Could *Phytophtora* 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 watercourses, competing against native plants and pasture, and preventing access to the water by native fauna and livestock. *Phytophtora* 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.