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Ensis Forest Biosecurity and Protection

**Biological control of
gumleaf skeletoniser,
paropsis and buddleia**

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Gumleaf skeletoniser *Uraba lugens* (Nolidae)



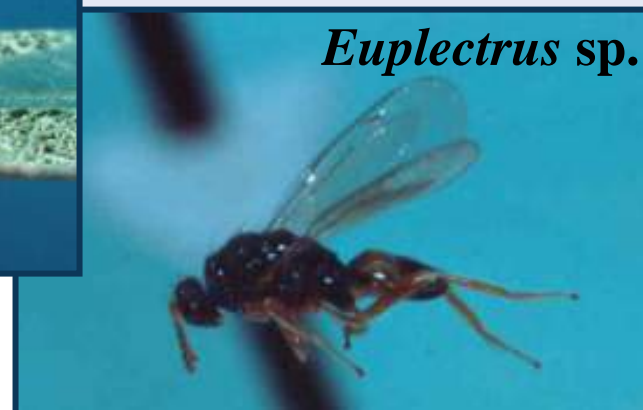
- Australian eucalypt defoliator
- In Auckland since 2001
- Spreading to Waikato, Northland, BOP
- Threat to plantations, amenity trees, public health
- Attacking new host plant species



- 4 potential parasitoids identified
- ERMA permission to import 2004
- Develop rearing & host testing methods 2004-2007 (2 species)



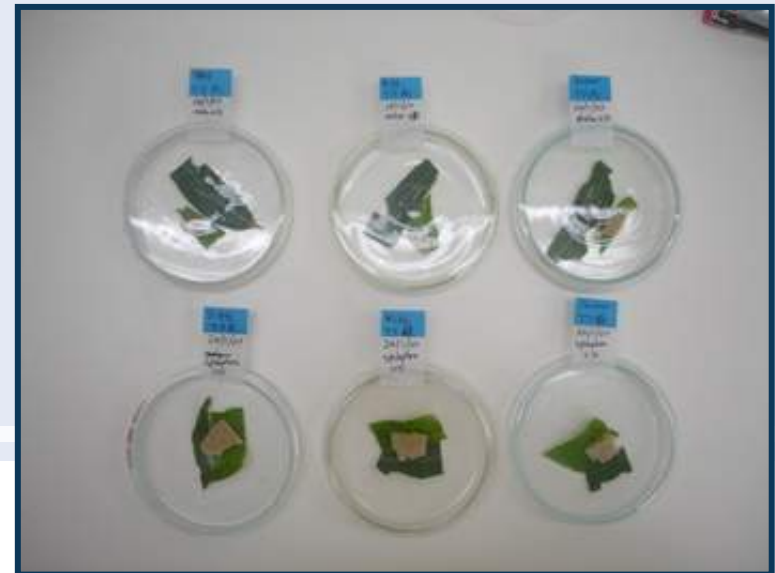
Photos: Geoff Allen & John Barran



- Rearing method finally successful
- Solving mating problems key



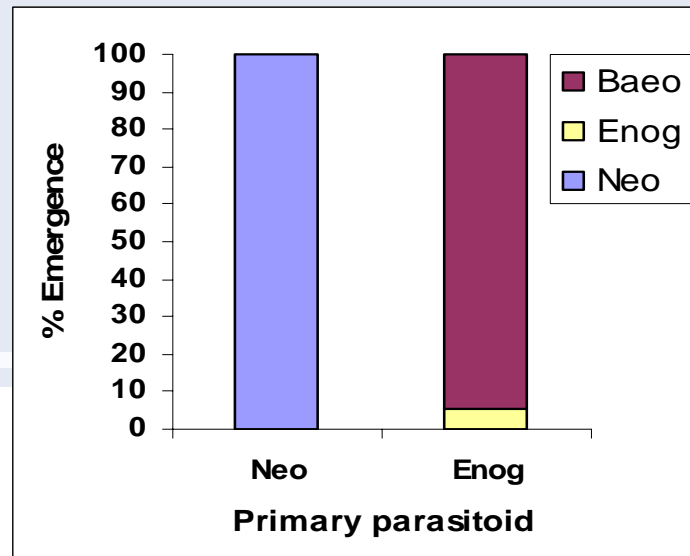
- Methods developed
- Nearly complete for two species
- Nine more species to test
- Strong preference for uraba



- Major eucalypt pest
- Previously controlled by parasitoid *Enoggera nissau*
- Biocontrol disrupted by hyperparasitoid in North Island since 2002
- Second parasitoid (*Neopolycystus insectifurax*) not as effective
- Most plantations sprayed annually now



- PhD student Tara Murray (2nd year)
- Studying biology of hyperparasitoid
- Role of second parasitoid
- Understanding of system to help biocontrol of paropsis in the future



- Chinese shrub, now a major weed in plantation and native forests in New Zealand
- Biocontrol agent: *Cleopus japonicus*, a leaf feeding weevil
- Approved by ERMA for release in Dec 2005
- First release Sept 2006, Rotorua



Climate effects

- 5 sites in commercial forests in the North Is.
- Study effect of climate on cleopus
- Started October 2006, monitored monthly



Preliminary results (to February):

- Recorded up to 70m from release
- Several generations recorded so far
- Impressive damage to buddleia!
- Winter survival to be confirmed ...



Extention of lab work done prior to ERMA permission to release

Non-target field trial

- 6 potential hosts for cleopus planted with buddleia
- Cleopus has strong preference for buddleia
- Only exploratory feeding on native species

Lab trial

- Replicate evidence of feeding on native *Hebe speciosa*
- No larval survival, confirmed result was an anomaly.

