

Chilean flame creeper leaf beetle

The introduction of a leaf beetle, *Blaptea elguetai*, is being proposed as a biological control agent against Chilean flame creeper in New Zealand.

What is happening?

Weed biocontrol agents (insects, mites, plant fungi) are used to control exotic pest plants such as the Chilean flame creeper. Biocontrol agents won't eradicate the target weed, but the aim is to reduce infestations to acceptable levels. Rigorous testing ensures these agents don't harm native or desirable plant species.

The National Biocontrol Collective (a consortium of regional councils,

unitary authorities, and the Department of Conservation), must obtain approval from the Environmental Protection Authority (EPA) before releasing biocontrol agents.

Environment Southland proposes introducing a leaf-feeding beetle (*Blaptea elguetai*) as a biocontrol agent for Chilean flame creeper. A release application to the EPA

will evaluate the environmental, economic, and socio-cultural risks, costs and benefits associated with introducing the beetle into New Zealand. Manaaki Whenua - Landcare Research is the science provider managing the EPA application process on behalf of Environment Southland. We are seeking feedback on the application, prior to submission to the EPA.



▲ Left to right: Typical climbing growth of Chilean flame creeper covering tree-tops; close-up of flowers and leaves (Images provided by Manaaki Whenua); records of Chilean flame creeper (DOC Bioweb and Weed App data as at mid-Jan 2024).

Why is Chilean flame creeper a pest?

Chilean flame creeper (*Tropaeolum speciosum*) is native to Chile and Argentina. It is an environmental weed in New Zealand, particularly in Southland, Otago, and Canterbury. It is also present in lower parts of the North Island, and becoming a problem

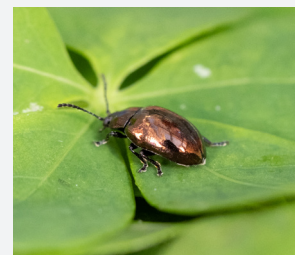
weed in Manawatū-Whanganui. Chilean flame creeper is a vigorous climbing plant that thrives in full sun. It grows high into tree canopies, blocking sunlight for plants below and inhibiting their growth and seedling establishment. Chilean flame creeper

can reproduce both vegetatively and by bird-dispersed seeds. It is difficult to control by chemical and mechanical methods.

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The Chilean flame creeper leaf beetle is a natural enemy of Chilean flame creeper in its native range of Chile. Adults and larvae of the beetle feed on the leaves and, when available, the flowers of Chilean flame creeper, reducing plant vigour and potentially seed formation.

► *Typical feeding damage by the Chilean flame creeper beetle on its host plant (left); adult (top right); larva (bottom right) (images provided by Manaaki Whenua).*



Will it pose a threat to other valued plants?

Testing was conducted to assess whether the Chilean flame creeper leaf beetle could be a risk to valued plant species in New Zealand. Testing was done on plant species that are closely related to Chilean flame creeper because they're more likely to share similarities, making them the most likely non-target hosts if the beetle was released. Several non-target crop plants were also tested in the distantly related Brassica genus, because of their economic importance in New Zealand. The results indicated that the Chilean flame creeper beetle specifically targets the genus *Tropaeolum*.

In addition to Chilean flame creeper, there are two naturalised exotic *Tropaeolum* plant species in New Zealand: garden nasturtium (*T. majus*) which is commonly grown as a companion plant in home vegetable gardens, and ladies' legs (*T. pentaphyllum*) which is grown as an

ornamental flower. Larval feeding on these two species during testing was significantly less when compared to feeding on Chilean flame creeper.

For gardening enthusiasts, the spread of the beetle into their gardens could be managed using insecticides. Both garden nasturtium and ladies' legs have escaped gardens and have formed populations in the wild, having the potential to become invasive. Establishment of the beetle in these situations would be beneficial in helping to keep these species in check.

In testing the distantly related Brassica genus, very limited feeding and larval development occurred on Pak choi (*Brassica chinensis*), indicating they're highly unlikely to thrive on these plants. To confirm this conclusion, field surveys of the beetle in Chile were conducted which found no evidence of attack by the Chilean flame creeper beetle on Brassica crops or wild

plants. Literature searches found no association of the beetle with any Brassica crops cultivated in the native range. This combination of evidence indicates it is highly improbable that the Chilean flame creeper beetle will use Brassica species as host plants, should it be released into the New Zealand environment.

You can find more information about the Chilean flame creeper and host range testing of the leaf beetle here:

<https://bit.ly/3AXUskU>

Have your say

We value your feedback, questions, and concerns regarding the proposed release of the biocontrol agent for the Chilean flame creeper, so these can be included in the application.

Please share your feedback online at es.govt.nz/biocontrol-feedback.

You will also have opportunity to submit feedback to the EPA during its public consultation process.

