

## Activity and location of the bridal creeper leafhopper (*Zygina* sp.) during summer senescence of bridal creeper foliage in southern Victoria

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**Summary** Bridal creeper, *Asparagus asparagoides* (L.) W.Wight, is a highly invasive weed that poses serious threats to natural ecosystems and citrus orchards throughout southern Australia. The leafhopper (*Zygina* sp.), was the first biological control agent imported and was approved for release in 1999. Since then it has been released at over 120 bridal creeper infestations in Victoria. Leafhopper populations have built up to high numbers in some areas, but in other areas have achieved only low densities or not established. This may be partly due to differences in the length of time, parasitism and extent to which bridal creeper foliage senescences over summer. The leafhopper is active throughout the bridal creeper growing season but its summer whereabouts, when bridal creeper has senesced, is undetermined.

This study investigated the summer activity and location of leafhoppers. Field sites were located at Coolart Wetlands and Homestead on the Mornington Peninsula in southern Victoria, where leafhoppers were released in 1999 and have since become well established. Potted bridal creeper plants were placed at sites that were either densely or lightly shaded by overstorey vegetation to assess whether leafhoppers

would continue to remain active given a constant supply of green foliage. In addition, branch, leaf litter, soil and tuber samples were all assessed using three different methods to attempt to determine if leafhoppers occupy any of these sites when bridal creeper foliage senescences. Leafhoppers continued to feed on the potted bridal creeper foliage throughout the summer. In addition, more feeding damage occurred at densely shaded sites compared with lightly shaded sites. No leafhoppers were found in any branch, leaf litter, soil or tuber samples.

It is apparent that, given a constant supply of healthy bridal creeper, leafhoppers can remain active throughout the summer. It still remains a mystery, however, as to where leafhoppers go and what they do over summer when the bridal creeper dies back. A better understanding of the factors influencing leafhopper survival over summer will help to target efforts and resources towards sites more suitable for leafhopper releases and to redirect management at other sites toward more appropriate control methods.

**Keywords** Bridal creeper, leafhopper, *Zygina* sp., biological control, plant-insect interactions.