

How Does *Phytophthora ramorum* Infect Rhododendron Leaves?¹

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Abstract

In most parts of Europe, rhododendron is the most important host for the spread of *Phytophthora ramorum*. To get a better knowledge of leaf infection and capacity for sporulation, infection studies were carried out. Detached leaves of the *Rhododendron* cultivar 'Catawbiense Grandiflorum' (CG) and the *R. insigne* hybrid 'Brigitte' (B) were inoculated with a zoospore suspension of a *P. ramorum* isolate of mating type A1 and A2, respectively. The CG developed much greater leaf necrosis than B (average after 55 days 106.5 mm² versus 0.12 mm²). The trichomes on the B leaves seemed to prevent the germ tubes from detecting the stomata. *Phytophthora ramorum* zoospore germ tubes invaded the leaf tissue via the stomata. Appressoria-like structures could be observed. On the infected leaves, new hyphae grew out of the stomata. Sporangia and chlamydospores that developed on the mycelium originated from the applied zoospores as well as on the hyphae growing out of the stomata after infection. They could be observed mainly on the necrotic leaf areas. Only single oospores developed within 12 days on the 'Brigitte' leaves.

The study was funded by the U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station. The detailed data from this study, and additional studies from K. McKeever, M. Elliott, and S.F. Shamoun, are published at <http://journals.oregondigital.org/ForestPhytophthora/article/view/3036/2721>.

¹ A version of this paper was presented at the Sudden Oak Death Fifth Science Symposium, June 19-22, 2012, Petaluma, California.

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