

## HOST-PATHOGEN INTERACTION IN LEAVES OF LAUREL WILT HOSTS

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Laurel wilt is devastating to trees in the Lauraceae family. Since 2003, laurel wilt has caused death to over 30 percent of all the redbay (*Persea borbonia*) trees in the Southeastern United States. And in 2012, laurel wilt on Avocado (*P. americana* Miller) was discovered. The disease is caused by the fungus *Raffaelea lauricola* and is transmitted by its ambrosia beetle symbiont (*Xyleborus glabratus*) or root grafting. It has been reported that the accumulation of gel and tyloses induced by *R. lauricola* in the xylem was related to disease symptom development. However, movement of *R. lauricola* inside host trees has not been clearly elucidated. Whether the fungal pathogen moves to host leaves and reversibly move from leaves to other parts of a host tree is still unknown. We demonstrated that the fungus moves to tree leaves from stems, which is evidenced by the fact that the fungus was isolated from the leaves of stem-inoculated trees. At the same time, we also discovered that *R. lauricola* is able to be translocated from leaf to leaf and further to the entire tree. We isolated the fungus from non-inoculated leaves and induced systemic wilt in trees after inoculation of *R. lauricola* into tree leaves. This is the first report on bilateral movement of *R. lauricola* inside host trees. This study further sheds light on mechanisms of laurel wilt disease development.

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