

Management and control options for a newly invasive paropsine pest in New Zealand

Toni Withers ¹, [Andrew Pugh](#) ^{*1}, Tara Murray ², Saturo Kuwabara ²

¹ Scion, Forest Protection, 49 Sala Street, Whakarewarewa, Rotorua

² New Zealand School of Forestry, University of Canterbury, Private Bag 4800, Christchurch 8140, New Zealand

The Australian eucalypt defoliating beetle *Paropsisterna variicollis* (EVB – Eucalyptus Variegated Beetle) was detected in the Hawkes Bay in March 2016. It has since spread quickly to now inhabit much of the eastern and lower north island. Based on previous studies of paropsine beetles attacking eucalypts in Tasmania, this species is one of the worst the eucalypt growing industry here could have received. EVB damage has now been assessed twice in NZ Drylands Forest Initiative sites where 11 novel eucalypt species are being trialled for their potential in establishing a durable timber industry. Serious damage has been observed, particularly on *Eucalyptus bosistoana*, *E. tricarpa*, and *E. argophloia*. Although *E. camaldulensis* and *E. longifolia* sustained the greatest defoliation, this is being attributed to the Eucalyptus tortoise beetle, *Paropsis charybdis*. Also investigated was whether existing biological control agents present in NZ may be effective in controlling EVB. Unfortunately the only agent quantified, *Enoggera nassau*, parasitised only 1-3% of EVB egg batches last summer, significantly less than the 75% parasitism it can achieve on *P. charybdis* eggs. Clearly, urgent alternative pest management solutions are needed. Research collaboration with international taxonomists has revealed that there is a specialist larval parasitoid in Australia that could be sufficiently host specific to consider for release in NZ. However, as the parasitoid is univoltine it will not be totally effective against the multiple generations that EVB undergoes in the field. Additional management options, including insecticidal applications in the short term, and breeding for resistant eucalypt genotypes in the long-term, will most likely be required.

