## THE POTENTIAL OF *MECYSOLOBUS ERRO* (CURCULIONIDAE) AS A BIOLOGICAL CONTROL AGENT FOR BUDDLEIA

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Buddleia (*Buddleja davidii* Fr.) (Buddlejaceae) originates from central China. It is a significant weed of forestry plantations, where its rapid growth causes seedling mortality and/or significant growth losses. It is also a recognised weed in many protected natural areas of New Zealand. We have been evaluating within Invertebrate Quarantine the potential of *Mecysolobus erro* (Pascoe) to control buddleia, and its suitability for release in New Zealand. Feeding damage by *M. erro* limits the growth of buddleia plants. Adults feed on the terminal stem and fleshy leaf midribs and petioles, causing stem collapse and wilting at the feeding site. The larvae are stem borers that feed preferentially on the green tissue of young stems, causing them to collapse and die. The life cycle of *M. erro*, from egg to emergent adult, takes a mean of 51 days (SE=0.6) at 21°C. Adults are long-lived; many laboratory-reared adults have lived for three years. Females are synovigenic, laying 1-2 eggs daily, but only when suitable stems are available. Although stem borers are notoriously difficult to rear, we have developed a reasonably successful method using cut stems, and are investigating the host specificity of the weevil in relation to adult oviposition and feeding behaviour.

## BIOLOGY OF THE GALL WASP *NAMBOURIA XANTHOPS* (HYM.: PTEROMALIDAE) ON *EUCALYPTUS* IN NEW ZEALAND

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*Nambouria xanthops* Berry and Withers (Hymenoptera: Pteromalidae) is a gall-forming wasp that was first discovered in Auckland in 1999. It is probably endemic to Australia, but has been collected and described solely from the New Zealand population. First reared from conspicuous leaf galls on the narrow-leafed *Eucalyptus nicholii* (Myrtaceae), *N. xanthops* has also been found utilising glaucous-leafed *Eucalyptus glaucescens* and *Eucalyptus cinerea*, and recently the non-glaucous leafed *Eucalyptus viminalis*. These species are all within the subgenus *Symphyomyrtus*. Leaf samples were collected monthly for over a year from infested trees. The contents and morphometrics of all galls were ascertained. This revealed that *N. xanthops* has only one generation per annum, with adults emerging from galls in September and October. During this time females are observed to oviposit eggs singly into young foliage. Larvae reach a maximum size of 4.5 mm long and a fresh weight of 2.7 mg, within a gall of maximum dimensions up to 11 mm long and 1.5 mm wide. Adult female *N. xanthops* each contain up to 600 eggs. Furthermore, female *N. xanthops* emerged from protruding galls while male *N. xanthops* emerged from inconspicuous galls. Sexual dimorphism in gall morphology is uncommon in gall-inducing Pteromalidae.