How bad is blackberry in south-west Australia?

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Summary *Rubus anglocandicans* A.Newton (Rosaceae) is Australia’s most widespread taxon within the *R. fruticosus* L. aggregate that is collectively referred to as ‘European blackberry’ (Evans and Weber 2003). In Western Australia it is also the most dominant of the six established *Rubus* species (Batchelor et al. unpublished) where it often forms impenetrable spiny thickets along waterways and adjacent bushland areas.

Although it seems evident that thick stands of blackberry within native bush must be having some impact upon the resident native species, the unwelcoming nature of these thickets has resulted in limited published data that actually measures this decline. Hancock et al. (1996) recognised that *Rubus* species are priority weeds for control in the south-west because they have taken on the role of keystone species changing the structure of entire communities. This poster summarises a study to establish a baseline for future long term studies that aim to monitor changes in the structure and function of blackberry-invaded ecosystems after several new strains of a blackberry rust, *Phragmidium violaceum* (Schultz) (Dodd and Lloyd 1992, Scott et al. 2002) are established.

We selected fairly pristine sites located within south-western Australia that were on the edge of an invading front of *R. anglocandicans*. The species richness and abundance of the native plant species on either side of the invading blackberry front were then compared to estimate the impact of this blackberry species upon native plant species.

During 2005, five sites in the Manjimup area were selected where blackberry plants occupied 65% of the available space within the infested areas. There were 46% fewer species of short native plants within the blackberry infestations than in the adjacent blackberry-free areas (5.4 ± SE of 2.09 versus 10.0 ± 1.95 species). During 2006, we are also sampling the insect fauna from these sites and will extend the flora surveys to three extra sites near Manjimup and two sites near Albany. All sites are in areas where there have been no releases of the new rust strains. Subsequent surveys will allow us to follow community changes within the blackberry infestations; however, if these are done after the new strains of rusts are widely established then it will not be possible to exclude the influence of other factors such as long term climate change. In 2007, we intend to randomly select half of these surveyed sites to establish the new strains of rust. The remaining sites will be left to act as control sites until the spores, which are air-borne and wind dispersed, naturally infect them.

In a separate experiment, we are also currently trialling methods of establishing the rust strains in the field and we are measuring the impact of the new rust strains upon the growth and reproductive output of the blackberry plants. These results will be presented elsewhere.

**Keywords** Blackberry, *Rubus anglocandicans*, biological control, environmental impact, Western Australia.

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**REFERENCES**


