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Pathogenicity of *Phytophthora* species isolated from declining European blackberry (*Rubus anglocandicans*) in the natural ecosystems of South Western Australia

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Abstract

European blackberry is a species complex within the *Rubus fruticosus* L. aggregate [1] and is one of the 20 Weeds of National Significance in Australia. Blackberry is the most widespread and abundant *Rubus* species in Western Australia (WA). A disease recorded as 'blackberry decline' has been observed in some blackberry sites in WA since 2006. In order to isolate and identify root-associated pathogen(s), a disease survey was conducted in the Manjimup-Pemberton region along the Warren and Donnelly river catchments in WA between 2010 and 2012 [2]. *Phytophthora amnicola*, *P*. *bilorbang* [3], *P*. *cryptogea, P. inundata, P. litoralis, P*. *multivora, P.* taxon personii*, P. thermophila, P. thermophila-amnicola* hybrid were recovered from decline, adjacent decline-free sites, streams and rivers. *P*. *cinnamomi* was only isolated from two non-decline sites. Of these ten species, *P. bilorbang* and *P. cryptogea* appeared to be more pathogenic than others in underbark inoculations using excised stems (primocanes) and *in planta* primocane inoculations in blackberry growing wild in native forest stands. In glasshouse trials, *P. bilorbang* and *P. cryptogea* were both confirmed to be pathogens of blackberry, and when co-inoculated disease impact was more severe, indicating a synergistic response. It was concluded that blackberry decline is a complex syndrome and *Phytophthora* species and in particular *P. bilorbang* and *P. cryptogea* together with temporary inundation are major biotic and abiotic factors, respectively contributing to blackberry decline [2].

References

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