The Search for the Origin of *Phytophthora ramorum*: A First Look in Yunnan Province, People's Republic of China

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Phytophthora ramorum, a previously unknown pathogen, was first seen in Europe on ornamental nursery stock in the early 1990's. It has since been implicated in the death of thousands of oaks (*Quercus agrifolia* and *Q. kelloggii*) and tanoaks (*Lithocarpus densiflorus*) in the western US. Although populations of *P. ramorum* in Europe and the US are largely distinct from one another, the organism is considered invasive in both locations with an operating hypothesis that it was introduced on both continents. It is possible that *P. ramorum* may have originated somewhere in Asia and was unknowingly transported on commercial or privately collected ornamental plants. Asia is a center of diversity for many genera of plants including those that are *P. ramorum* hosts, and more specifically, northern Yunnan Province in the People's Republic of China has an abundance of rhododendrons and azaleas that have been collected for at least 150 years by plant enthusiasts throughout the world. Furthermore, the climatic conditions in this part of the Province correlate well with those predicted to be favorable for *P. ramorum*. In August 2004 we traveled to Yunnan Province to begin collaboration with Chinese Academy of Forestry (CAF) scientists on projects investigating forest *Phytophthora* species in China with the more immediate goal of doing an initial survey specifically for the pathogen *P. ramorum*. We visited four forest sites where a variety of species of *P. ramorum* host genera occur and observed foliar and dieback symptoms similar to those associated with *P. ramorum* in the US and Europe. Symptomatic tissue was collected in the field and processed in the CAF pathology laboratory in Beijing. The samples we collected included leaves, branch tips, and small branches of *Quercus*, *Lithocarpus*, *Rhododendron*, *Lonicera*, and *Rosa* species. While *P. ramorum* was not immediately identified from these samples, the possibility that other *Phytophthora* species are involved in symptom development is currently under investigation. Further field work in Yunnan Province may include sampling additional hosts and forest types as well as soil and water sampling. Understanding the origin of a presumably introduced pathogen such as *P. ramorum* will help us better understand its biology, ecology, pathology, and genetics and may lead to management actions that minimize its impact.