Environmental Protection Authority
Te Mana Rauhī Taiao

APPLICATION SUMMARY

Application organisms	*Freudeita* cf *cupripennis*
Purpose	To release the moth plant beetle *Freudeita* cf *cupripennis* as a biocontrol agent for moth plant, *Araujia hortorum*.
Application number	APP203667
Application type	Notified, Non-GM import or for release, Full Release
Applicant	Waikato Regional Council
Date formally received	17 January 2019

This is an application to introduce the root-feeding moth plant beetle *Freudeita* cf *cupripennis* (Chrysomelidae) as a control agent for the weed moth plant (*Araujia hortorum*).

Moth plant is widely naturalised in New Zealand from Nelson and Marlborough northwards, and is abundant north of Tauranga. It is considered a significant threat to conservation values and urban environments, and is already considered one of the most dangerous weeds in Auckland and Northland. Moth plant is a tough, perennial climber from South America and is an emerging weed in several regions of the world. It can grow up trees to reach over 5 metres tall, and forms a heavy mass of foliage that can break down underlying trees. The mass shades and kills underlying foliage. Moth plant grows equally well creeping over the ground, shading out low-stature vegetation such as regenerating seedlings.

This weed adversely affects the health of forest margins, as well as many vulnerable habitats with smaller shrubs and herbs (Figure 1). It is a significant threat to the integrity of reserved land managed by the Department of Conservation (DOC) and local authorities. Moth plant is also a hated weed in the urban environment in northern New Zealand. It straggles over backyard fences, walls and power poles and has to be controlled. The latex sap from broken stems can cause skin burns, and it has caused poisoning of humans in New Zealand. It is also an issue in orchard shelterbelts.

Spraying this vine can result in unacceptable damage to underlying vegetation on land reserved for conservation. The options available to weed managers are therefore limited. Treatment by hand and collection of seed pods is viable where volunteers protect land of high local importance, but these methods quickly become impractical for the protection of biodiversity values nationwide. Biological control is the only sustainable option if the damage caused by this weed is to be contained.

Introduced natural enemies must be safe to import if this weed management tactic is to be environmentally acceptable. Significant adverse environmental or economic effects would occur if

feeding in the roots by beetle larvae caused significant damage to valued non-target plants, whether native or introduced. The beetle has only been recorded from South America.

Tests conducted in the laboratory to determine the host range of the beetle confirmed that it can only develop on plants belonging to the same sub-tribe as moth plant. If the beetle was released in New Zealand, these tests suggest that damage to the ornamental plant tweedia (*Oxypetalum caeruleum*), which is occasionally grown in New Zealand gardens, cannot be ruled out. Three *Parsonsia* spp. are the only New Zealand native plants in the same family as moth plant, but they belong to a different sub-family and so are not closely related. One of these was chosen for testing to represent the genus, and was not attacked by the moth plant beetle. No other valued plants are at risk. The application considers other environmental risks of introduction, but none are considered to be significant.

Figure 1: Moth plant foliage overtopping shrubs next to a wetland (photo credit: JJ Dymock, Northland Regional Council)