***Nysius huttoni* on exported kiwifruit: the role of olfactory cues**

J. Giejsztowt, M.G. Hill, M-C. Nielsen, M.M. Davidson and R.C. Butler

Plant & Food Research, Private Bag 4704, Christchurch 8140, New Zealand

Corresponding author: justyna.giejsztowt@plantandfood.co.nz

Nysius huttoni (Hemiptera: Orsillidae; wheat bug) is endemic to New Zealand. It is occasionally intercepted in overseas markets on exported kiwifruit, jeopardising market access and leading to costly remedial processes (e.g. fumigation, re-export). Studies have shown that *N. huttoni* aggregate on weeds in orchard load-out areas and may gain access to kiwifruit whilst these are in wooden bins used for transport to the packhouse. This behaviour may be moderated by olfactory cues. The effect of olfactory cues released by kiwifruit and wooden bins (pallet wood) on the walking response of *N. huttoni* was tested in a Y-tube olfactometer over 4 months, using field-collected adults. *Nysius huttoni* collected in December showed no response to either of the odour cues tested. Those collected during January/February showed no response to pallet wood, but they exhibited avoidance behaviour when exposed to kiwifruit odour. *Nysius huttoni* collected during March emulated the January/February trends. These results suggest that aggregations of *N. huttoni* on wooden bins and kiwifruit during picking and transport may not be caused by olfactory cues, rather from the texture of kiwifruit or bins which afford *N. huttoni* an overwintering habitat, particularly if the response of individuals in flight is similar to those walking.

Ovarian development in *Arhopalus fesus* (Coleoptera: Cerambycidae)

A.M. Barrington and D.P. Logan

Plant & Food Research, Private Bag 92169, Auckland 1142, New Zealand

Corresponding author: anne.barrington@plantandfood.co.nz

Burnt pine longhorn (BPL) *Arhopalus fesus* (Mulsant) (Coleoptera: Cerambycidae) is an introduced species sometimes found in association with export logs and sawn timber. In this study oocyte development was assessed at a constant 15, 20 and 25°C, and behaviour was observed, with the aim of determining optimal mating age for laboratory-reared insects. At eclosion females were kept in 60 ml cups at 15, 20 and 25°C with a strip of cardboard as a resting site and frozen at 4-, 3- and 2-day intervals, respectively, for dissection. At 15, 20 and 25°C the first oocytes reached maximum length and were chorionated at ca 25, 12 and 10 days, respectively. Cardboard chewing was observed from ca 20, 10 and 8 days at 15, 20 and 25°C, respectively. Chewing behaviour may mimic the wild adult clearing its exit hole before leaving the decaying tree, and corresponds with the approximate period that earliest oocytes have reached maximum size. Based on these results, the optimum time for pairing laboratory-reared adults kept at 20°C is later than 10 days after eclosion. Subsequently adults reared at 20°C and paired when they were 14-15 days old mated and began egg-laying immediately.