

Dispersal behaviour of the parasitic wasp *Cotesia urabae* Austin and Allen (Hymenoptera: Braconidae): a recently introduced biocontrol agent to fight the gumleaf skeletoniser *Uraba lugens* Walker (Lepidoptera: Nolidae) in New Zealand

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Biological control programs provide a great opportunity to study the ecology of the introduced agent in its new environment. Since the species being introduced is not present in the new ecosystem, one of the most interesting aspects to study is its rate of dispersal. Estimates of the dispersal rate of the biocontrol agent in its new environment are vital to understanding its relative searching capacity, and to foresee the maximum area that could be covered in a parasitoids' release event. The objective of this experiment is to study the dispersal behaviour of one generation of the recently introduced biocontrol agent *Cotesia urabae*, to fight the gumleaf skeletoniser *Uraba lugens* in New Zealand. It was found that *C. urabae* dispersed up to 20 m away from the release point and was most successful parasitizing hosts located no more than 5 m from the release point. A high level of parasitism was observed at the epicentre itself (81.5%) which suggests that most of the females released stayed in the release tree. According to the dispersal model adjusted from the data collected, *Cotesia* would be able to disperse up to 53 m in one release event. Additionally, statistically significant differences ($P < 0.001$) were found between the different directions tested for dispersal. These results suggest that wind has a direct effect on the dispersal behaviour of *C. urabae* in the field, showing a clear downwind dispersal, in this case to NE and E directions.

