



SUBMISSION TO

The Environmental Protection Authority
Te Mana Rauhi Taiao

ON THE

Application to release the moth plant beetle
Freudeita cf cupripennis
as a biocontrol agent for moth plant,
Araujia hortorum

APP203667

March 2019

Prepared by Jacqui Knight

on behalf of the

Moths and Butterflies of New Zealand Trust

This is a submission from the Moths and Butterflies of New Zealand Trust to the EPA on the application from Waikato Regional Council to release the moth plant beetle *Freudeita cf cupripennis*, as a biocontrol agent for moth plant, *Araujia hortorum*.

HISTORY OF OUR ORGANISATION

1. The Moths and Butterflies of New Zealand Trust was formerly the Monarch Butterfly New Zealand Trust. The name change was approved by members at our Annual General Meeting in April 2013.
2. Our organisation is based in Auckland. Current officeholders are trustees Glenn Johnstone (Auckland, Chair), Jacqui Knight (Auckland, Secretary), Mark Bateman (Auckland), Joan Fairhall (Westland), Kathryn McIntyre (Northland), Maurice Mehlhopt (Auckland) and Hugh Smith (Bay of Plenty), as well as Carol Stensness, the treasurer (Northland).
3. The trust was established to protect and enhance the overwintering site and habitat of the monarch butterfly (*Danaus plexippus*) (kahuku) at Butterfly Bay in the Far North of NZ, and in so doing raise public awareness of NZ's endemic butterflies and of the need to appreciate our biodiversity and conservation measures. It was initially intended that the organisation would be a local action group but so great was the interest from people all over NZ about the apparent decline in numbers of butterflies that the members elected to change the objects in the deed of trust. This change came into effect in the middle of 2007.
4. Membership numbers have grown since the group's inception so that there are now some 700+ members and followers all over the country, as well as several overseas. Receivers of our email bulletins number nearly 8,000. Many of our members are keen lepidopterists, raising butterflies and moths in their backyard as a hobby. While the most commonly raised butterfly is the monarch, some of our members have a very wide knowledge and practical experience in raising other species of NZ butterflies and moths.
5. We publish four magazines each year to help and educate members and others with an interest in Lepidoptera. We work with entomologists and organisations such as DOC, Forest & Bird, and local government to ensure the latest information is available on the natural world both here in NZ and overseas. We encourage environmental educators by publishing resources for schools/ teachers and fulfilling public speaking requests, displays and exhibitions. Our website has grown hugely and is recognised as an excellent resource in this regard, as is our social media presence.

OUR OBJECTIVES

6. The objects of the trust are:
 - a. to raise public awareness and increase biodiversity within NZ for the benefit of present and future New Zealanders;
 - b. to maintain, protect and increase biodiversity within NZ, so that the natural habitat of Lepidoptera species are protected and enhanced;
 - c. to increase opportunities for members of communities and visitors to NZ to enjoy and experience Lepidoptera species as part of the natural environment;
 - d. to enable research groups and individuals to carry out research and education projects relevant to the Trust's objects;

- e. to liaise with groups with similar objectives;
- f. to seek funding support for any of the objectives of the Trust.

WHY ARE BUTTERFLIES (AND MOTHS) IMPORTANT?

7. Butterflies are a part of the great outdoors: butterflies basking in the morning sun, fluttering brightly over a stream in the bush or probing garden flowers for nectar. Butterflies offer a colourful and exciting way to share some of the intricacies of nature with children. With their large, bright wings and lazy flight they are easy to see, exhibiting interesting behaviours and activity on warm and sunny days.
8. Butterflies, especially the monarch, are indicators of the health of our environment. While we may not observe a lack of dragonflies, bees or spiders in our garden Lepidoptera species, with their large, often colourful wings – or the lack of them – are noticeable. When MBNZT engages with the public at exhibitions and displays we frequently hear comments as to how people remember butterflies from their childhood that they are not experiencing today, such as the red admiral and the blue butterflies.
9. Like everything in the natural world, insects are part of the food chain and a very important source of protein for our birdlife. By encouraging butterflies into our gardens and habitats we are providing more food for our bird species.
10. Lepidoptera and other insects are frequently overlooked in gardening and planning wild spaces today. Butterflies, for example, don't just need host plants but need shelter and nectar plants for their survival. The most successful of flowering plants are often seen as 'weeds' because of their very success. While it is accepted that these plants can become problems for government, landcare groups and the like, while encouraging their removal we should replace them with similar plants that offer nectar for our insects and birds.

APPLICATION

11. Moth plant is indeed a pest plant in much of the North Island. It has been a pest of urban areas for at least 70 years. The writer used to use it when her swan plants were overloaded with monarch caterpillars, by taking surplus larvae along railway tracks until she found a moth vine, leaving the caterpillars there. Today, I am more likely to be found removing moth plant where I find it in gardens or wasteland in Blockhouse Bay, where tenants and householders decline to remove it or are oblivious to what is growing around them.
12. NZ is changing with the many people from overseas settling here. Many of our new immigrants come from densely populated urban areas such as Hong Kong, Manila and Mumbai. As well as the difficulty of communication in many cases, they do not have the understanding of NZ's unique biota and how it needs to be protected. More education about noxious weeds and how important it is to remove them needs to be undertaken by the unitary authorities.
13. Swan plant and having monarch butterflies in NZ gardens is one of the rites of passage of being a Kiwi. It's part of being a New Zealander. The main habitat of the monarch is urban and suburban gardens and it's our largest and most common butterfly. The monarch is very human-friendly. People welcome monarchs into their gardens with the simple act of planting their larval food – milkweed species such as swan plants – and then enjoy watching their amazing

journey through metamorphosis. While they are not native to NZ the swan plant (*Gomphocarpus* spp.) and its American relatives, *Asclepias* spp, need to be protected at all costs. It would be a travesty if through a human error and inadequate testing these plants were affected by a biological control introduced to 'solve another problem'.

14. Many of the scientists that we deal with remember their days at primary school and how important the 'Nature table' was in their classroom. Indeed, many of the people who have an affection for or career based on NZ's natural world can remember their interest and curiosity was first piqued by the beautiful monarch butterfly and its relationship with the milkweed family. People, whatever their age, learn about biodiversity and ecology, metamorphosis and insects, empathy and compassion just from planting a swan plant. The swan plant and the monarch can be the inspiration for many school lessons: reading, writing, science, IT, language, art, drama... the list goes on.
15. We have no evidence that moth plant affects the health of forest margins 'as well as vulnerable habitats with smaller shrubs and herbs'. Nor have we seen it to be a threat to the integrity of reserve land managed by DOC and/or local authorities. It is often found on the edge of reserves but there is not enough sunlight within the reserve for the plant to grow.
16. We have never heard of the moth plant causing poisoning of humans in NZ.

BIOLOGICAL CONTROL FAILURES

17. The parasitic wasps *Apanteles glomeratus* (now *Cotesia glomerata*) and *Pteromalus puparum* were both introduced into NZ to reduce the numbers of cabbage white butterfly (*Pieris rapae*). They have, however, had a decimating effect on our native butterflies, many of which are quite unique. It is essential that any new biological control is absolutely safe and we do not believe that adequate testing has been done to check that the moth plant beetle will be safe to introduce.

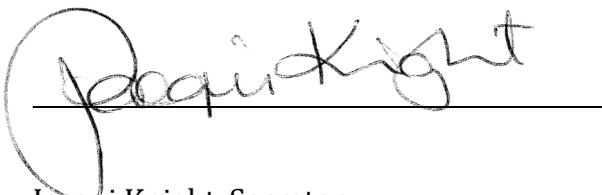
COMMENTS FROM OUR MEMBERS

18. Members are generally concerned that the beetle would be devastating to our swan plants if it takes hold. We do not feel that adequate testing has been carried out. They are concerned at the potential impact any introduced organism would have on swan plants and the other species of milkweed used to support the monarch population.
19. One member warns that '...over the years MAF was responsible for the introduction of dozens of insect species to control this and that 'problem' organism. Thus we have a dozen or so introduced organisms which supposedly 'eradicate' gorse, Tradescantia, Clematis vitalba, etc. etc., but all these problem plants still flourish...The fact is that an organism rarely eradicates its host - except for us humans. We are exceptionally good at rendering other biota extinct.' Another member reminds us of the introduction of the stoat into NZ to control rabbits and hares despite extensive warnings from ornithologists in both Britain and NZ. It only took six years for drastic declines in our bird populations to be noticed.
20. Another member commented: "Given that the plant spreads by wind distribution of the seeds if the seeds pods are removed when they form and the vine cut off at ground level and a dab of Vigilant gel applied, the plant's life is over. This is much easier and less labour-intensive. While the beetle is eating the roots the plant may still be dispersing seeds before it finally dies."

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21. Clinton Care asks that you consider importing the butterfly *Danaus erippus* (southern monarch). “when these 60mm mature caterpillars in 5th instars eat the moth plants they eat like goats and they eat up the moth plants much faster the tiny 4mm moth plant beetles”.
 22. Kathryn McIntyre, who lives in Matapouri, Northland, with her neighbour is vigilant in killing the moth plant when she sees it but is adamantly opposed to introducing any new organism into the country. “Think possums that were supposed to create a fur trade, stoats that were supposed to control rabbits...the list goes on of introduced species we now have to try to eradicate to save our native plants and birds. I know swan plants are introduced but they are not a pest.”

RECOMMENDATIONS

23. The application refers to biological control as being ‘the only sustainable option if the damage caused by this weed is to be contained’. We believe that more work needs to be done by unitary councils in education as well as controlling this weed. Much of the work to encourage people to remove moth plant is being done by volunteers – such as the Facebook group, ‘Society Totally Against Moth Plant (STAMP) and landcare and conservation groups, mainly voluntary. Their work should be encouraged and supported with better resources from unitary authorities.
24. We do not feel sufficient testing of the moth plant beetle has been carried out to date. Due to the huge risk that the proposed introduction of the beetle would have to our swan plants and other milkweed **we ask that the application be declined** and that in the interim further testing under quarantine conditions be carried out. At the same time, more support could be given by the applicant council to voluntary groups and ratepayers in the Waikato Region (and other areas) as to the reduction of this weed.
25. We thank you for accepting our submission and trust that it is helpful in your deliberations.



Jacqui Knight, Secretary

13 March 2019