



# First Report of *Phytophthora ramorum* on Ornamental Plants in France

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C. Husson, C. Delatour, Pascal Frey, Benoit Marçais, C. Saurat, et al.. First Report of *Phytophthora ramorum* on Ornamental Plants in France. *Plant Disease*, 2007, 91 (10), pp.1359. 10.1094/PDIS-91-10-1359B . hal-02089812

**HAL Id: hal-02089812**

**<https://hal.science/hal-02089812>**

Submitted on 4 Apr 2019

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## First report of *Phytophthora ramorum* on Ornamental Plants in France

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In April 2002, *Phytophthora ramorum* was associated with twig blight and brown spots on *Rhododendron* leaves from a nursery in France. The isolate was identified by its morphological characters on V8 agar: slow growth, deciduous and semi-papillate sporangia, and abundant production of large chlamydospores (2). The identification was confirmed by ITS rDNA sequencing. During 2002, *P. ramorum* was also isolated from diseased *Viburnum tinus* and *V. x bodnantense* plants exhibiting symptoms of wilting and stem base discoloration. Subsequently, repeated surveys for *P. ramorum* were carried out in nurseries and in areas surrounding nurseries throughout France. Since 2004, a large range of known hosts were investigated in about 2000 nurseries and 200 other sites. *P. ramorum* was detected exclusively in nurseries at 29 locations in 2002, 9 in 2003, 23 in 2004, 17 in 2005 and 19 in 2006. *Rhododendron* and occasionally *V. tinus* were the major hosts. In addition, the pathogen was detected for the first time on *Pieris japonica* in two nurseries in 2005 and on *Camellia* sp. in one nursery in 2006, from plants exhibiting leaf and twig blight. In both cases, *P. ramorum* had already been detected on *Rhododendron* in the same nurseries. Most of the infected plants were found in Northwestern France (Bretagne and Pays-de-la-Loire) or came from this region., which is the main rhododendron-growing area in France. In some cases, plants were imported from Belgium or the Netherlands. *P. ramorum* was also detected in soil and pond water used for irrigation in a nursery by using a combination of baiting with *Rhododendron* leaves and PCR assay with species-specific primers (1). Overall, about 1% of the investigated nurseries were found positive each year and this ratio was stable over 2004-2006. To date, *P. ramorum* has not been detected outside of nurseries, although many surveys were conducted on the west coast of France, where the risk is considered to be high based on a favorable mild and humid climate and the presence of suitable hosts. In addition, 78 isolates of *P. ramorum* collected between 2002 and 2004 on *Rhododendron* and *V. tinus* were found to be of A1 mating type based on pairings with *P. cryptogea* A1 and A2 mating types (4).

(1) K. J. Hayden et al. Phytopathology 94:1075, 2004. (2) D. M. Rizzo et al. Plant Dis. 86:205, 2002. (3) S. Werres et al. Mycol. Res. 105:1155, 2001. (4) S. Werres and B. Zielke J. Plant Dis. Prot. 110:129, 2003.