



Manaaki Whenua
Landcare Research

Reaping the rewards:
an overview of the past
decade of weed
biocontrol in New
Zealand

Angela Bownes

Woolly nightshade

Solanum mauritianum

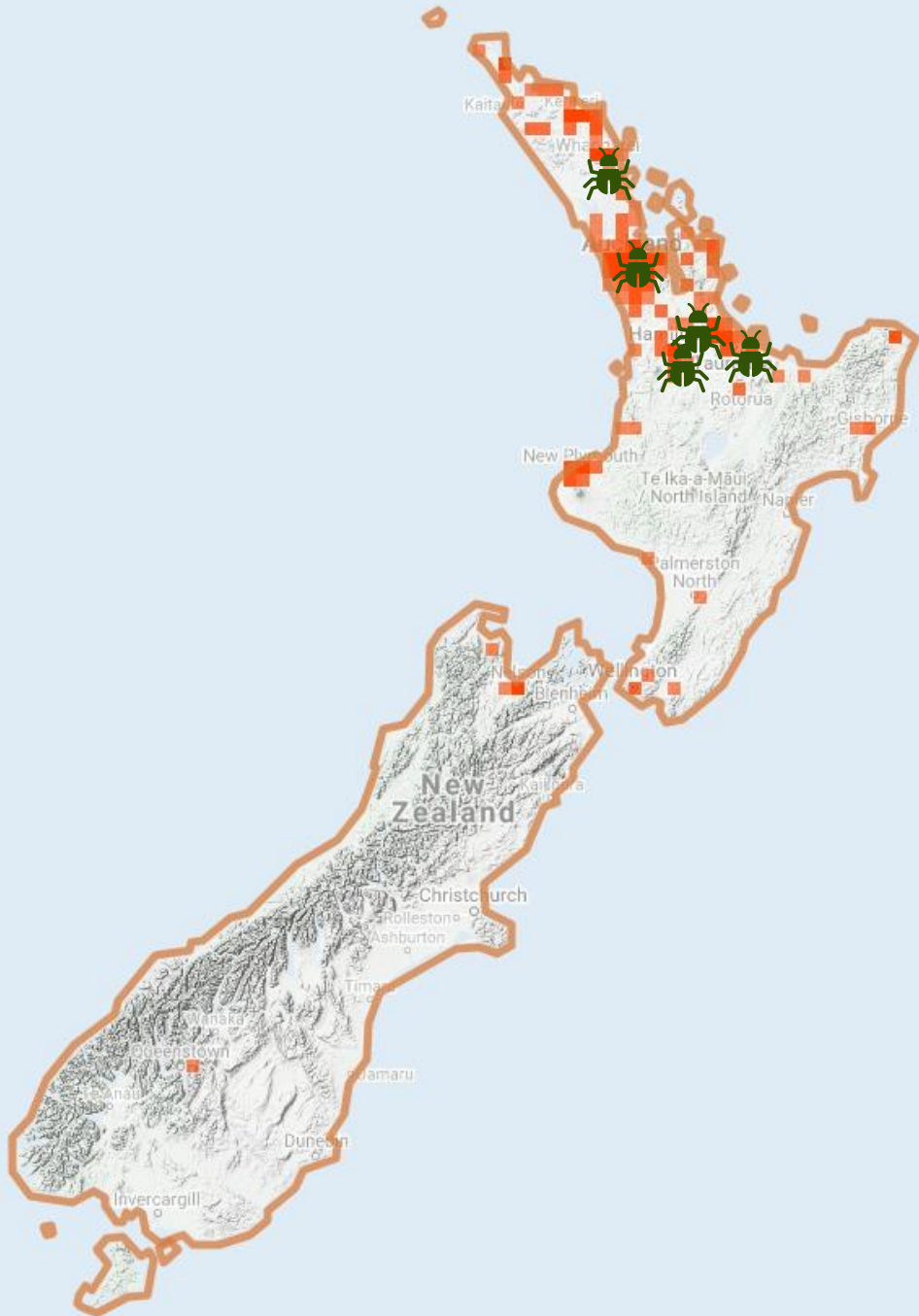


- Native to South America
- Forestry pest and prevents/inhibits establishment of native seedlings, slows regeneration of native forests

2010



Woolly nightshade lacebug, *Gargaphia decoris*



Ngapeke block,
Bay of Plenty



Waingaro Road,
Waikato





Parenui, Northland

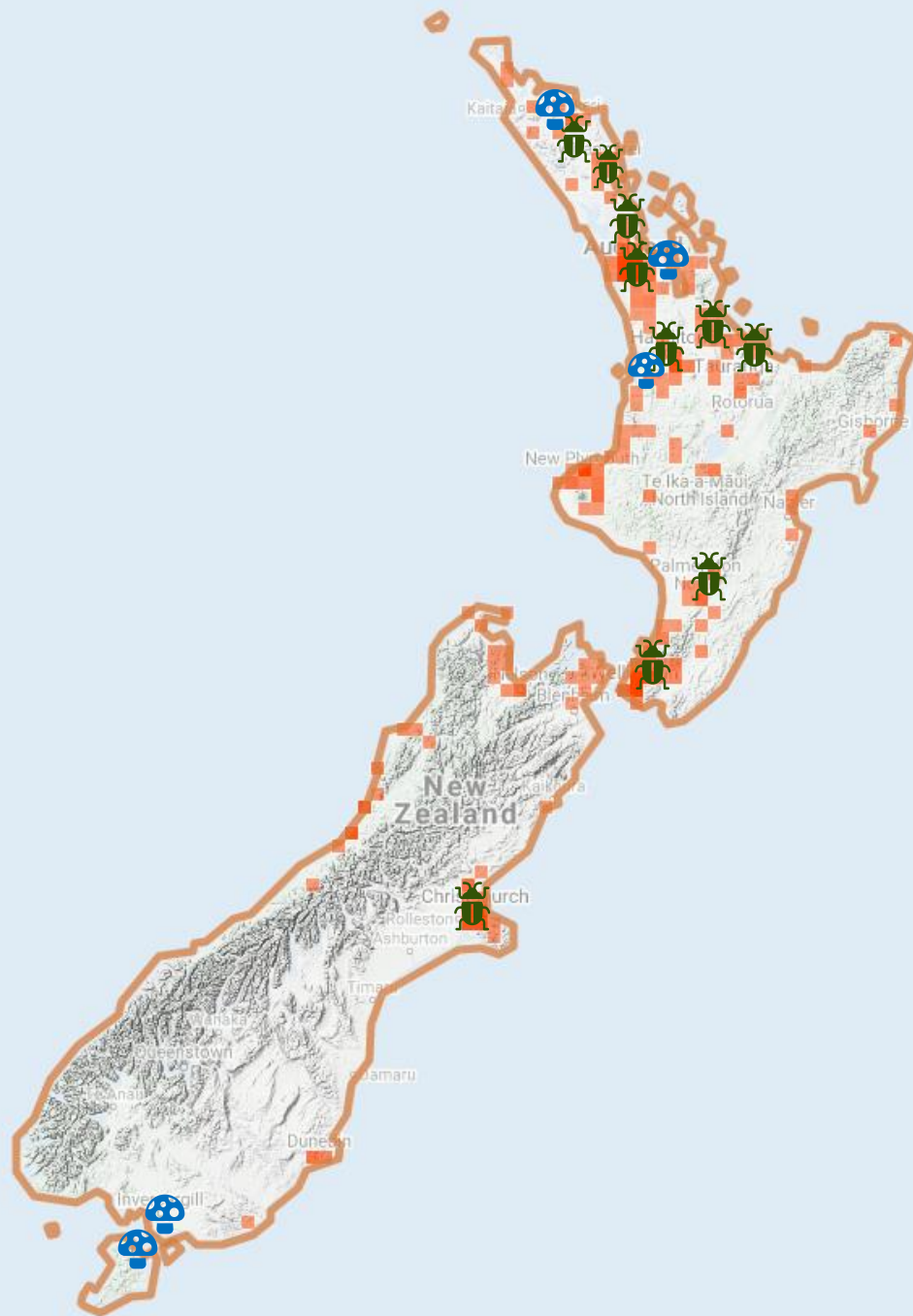
Tradescantia/wandering willie



Tradescantia fluminensis



- Native to South America
- Smothers ground in light and deep shade; prevents native forest regeneration and seedlings of native species from establishing



2011



Trad stem beetle, *Lema basicostata*

2012



Trad leaf beetle, *Neolema ogloblini*

2013



Trad tip beetle, *Neolema abbreviata*

2018



Trad yellow spot leaf fun, *Kordyana brasiliense*









Japanese honeysuckle

Lonicera japonica

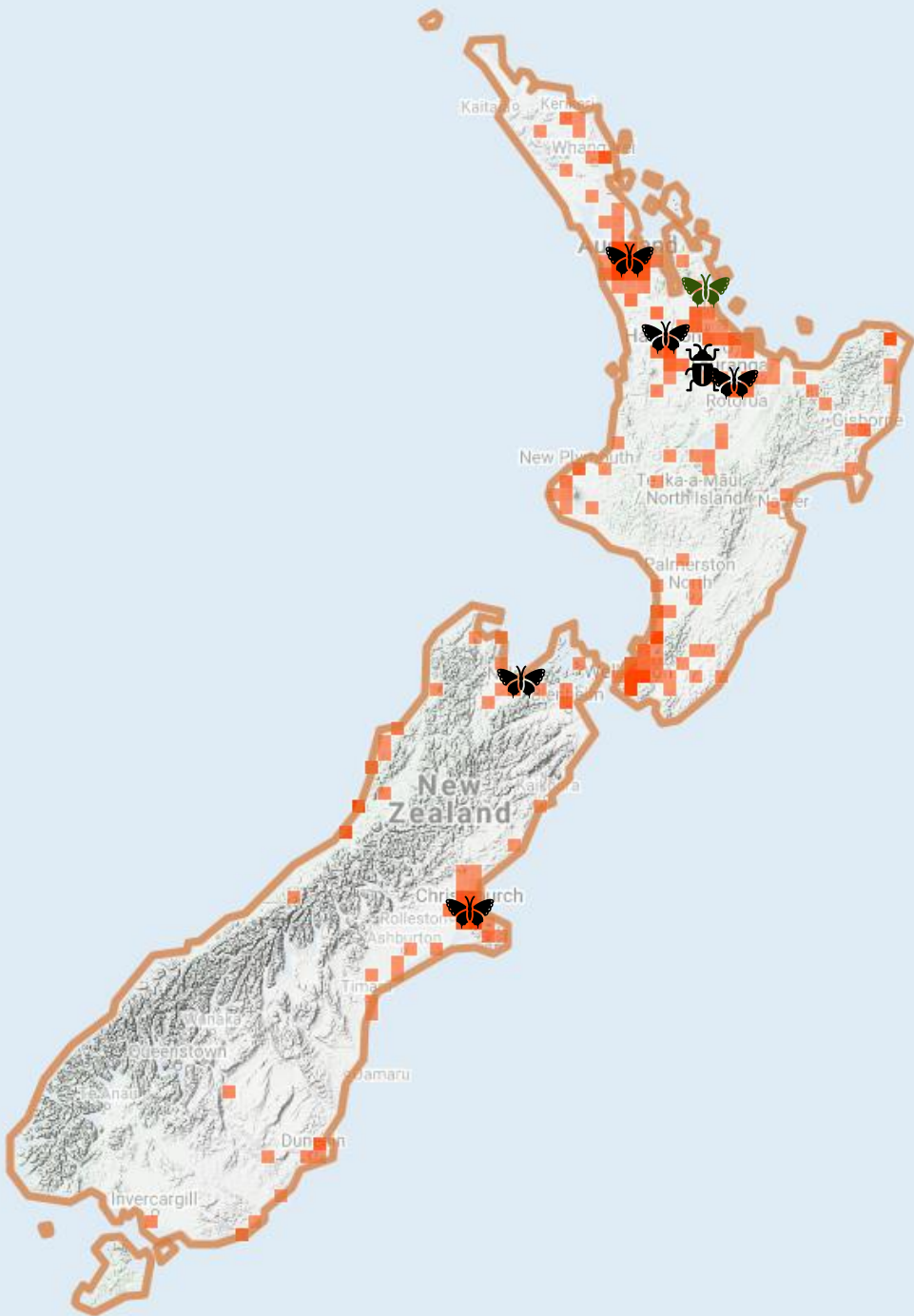


- Native to Japan
- Smothers most plants from ground to medium canopy; can cause canopy collapse leading to other invasions; provides support for faster growing invasive vines

2016

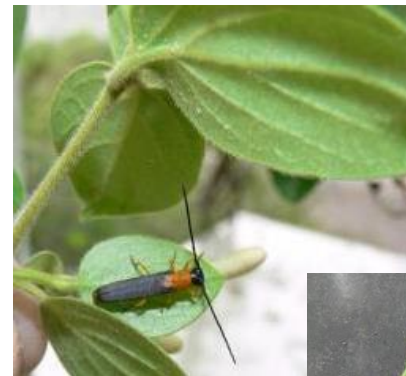


Honshu white admiral, *Limenitis glorifica*



2016

JH stem beetle, *Oberea shirahatai*





Lantana

Lantana camara



- Native to South America
- Replaces all other plant species, leading to permanent habitat loss



2015



Lantana blister rust, *Puccinia lantanae*



2015

Lantana leaf rust, *Prosodium tuberculatum*





Darwin's barberry

Berberis darwinii



- Native to Chile and Argentina
- Replaces shrubland and regenerating forest

2015



Darwin's barberry seed weevil,
Berberidicola darwinii



Chinese privet

Ligustrum sinense



- Native to China
- Prevents establishment of native plant seedlings; displaces vulnerable native shrubs; toxic berries may impact native fauna, especially insects



Field horsetail

Equisetum arvense

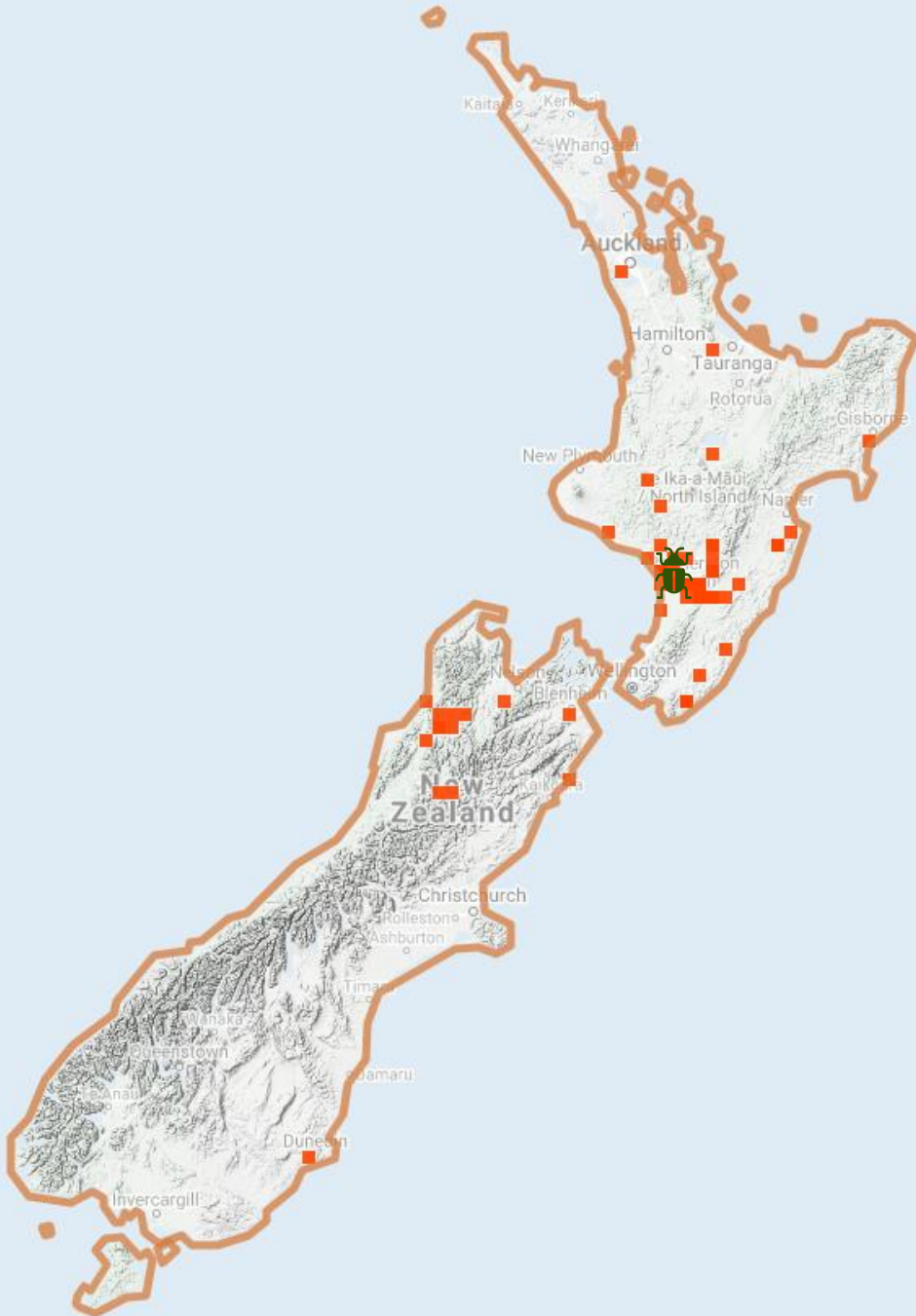


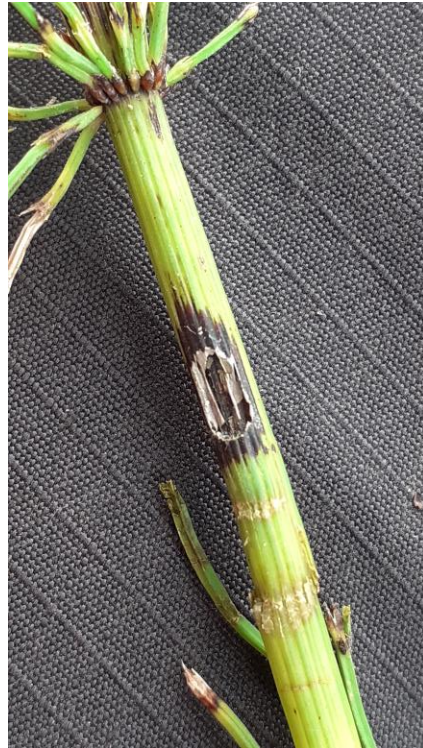
- Native to temperate northern hemisphere
- Prevents establishment of native seedlings; blocks and alters water courses



2015

Field horsetail weevil, *Grypus equiseti*







Tutsan

Hypericum androsaemum



- Native to south and western Europe
- Invades regenerating sites; prevents establishment of native seedlings

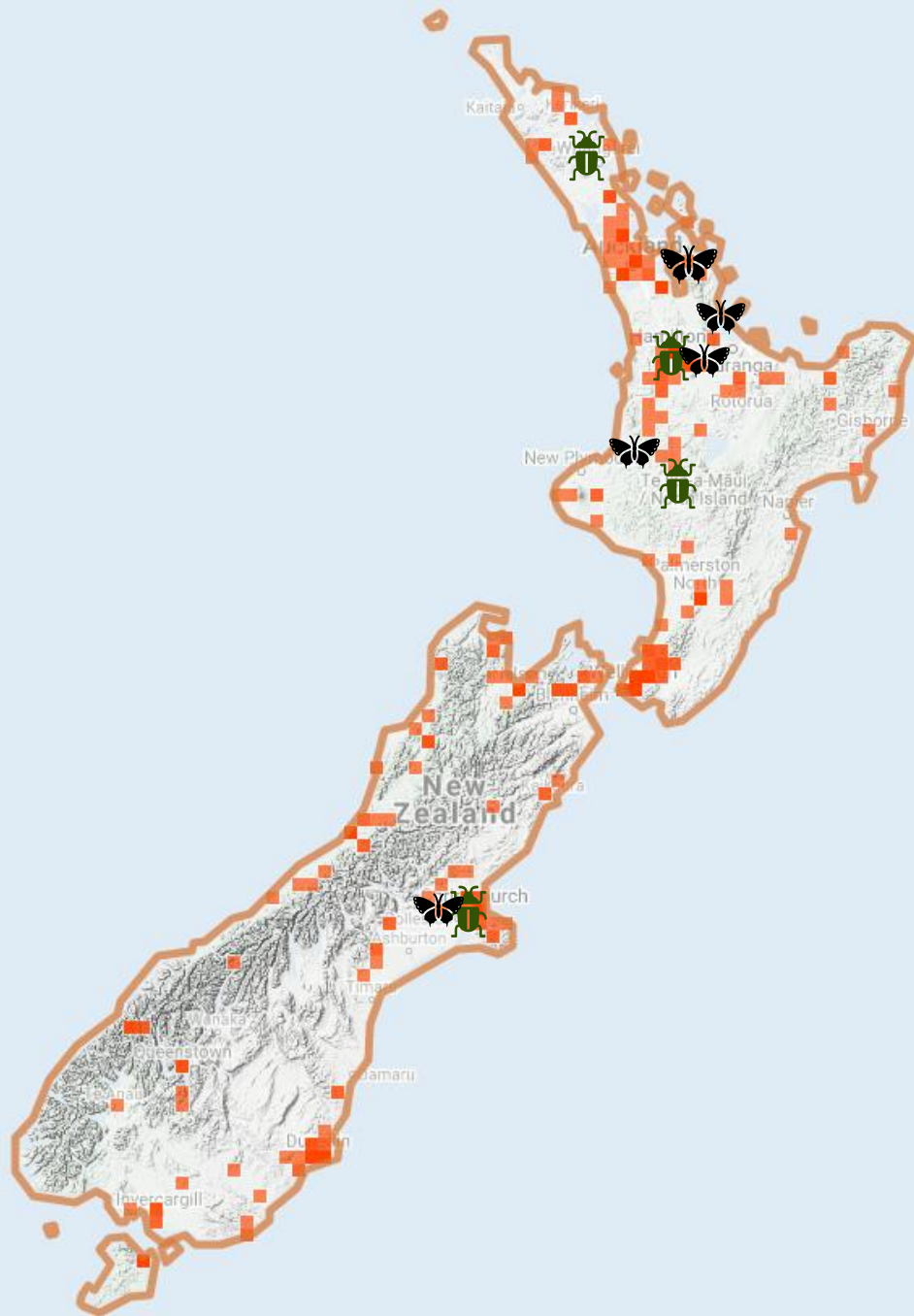
2017



Tutsan beetle, *Chrysolina abchasica*



Tutsan moth, *Lanthronympha strigana*



Giant reed

Arundo donax

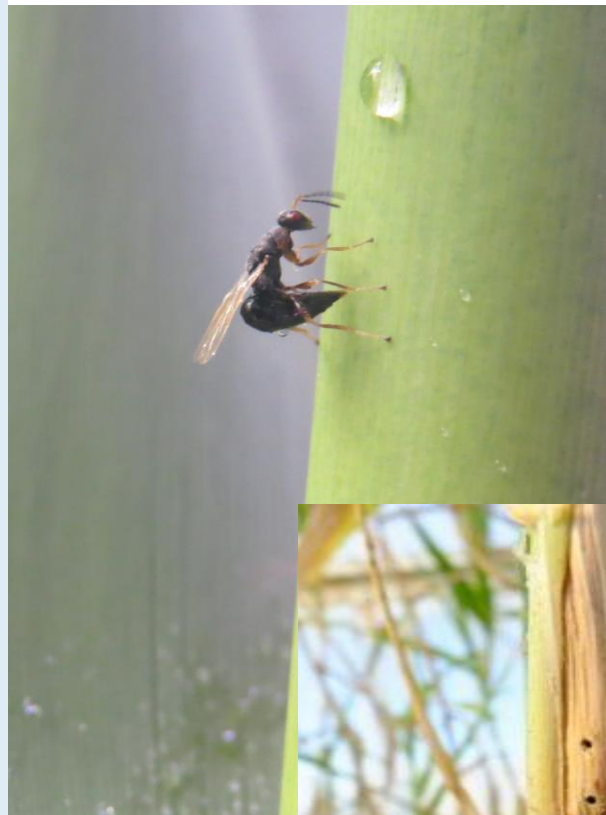


- Native to Eurasia
- Outcompetes more desirable species, invades streams, potential wetland invader

2017



Giant reed wasp, *Tetramesa romana*



Horehound

Marrabium vulgare



- Native to temperate regions of Eurasia, Middle east and Mediterranean
- Displaces preferred forage plants, reducing pasture productivity; not palatable to stock but taints meat if forced to graze on it.

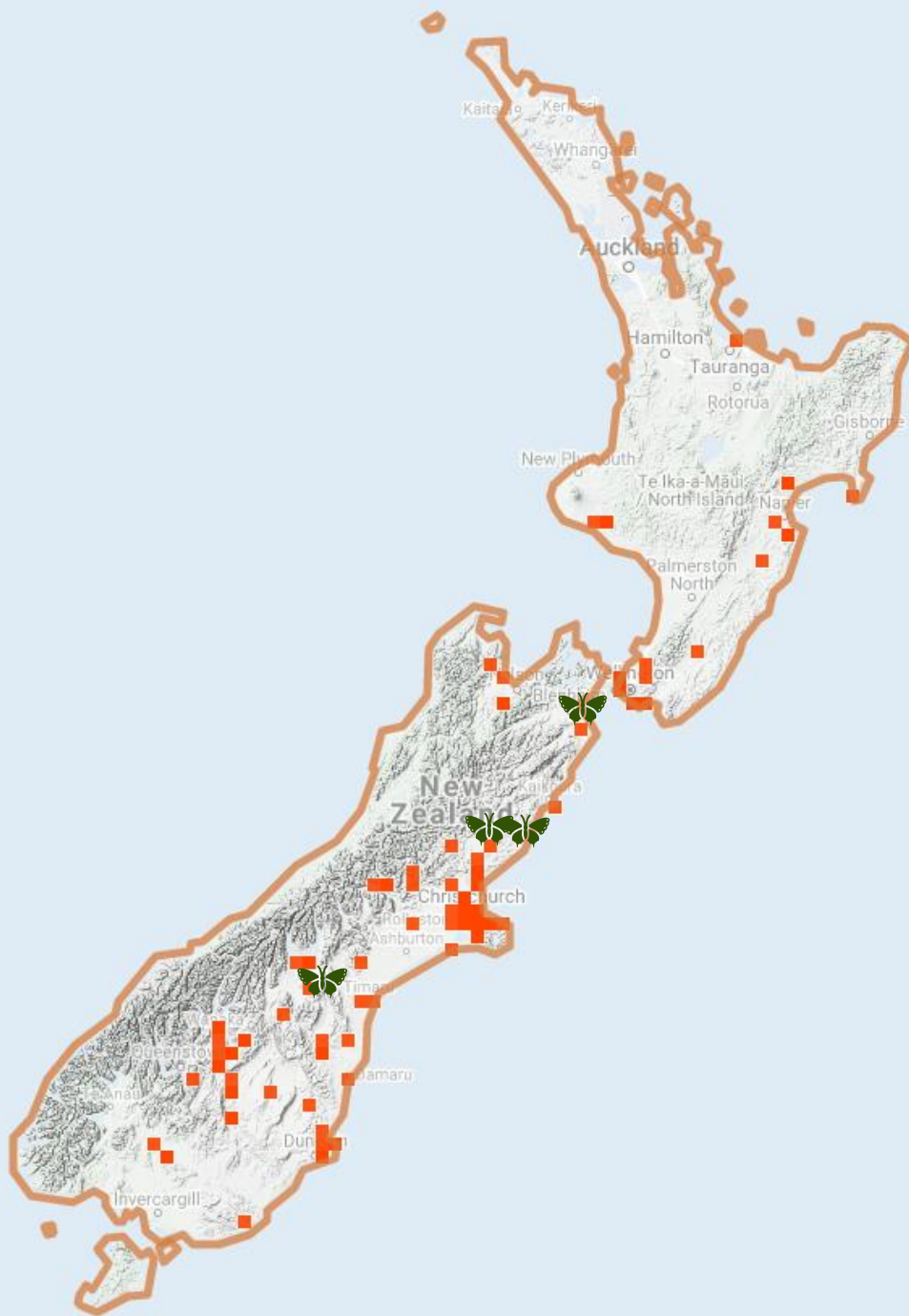
2018



Horehound plume moth, *Wheeleria spilodactylus*



Horehound clearwing moth, *Chaemasphacia mysinformis*







Moth plant

Araujia hortorum

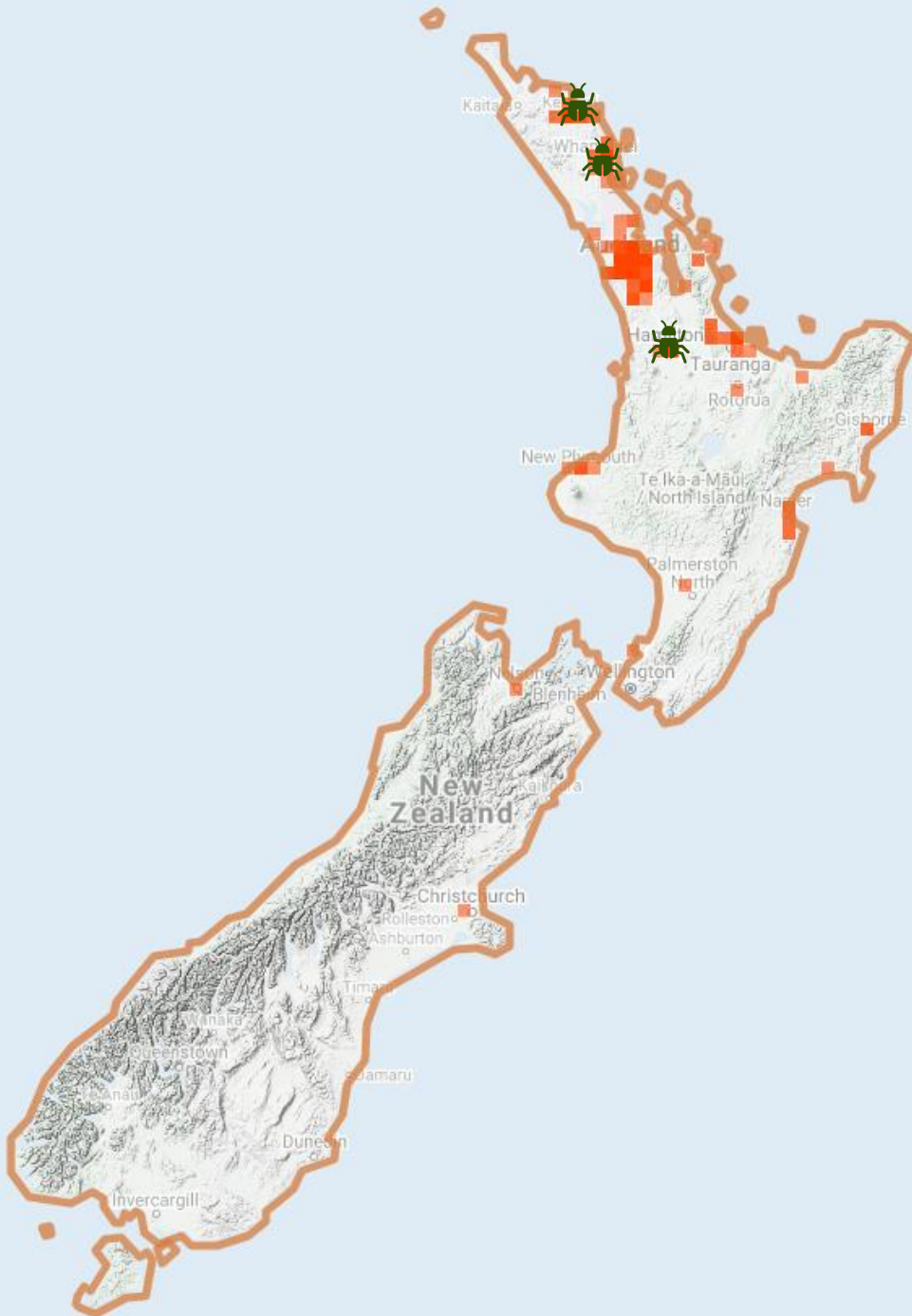


- Native to Brazil, Argentina, Paraguay and Uruguay
- Smothers and kills plants up into the canopy, prevents establishment of native plants, kills butterflies and moths that drink from the flowers

2019



Moth plant beetle, *Freudita cupripennis*



Scotch broom

Cytisus scoparius

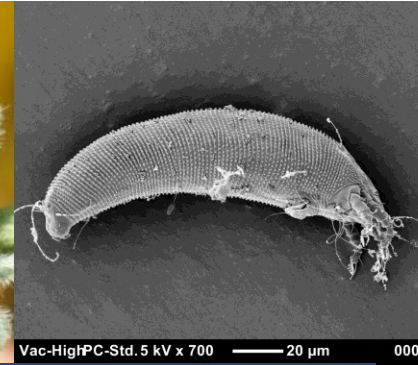


- Native to Europe, Asia and Russia
- Prevents seedlings of native species from establishing; nitrogen fixer, increased nitrogen disturbs native species adapted to impoverished soil types

2008



Broom gall mite, *Aceria genistae*





2014. 12. 21 14:21



Californian thistle, other thistles

Cirsium arvense, *Cirsium* spp.,
Carduus spp.



- Native to Europe, western Asia, north Africa
- Reduces pasture availability; harms livestock

2008



Green thistle beetle, *Cassida rubiginosa*





Acknowledgements

Manaaki Whenua weed
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Auckland Council

Bay of Plenty Regional Council

DOC

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Environment Southland

Gisborne District Council

Greater Wellington Horehound Biocontrol Group

Hawkes Bay Regional Council

Horizons Regional Council

Lower Rangitikei Field Horsetail Group

Marlborough District Council

MBIE Strategic Science Investment

MPI Sustainable Farming Fund

Northland Regional Council

Otago Regional Council

Tasman District Council

Taranaki Regional Council

Tutsan Action Group

Waikato Regional Council

Waikato District Council