

**TRAPPING OBSCURE MEALYBUG (*PSEUDOCOCCUS VIBURNI*) AND ITS NATURAL ENEMY *PSEUDAPHYCUS MACULIPENNIS* (HYMENOPTERA: ENCYRTIDAE) IN APPLE ORCHARDS**

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The obscure mealybug (*Pseudococcus viburni*) is a serious cosmopolitan pest of apples and many other crops. New options for managing this species in New Zealand include the release in 2001 of the host-specific parasitoid, *Pseudaphycus maculipennis*, and the recent identification of a synthetic sex pheromone. This study evaluated the efficacy of obscure mealybug sex pheromone in the field and serendipitously discovered that the parasitoid was also attracted to the baited traps. The presence of female *P. maculipennis* in baited (but not control) traps suggests recognition of the host female sex pheromone as a kairomone. Male *P. viburni* were found in all 11 Hawke's Bay orchards where traps were operated and one of three orchards in Nelson. Traps also recovered *P. maculipennis* from eight of these Hawke's Bay orchards and one Nelson orchard. The finding of kairomonal activity in the parasitoid has simplified monitoring to determine the post-introduction establishment of this biological control agent. The phenology of the two species evident in the traps found a mealybug generation without evident parasitoid catch in the middle of the winter. Future applications of mealybug sex pheromones for managing the pest and parasitoid are presented.

**EPG AS A TOOL FOR HOST PLANT SCREENING?**

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Glassy winged sharp shooter (GWSS), *Homalodisca coagulata* Say, is a xylem feeder that transmits the plant pathogenic bacteria, *Xylella fastidiosa*. It is native to the SE USA and NE Mexico, and is a recent invader of California, Hawaii and Tahiti. The New Zealand wine industry is threatened by the imminent arrival of this insect. Feeding patterns of an exotic xylem feeder in New Zealand, the spittlebug *Philaenus spumarius* (L.), which is also recorded as a vector of *X. fastidiosa*, were studied as a model insect for GWSS. Stylet penetration of adult spittlebugs on mahoe (*Melicactus ramiflorus* Forster) leaves was monitored by the electrical penetration graph (EPG) technique. Three distinctively different EPG waveforms (alphabetically labeled as A, B & C) representing different probing events were recorded. Production of C waveforms at the same time as the appearance of excreta from the monitored insects suggested that they were representing feeding activity. Similarities of spittlebug and previously published GWSS EPG waveforms show that EPG might be useful as a tool to predict the environmental host-range of new sap-sucking pests, such as GWSS, arriving in New Zealand.