

New and prospective biocontrol agents for weeds in Northland

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MANAAKI WENUA

Banana Passionfruit: *Passiflora tripartita* *var. mollissima* & *P. tarminiana*



Pyrausta perelegans



Odonna passiflorae

Banana Passionfruit

Pyrausta larvae developed on NZ *Passiflora tetrandra* in some starvation tests

Pyrausta, *Odonna* field specificity test in Colombia delayed: a landslip destroyed many plants. Need to propagate & grow surviving *P. tetrandra* plants

Could repeat *Pyrausta* lab testing using large cages (small cage oviposition tests indicated oviposition preference for banana passionfruit vs *P. tetrandra*)

Recently developed predicting tool¹ based on relative performance on target & test plants may indicate *Pyrausta* is safe



¹Paynter, Q. et al. 2015. Biological Control 80, 133-142.

Chinese privet *Ligustrum sinense*



Lacebug *Leptoypha hospita*

Native to China

1st released Auckland & BoP in 2015

Established & already causing
conspicuous damage



Giant Reed *Arundo donax*



Giant reed occluding the Utukura Stream, Northland. Image: J. Dymock, NRC



Giant reed planted to stabilise a road edge at Moerewa has spread across the whole hillside

- Two agents released in the USA in 2009 & 2011 recently approved for release in NZ
- First agents for a grass weed in NZ



Gall wasp *Tetramesa romana* infests stems

- 45% reduction in giant reed biomass 7 yrs after release
- Associated with native plant regeneration in Texas¹



Scale insect *Rhizaspidiotus donacis* infests rhizomes, leaf collars.

Halved *A. donax* growth rate in field conditions in the native range²

¹Moran PJ et al. 2017 Biocontrol, Sci. Tech. 27, 96-114

²Cortés, E. et al. 2011 Biocontrol, Sci. Tech. 21, 535-545

Ginger *Hedychium gardnerianum*



Ginger Stakeholder Group

www.stopwildginger.co.nz

**STOP WILD
GINGER**
Patua te taru kino

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**Wild Ginger is
one of the greatest
threats to YOUR
forests.**

Wild Ginger is one of the worst forest invaders.
Drop a pin to locate Wild Ginger in your area.

ADD YOUR PIN

5,000

hectares in
Northland so far, help
us find more.

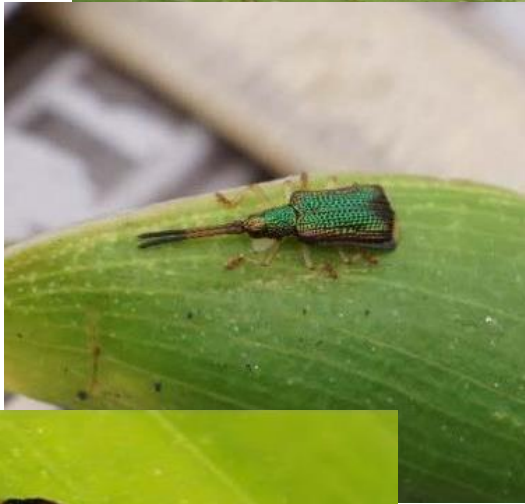
What does Wild
Ginger look like?



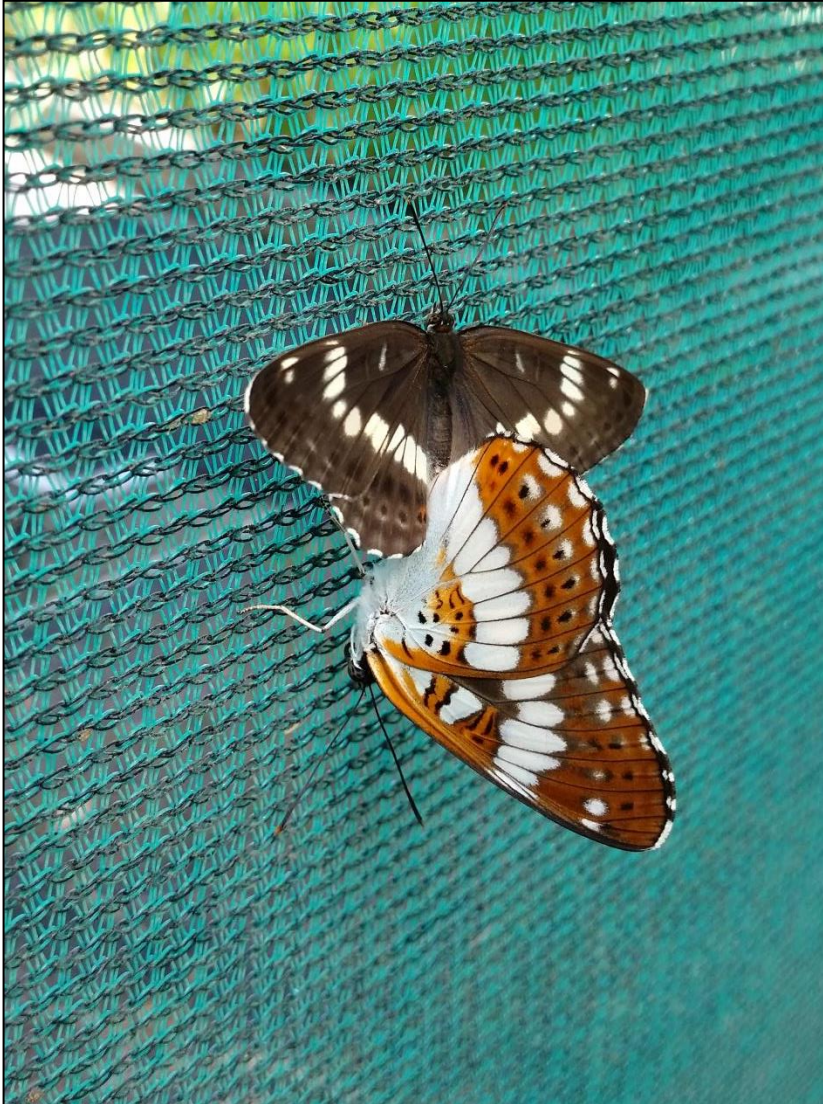
One of the worlds
100 worst invasive
species.







Japanese Honeysuckle Honshu white admiral



- 1st release at Karangahake in 2014
- On wing Nov– Apr (3-4 generations/yr)
- Rapid spread (seen Waihi Beach Road ~17 km from Karangahake in 2016)
- Successful breeding in shade house: lots of butterflies for redistribution
- Already released by LR in Wellington, Waiheke Island, Auckland & at Lincoln



Japanese Honeysuckle stem beetle

Oberea shirahatai

- EPA approved release July 2015
- Long development time
- A few adults emerged this summer, released at Lincoln
- More larvae developing in potted plants
- Larger scale field releases at 1-2 sites planned for 2017

Lagarosiphon major



Moth Plant

Araujia hortorum



Moth plant rust (*Puccinia araujae*)



Moth Plant



Colaspis argentinensis

Toxotrypana australis

Pseudosphex noverca

Pampas: *Cortaderia* Spp.



Black smut (*Ustilago* sp.) attacks *C. jubata* flowerheads in Ecuador

Complex life cycle – will not be easy to work with...



Two Chilean planthoppers (*Lacertinella australis*, *Saccharosydne subandina*) that attack *C. selloana* are being studied in containment

Also complicated (DNA work indicates cryptic species present)...

Sydney golden wattle

Acacia longifolia



Highly successful program against *A. longifolia* in S. Africa, using gall wasp *Trichilogaster acaciaelongifoliae* & seed weevil *Melanterius ventralis*

Is the time right to repeat this success in NZ?