

THE NEW ZEALAND PLANT PROTECTION SOCIETY Inc.

RESEARCH SCHOLARSHIPS

This year there were two recipients of the scholarship.

Brendan Murphy, of Canterbury University (School of Forestry), is undertaking a PhD on the biological control of the *Eucalyptus* pest, *Paropsis charybdis*. Research focuses on a Tasmanian strain of the egg parasitoid *Enoggera nassau*. Study of approximately 20 paropsine species in Tasmania will be used to determine the effects of host oviposition styles and egg chorion structures on the effectiveness of the parasitoid. Fecundity of the beetle species will also be used as a risk assessment, predicting which species *E. nassau* could control if they establish in New Zealand. A paropsine phylogeny will be constructed to interpret these results and the biological attributes of the beetles.



Meredith McKay, a Masters student from the Plant and Microbial Sciences Department at Canterbury University, is looking at how invasion by exotic plants threatens New Zealand's native plant communities and may reduce native biodiversity. Concern for conservation of native biodiversity has lead ecologists to search for patterns and consistencies across many community types in order to build a predictive model of invasion. One model suggests that species richness may provide resistance to invasion. Recently focus has shifted to consider the functional roles of those species present, proposing that it may be the type and number of functional groups rather than species richness per se that confers resistance to invasion. By using existing data sets and conducting a glasshouse experiment and field work, she is addressing the question: Is the invasibility of a community related to species richness or functional group richness/composition or alternatively, is it simply related to productivity? She hopes that this work will provide a stronger understanding of invasibility in New Zealand and allow managers to better identify and target areas of greatest vulnerability for conservation action.

