Could *Phytophthora* species associated with declining populations of invasive European blackberry be used for biological control?

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**Summary** European blackberry (*Rubus fruticosus* agg.) is a thorny invasive shrub that grows primarily in southern areas of Australia where annual rainfall exceeds 700 mm. It readily invades land along water-courses, competing against native plants and pasture, and preventing access to the water by native fauna and livestock. *Phytophthora* species have been found to be associated with severe blackberry dieback in Western Australia. The objective of this study was to determine the biological control potential of two *Phytophthora* species by comparing their pathogenicity on blackberry and testing the specificity of the most promising species on a range of non-target plants. The two species, *P. bilorbang* and *P. pseudocryptogea*, have been found to occur naturally in soil in other states. Under glasshouse conditions, *P. pseudocryptogea*, grown on solid substrate and applied to the soil, killed or significantly reduced biomass of blackberry plants when exposed to simulated flooding events. In contrast, plants treated with *P. bilorbang* did not differ from untreated, control plants. In a series of subsequent experiments, *P. pseudocryptogea* was found to adversely affect a range of non-target species, including some *Acacia* and *Eucalyptus* species. On the basis on these results, it was decided not to proceed with field trials.

**Keywords** *Rubus fruticosus*, Weed of National Significance, inundative biocontrol, soil-borne disease.