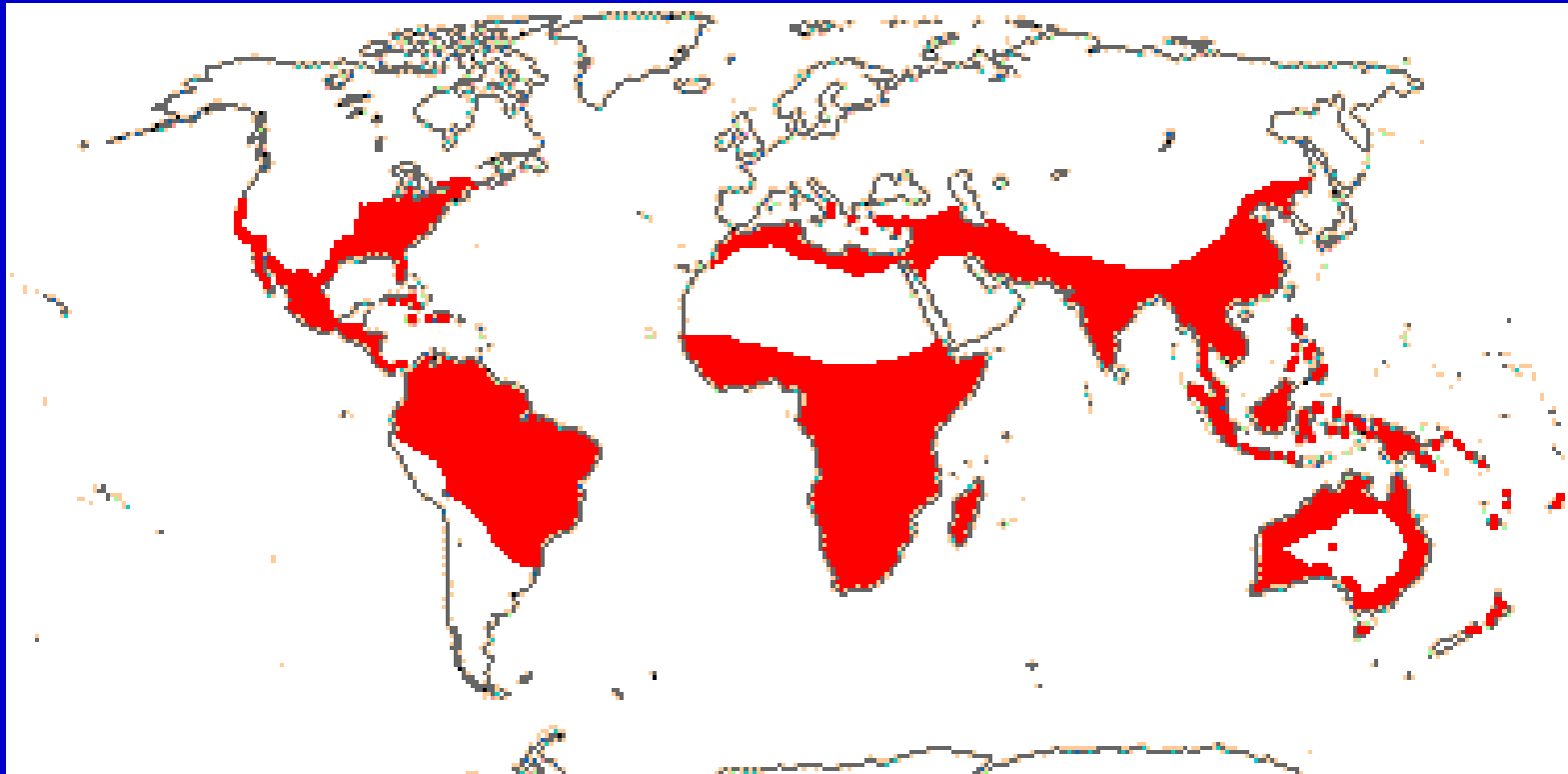
R. lauricola inoculated plants

0 of 10 plants -- Wilted

8 of 10 plants -- Vascular stain

7 of 10 plants – *R. lauricola* recovered

Distribution of species in the Lauraceae



Stevens, P. F. Angiosperm Phylogeny Website. Version 9, June 2008 .
<http://www.mobot.org/MOBOT/research/APweb/>.

Lindera strychnifolia

Japanese Evergreen Spicebush

(Distribution: China, Japan)



Control

Raffaelea-inoculated



Raffaelea-inoculated

Control

R. lauricola inoculated plants

4 of 10 plants -- Wilt

9 of 10 plants -- Vascular stain

9 of 10 plants – *R. lauricola* recovered

Cinnamomum jensenianum

Distribution: China



R. lauricola inoculated plants

0 of 10 plants -- Wilt

0 of 10 plants -- Vascular stain

9 of 10 plants – *R. lauricola* recovered

Machilus thunbergii

(Natural Distribution: China, Taiwan, Japan, Korea, etc),



R. lauricola inoculated plants

0 of 10 plants -- Wilt

0 of 10 plants -- Vascular stain

10 of 10 plants – *R. lauricola* recovered

***Cinnamomum camphora*; Camphor tree**

(Natural Distribution: China, Taiwan, Japan, Vietnam, etc),



(June, 2007)



(June, 2008)

Cinnamomum camphora; Camphor tree

(Natural Distribution: China, Taiwan, Japan, Vietnam, etc),



Jekyll Island, GA; June, 2008

***Cinnamomum camphora*; Camphor tree**

(Natural Distribution: China, Taiwan, Japan, Vietnam, etc),



Baker Co. Florida; August, 2008

Bud Mayfield

J. A. Smith, L. Mount, A. E. Mayfield, III, C. A. Bates, W. A. Lamborn, and S. W. Fraedrich. 2008. First Report of Laurel Wilt Disease Caused by *Raffaelea lauricola* on Camphor in Florida and Georgia. Plant Disease 93 (2): 198.

Cinnamomum camphora; Camphora tree

(Natural Distribution: China, Taiwan, Japan, Vietnam, etc),



Liothrips floridensis

R. lauricola inoculated plants

0 of 10 plants -- Wilt

6 of 10 plants -- Shoot Dieback

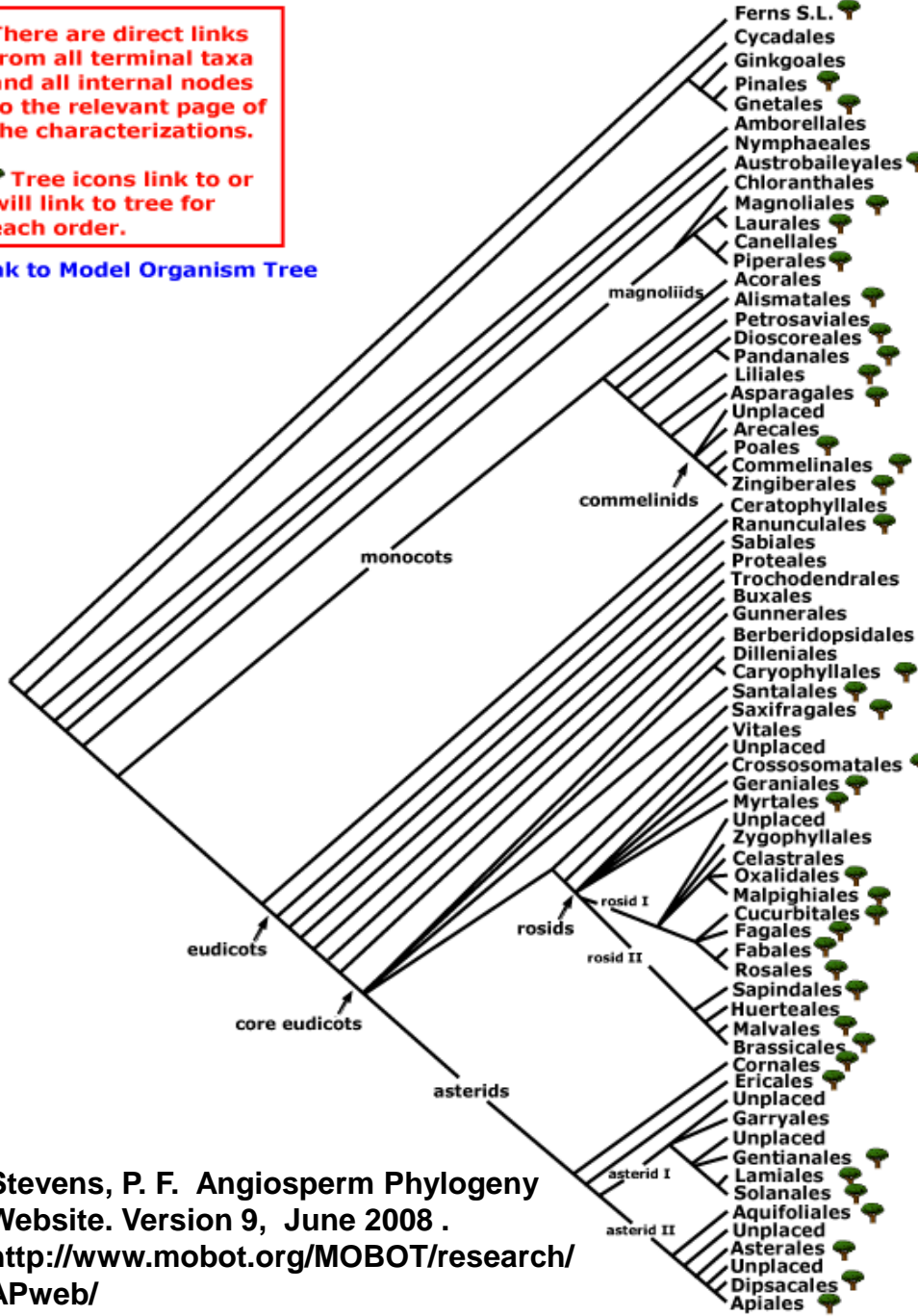
0 of 10 plants -- Vascular stain

3 of 10 plants – *R. lauricola* recovered

There are direct links from all terminal taxa and all internal nodes to the relevant page of the characterizations.

Tree icons link to or will link to tree for each order.

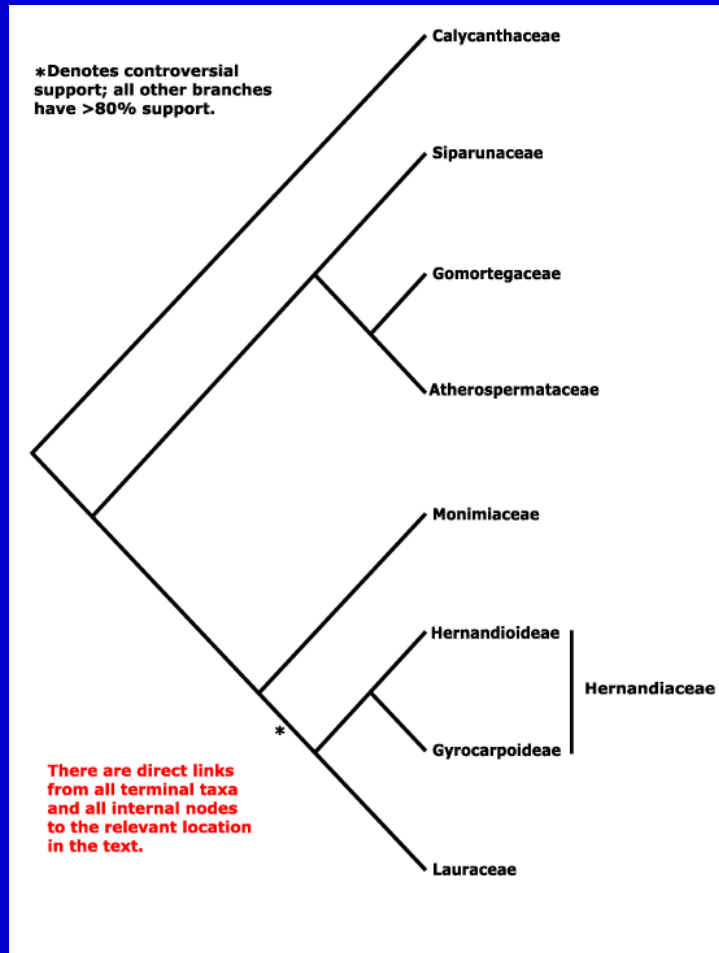
Link to Model Organism Tree



Stevens, P. F. Angiosperm Phylogeny Website. Version 9, June 2008 .
<http://www.mobot.org/MOBOT/research/APweb/>

Orders of Vascular Plants

Laurales



Calycanthaceae

Stevens, P. F. Angiosperm Phylogeny Website. Version 9, June 2008 . <http://www.mobot.org/MOBOT/research/APweb/>.

Calycanthus floridanus (Sweetshrub)

(Family Calycanthaceae; southeastern US)



R. lauricola inoculated plants

2 of 10 plants -- Wilt

6 of 10 plants -- Chlorosis

8 of 10 plants -- Vascular stain

6 of 10 plants – *R. lauricola* recovered

Cercis canadensis

Redbud

(Family Fabaceae; southeastern US)



R. lauricola inoculated plants

0 of 10 plants -- Wilt

7 of 10 plants -- Vascular stain

7 of 10 plants – *R. lauricola* recovered

Fate of stump sprouts



Redbay at the Horton House on Jekyll Island, GA
(November, 2006)



(October, 2008)



Stump sprouts



**Hunting Island State Park,
(November, 2007)**



Jekyll Island, GA (November, 2007)

- **How long will sprouts survive?**
- **How long will *R. lauricola* survive in stumps?**