

### Mini data sheet on *Raffaelea quercivora*

Added in 1999 - Deleted in 2002 - Added again in 2003 - Deleted in 2008

**Reasons for deletion:**

Insufficient data was available to conclude about the risks that this oak disease may present for the EPPO region. In particular, no data was available about the susceptibility of European species of oak. In 2008, *R. quercivora* was therefore removed from the EPPO Alert List.

*Raffaelea quercivora* (a lethal disease of oak in Japan)

Why	This disease came to our attention as high mortality of <i>Quercus</i> was reported in Japan. It was included on the EPPO Alert List in 1999 as 'fungal oak disease' and deleted in 2002 as no new information was available. However, because a possible causal agent has been identified ( <i>Raffaelea quercivora</i> sp. nov.) and a high mortality is still observed in Japan, the EPPO Secretariat decided to include it again in the Alert List.
Where	Japan (Honshu, Kyushu).
On which plants	<i>Q. serrata</i> and <i>Q. crispula</i> .
Damage	Since 1980, massive mortality of oak trees (more than 200,000 per year) has been observed in western coastal areas of Honshu. Mortality occurs during summer months. Prior to wilting, massive attacks by ambrosia beetles ( <i>Platypus quercivorus</i> - Coleoptera: Platypodidae) and xylem discoloration are observed. Recent studies have shown that the cause of oak tree mortality is the blockage of the ascent of xylem sap induced by the fungus which is transmitted by the insect <i>P. quercivorus</i> . Images can be viewed on the Internet at: <a href="http://cse.ffpri.affrc.go.jp/keiko/hp/oak.html">http://cse.ffpri.affrc.go.jp/keiko/hp/oak.html</a> <a href="http://cse.ffpri.affrc.go.jp/keiko/hp/oakwilting-overview.html">http://cse.ffpri.affrc.go.jp/keiko/hp/oakwilting-overview.html</a>
Possible identity	<i>Raffaelea quercivora</i> sp. nov. (an anamorphic Ascomycete) was isolated from discoloured sapwood, necrotic inner bark, beetle body surfaces and galleries. Inoculation tests confirmed its pathogenicity to <i>Q. acutissima</i> and <i>Q. crispula</i> .
Pathway	Unknown (plants for planting? wood?).
Possible risks	Oaks are important forest and amenity trees in the EPPO region. Although a putative causal agent has been identified data is still lacking on the etiology of this disease (as several factors might be included, climatic factors, insects, fungus). Data is also needed on the susceptibility of European oaks.
Source(s)	Ito, S.; Murata, M.; Yamada, T. (2003) Massive mortality of Fagaceous trees in Japan. Abstract of a paper presented at the APS Annual Meeting (Charlotte, US, 2003-08-09/13). <i>Phytopathology</i> 93(6), supplement, S102. Kinuura H, Kobayashi M (2006) Death of <i>Quercus crispula</i> by inoculation with adult <i>Platypus quercivorus</i> (Coleoptera: Platypodidae). <i>Applied Entomology and Zoology</i> 41(1), 123-128. <a href="http://www.jstage.jst.go.jp/article/aez/41/1/123/pdf">http://www.jstage.jst.go.jp/article/aez/41/1/123/pdf</a> Kobayashi M, Ueda A (2005) [Wilt disease of Fagaceae trees caused by <i>Platypus quercivorus</i> (Murayama) (Coleoptera: Platypodidae) and the associated fungus: aim is to clarify the damage factor.] <i>Journal of the Japanese Forest Society</i> 87(5), 435-450. (abst.) Kuroda, K. (1998) Determinant factor of oak mortality in Japan: xylem discoloration and dysfunction associated with beetle invasion and fungal infection. Abstracts of papers presented at the 7th International Congress of Plant Pathology, Edinburgh, GB, 1998-08-09/16 (Abst. 3.7.16). Kuroda K (2001) Responses of <i>Quercus</i> sapwood to infection with the pathogenic fungus of a new wilt disease vectored by the ambrosia beetle <i>Platypus quercivorus</i> . <i>Journal of Wood Science</i> 47, 425-429. <a href="http://www.2006.botanyconference.org/engine/search/index.php?func=detail&amp;aid=139&amp;GetID=8">http://www.2006.botanyconference.org/engine/search/index.php?func=detail&amp;aid=139&amp;GetID=8</a> Murata M, Yamada T, Matsuda Y, Ito S (2007) Discoloured and non-conductive sapwood among six <i>Fagaceae</i> species inoculated with <i>Raffaelea quercivora</i> . <i>Forest Pathology</i> 37(2), 73-79. INTERNET (last retrieved on 2007-04). APHIS-USDA website Davis ED, French S, Venette RC (2005) Mini risk assessment. <i>Platypus quercivorus</i> Murayama [Coleoptera: Platypodidae]. <a href="http://www.aphis.usda.gov/plant_health/plant_pest_info/pest_detection/downloads/pr/pquercivoruspra.pdf">http://www.aphis.usda.gov/plant_health/plant_pest_info/pest_detection/downloads/pr/pquercivoruspra.pdf</a> Tokyo University Forests website

Defence responses of oak sapwood in relation to wilt of oak trees in Japan by Yamada T & Ichihara Y. <http://www.uf.a.u-tokyo.ac.jp/research/yamada/nz.pdf>

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