

Predicting the potential distribution of the biological control agent blackberry leaf rust (*Phragmidium violaceum* (Schultz) Winter) and its impact on blackberry (*Rubus fruticosus* L. agg.) in Victoria, Australia

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Summary A model to predict the impact of blackberry rust (*Phragmidium violaceum*), the biological control agent for blackberry (*Rubus fruticosus* L. agg.) in Victoria was developed using GIS tools with data collected for the project in 1998/99. Tested with additional data collected in 2001/02, the model was found to be useful in predicting medium to high impact sites in this State. The outputs can assist landholders to decide whether or not to implement full chemical control against blackberry. The application of this methodology to predict the distribution and impact

of blackberry rust in other parts of Australia as well as for other biological control agents and their host weeds is discussed.

Keywords Blackberry rust, predicting weed distributions, biological control impact.

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The latest insect biocontrol introduction against *Parthenium hysterophorus* in Queensland

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Summary The latest biocontrol insect introduction against *Parthenium hysterophorus* in Queensland is *Carmentia ithacae*. Host specificity testing of this stem-boring Mexican clear-wing moth began at the Alan Fletcher Research Station (AFRS) in 1996, with the first field release made in September 1998. Up until the end of 2001 about 12,500 moths were released at 30 sites in Central and North Queensland. This agent has been recovered from the field only at irrigated parthenium nursery sites, but not in sufficient numbers to indicate establishment.

Nine insect species and two rust pathogens have been introduced since 1980, of which the majority

are established. These introductions, together with improvements in pasture management, have resulted in reasonably good control, depending on location and season. It is unlikely that further exploration in the Americas will produce any new candidates to supplement the pool of agents already present on parthenium in Queensland. Therefore a decision was made to discontinue the parthenium biocontrol program at AFRS at the end of 2001. Field collection, mass rearing and redistribution of biocontrol agents already established in the field are increasingly becoming the responsibility of Landcare groups in parthenium-infested areas.

Keywords *Carmentia ithacae*, field releases.