

NEW DISEASE REPORT

First report of ramorum dieback (*Phytophthora ramorum*) on *Hamamelis virginiana* in the UKP. M. Giltrap^{a*}, A. J. Inman^a, V. C. Barton^a, A. V. Barnes^a, C. R. Lane^a, K. J. D. Hughes^a, J. Tomlinson^a, M. L. Dean^b and K. Izzard^c^aCentral Science Laboratory (CSL), Sand Hutton, York, YO41 1LZ; ^bPlant Health and Seeds Inspectorate (PHSI), National Assembly for Wales, Government Building, Spa Road East Llandrindod Wells, LD1 5HA; and ^cHorticultural Marketing Inspectorate, Cardiff Office, 1st Floor, Flynnon Las, The Orchards, Ty Glas Avenue Llanishen, Cardiff, CF14 5EZ, UK

Phytophthora ramorum causes sudden oak death on native *Lithocarpus* and *Quercus*, as well as damage on other shrubs and trees in California, USA. In Europe, it is recorded mainly as a dieback of *Rhododendron* (Ericaceae) and *Viburnum* (Caprifoliaceae). In the UK, the disease has also occurred on other ornamentals such as *Pieris* (Inman *et al.*, 2003), container-grown yew (*Taxus baccata*) (Lane *et al.*, 2004) and *Camellia* spp. (Beales *et al.*, 2004). Its potential threat to native trees has led to the introduction of emergency EC phytosanitary measures.

In August 2003, the PHSI collected a sample from a mature soil-grown specimen of *Hamamelis virginiana* (Virginian witch-hazel; Hamamelidaceae) from a large public garden in South Wales, where *P. ramorum* on rhododendron was under eradication. The symptoms on *Hamamelis* were brown lesions on the leaves, often on the leaf tip or edge, sometimes delineated by large and small leaf veins. Twigs were also affected, resulting in an aerial dieback. Stem and leaf sections were surface-decontaminated and sections from the leading edge of lesions transferred to a semiselective medium (P₅ARP[H]; Lane *et al.*, 2003). A *Phytophthora* species with characteristics typical of *P. ramorum* (Werres *et al.*, 2001) was consistently isolated. The cultures were slow-growing with weakly coraloid mycelium, numerous semipapillate, deciduous, sympodial sporangia and hyaline to light brown, large chlamydozoospores. The mating type was determined as A1 due to the formation of typical sexual structures when crossed with a known A2 mating type of *P. ramorum* from the USA. The ITS sequences were identical to those of *P. ramorum* on the NCBI GenBank database (accession no. AY540491). A positive TaqMan® PCR reaction was also obtained using primers and probes designed to identify *P. ramorum* (KJDH, unpublished data).

Pathogenicity of the isolate was confirmed by wound-inoculating healthy leaves of *Hamamelis virginiana* and *Rhododendron catawbiense* with mycelial plugs of the

Hamamelis isolate and incubating at room temperature (~20°C) on the laboratory bench for 6 days. Extensive lesions developed on the leaves and the pathogen was re-isolated from the leading edge of the *Hamamelis* lesions, thus completing Koch's postulates. Healthy leaves inoculated with agar alone, as negative controls, did not develop symptoms.

This is the first report of *P. ramorum* on *Hamamelis virginiana* in the UK. The plants were destroyed and measures were taken to eradicate the pathogen according to EC phytosanitary legislation and the EC was notified. Since this initial finding, there have been no further reports of *P. ramorum* on *Hamamelis virginiana* in the UK.

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References

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