Larval development of the plantain-feeding moth *Scopula rubraria* (Doubleday) (Lepidoptera: Geometridae)

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'Tonic' plantain has become a popular forage crop, but several Lepidoptera species not traditionally considered pests have caused significant damage in some stands. At least two species of looper caterpillars (Family Geometridae) commonly referred to as 'plantain moths', *Scopula rubraria* and *Epyaxa rosearia*, have been associated with serious defoliation. Both are thought to be New Zealand native species, with *S. rubraria* also present in Australia. Leafroller caterpillars (Family Tortricidae) *Merophyas leucaniana* (New Zealand native) and *M. divulsana* (Australian species) have also been found damaging plant crowns. *Scopula rubraria* were collected from a Manawatu plantain/grass sward. A laboratory colony was established at $17^{\circ}\text{C} \pm 1^{\circ}\text{C}$, and 20 larvae were reared individually on harvested 'Tonic' plantain foliage. Five larval instars for both sexes were observed; mean weights at the start of each instar were 0.04, 0.32, 1.64, 4.60 and 9.95 mg. Most larval growth occurred in the fifth instar with mean maximum weight being 35.65 mg. Mean durations of each instar were: 5.4, 4.8, 3.5, 4.2 and 10.1 days and the total larval stage was 28.0 days. Pupal duration averaged 11.8 days. Resultant adults began laying eggs 1-2 days after eclosion and these hatched in 7 days. The total length of the life cycle was approximately 49 days.

Suitability of four *Eucalyptus* host species for the development of *Thaumastocoris peregrinus* Carpintero and Dellapé

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Thaumastocoris peregrinus is a serious pest of *Eucalyptus* species. This invasive insect has established in Auckland, New Zealand, since it was first detected in March of 2012. Elsewhere in the world it causes enormous economic losses to the eucalypt forest industry but also damages urban trees in public spaces. Laboratory experiments were undertaken to evaluate the suitability of four *Eucalyptus* host species for the development of *T. peregrinus*, where three of these species are economically important for the forestry industry and the other is a popular amenity tree. The development of eggs, nymphs and adults was evaluated and fecundity calculated in excised leaf assays in the laboratory. As a result *E. nitens* and *E. nicholii* were identified as suitable host plants. On the other hand, the insect did not survive on either *E. fastigata* or *E. regnans*. Accordingly, this study contributes evidence that there may be lower risk to species within the subgenus *Monocalyptus* from *T. peregrinus*. As *E. regnans* and *E. fastigata* are two of valued eucalypt species grown for pulp in commercial forestry in New Zealand and worldwide, these are positive findings for the forestry sector.