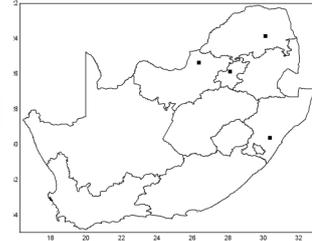


ARC-PPRI FACT SHEETS ON INVASIVE ALIEN PLANTS  
AND THEIR CONTROL IN SOUTH AFRICA

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The lacebug, *Carvalhotingis visenda* Drake and Hambleton, has been released as a biological control agent against cat's claw creeper (*Dolichandra unguis-cati* (L.) L.G. Lohmann) infestations in South Africa. So far, the insect has established well at a number of sites (see map), and is having a significant impact on the photosynthetic capacity of the plant. It is hoped that, in time, this will limit the vigour and spread of the weed.

#### DESCRIPTION

The adult lacebug is approximately 3 mm in length (i), and is easily identified by a single, raised black knob on each, otherwise transparent wing. Adults move about actively on the plant and, when disturbed, quickly fall from the leaves in defence. The nymphs (juveniles) are smaller (ii), mottled brown but paler than the adults, and move about in groups (>10 individuals) on the underside of leaves.



#### LIFE CYCLE

The adult female lays anything from 6-37 eggs in distinctive rows along the central vein on the underside of the leaves (iii). These are partially embedded in the leaf tissue, and covered with a black secretion for protection. Eggs from a particular group hatch at the same time, about 13 days after laying. Nymphs undergo 5 instars (growth stages) before becoming adults. Adults mature to become reproductive after about 12 days, and continue to reproduce throughout their lifespan which lasts, on average, about 208 days.



#### FEEDING DAMAGE

Both adults and nymphs feed by sucking the contents of leaf cells, resulting in characteristic white speckling on the leaves and, eventually, chlorosis (iv). The nymphs are less motile than the adults, and feed gregariously on the underside of the leaves. This feeding, and subsequent loss of chlorophyll, severely limits the ability of the plant to photosynthesize.



#### IMPACT ON CAT'S CLAW CREEPER

Despite its status as a weed, cat's claw creeper is still widely found in suburban gardens, so the potential for further spread is great. Studies have shown that the plant is susceptible to sustained pressure by insect herbivores. In some sites where the lacebugs have been released, 95% of the leaves showed feeding damage. This resulted in widespread leaf defoliation and stem growth point die-back which, with time, should reduce the nutrient reserves in the tuber bank. However, field studies indicate that even intense and sustained herbivore pressure may be slow to control cat's claw infestations, owing to tuber reserves. Nevertheless, it is anticipated that the lacebug, together with the other biocontrol agents released, will assist in managing current infestations, and also curtail the future spread of the weed.



environmental affairs

Department:  
Environmental Affairs  
REPUBLIC OF SOUTH AFRICA

