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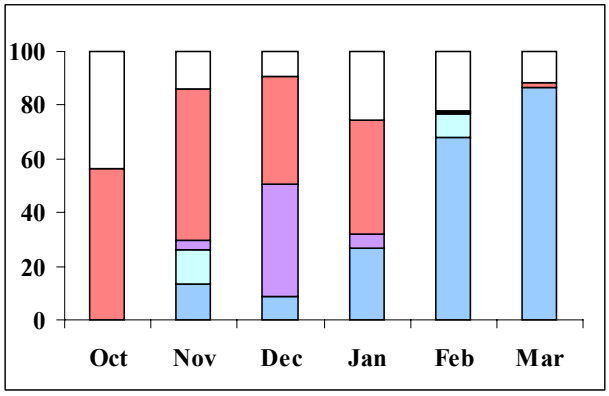
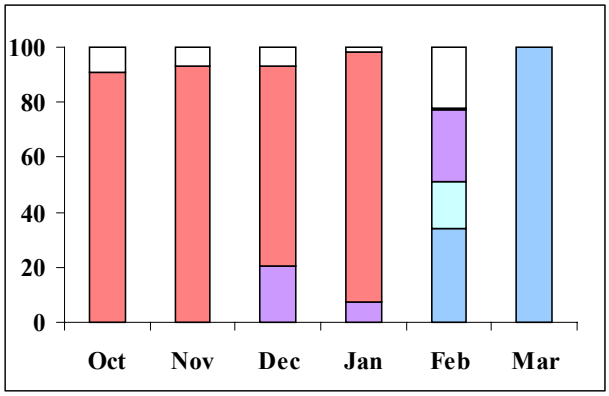
- ***PAROPSIS* UPDATE**

During the summer of 2001-2002, eucalypt growers experienced an outbreak of the eucalyptus tortoise beetle (*Paropsis charybdis*) worse than has been seen for many years. The unseasonably wet weather may have been a factor, but growers were concerned that the arrival of a tiny wasp from Australia may have compromised the effectiveness of *Enoggera nassaui*, deliberately introduced in the late 1980s and again in 2000 to control *Paropsis* populations by parasitising its eggs. *Baeoanusia albifunicle*, an obligate hyperparasitoid[1] of *Enoggera nassaui*, was first detected here in 2001 (*FHNews* **117**:1).

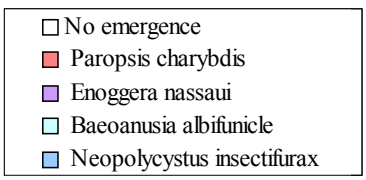
Percentages of eggs with viable *Paropsis* or parasitised by *Enoggera nassaui, Neopolycystus insectifurax* or the *Enoggera* hyperparasite *Baeoanusia albifunicle* over the 2002-2003 growing season at two sites near Rotorua.



Haumingi (Lake Rotoiti)



Rotomahana (Lake Tarawera)



[1]A parasitoid of a parasitoid

More information was urgently needed, so Forest Research entomologists undertook monitoring studies in *Eucalyptus nitens* plantations in the central North Island between September 2002 and April 2003. In the first few months *E. nassaui* successfully parasitised up to 50% of *P. charybdis* eggs. However, *B. albifunicle* was already present in samples in December, and by late summer *E. nassaui* was hyperparasitised and rendered inoperative in an average of 60% of parasitised eggs. This resulted in a drop in the effective parasitism of *Paropsis* eggs to about 10% on average, and the percentage of viable *Paropsis* eggs correspondingly ranged from 2% to as much as 53%. These observations have confirmed that by reducing the *Enoggera* populations, *B. albifunicle* has the potential to check its efficacy as a biological control agent of *P. charybdis*, especially late in the season when historically it was once responsible for up to 90% parasitism of second generation eggs.

However, the recent discovery of a second parasitoid of *Paropsis charybdis*, *Neopolycystus insectifurax*, lends hope for the future control of this pest, since species of *Neopolycystus* are not hyperparasitised by *B. albifunicle. Neopolycystus insectifurax*, also a diminutive wasp, was originally released as a potential biological control in New Zealand in the late 1980s along with *E. nassaui* but failed to establish at that time. It is believed that the recurrence of *N. insectifurax* originates from a separate and more recent chance introduction rather than from those released in the late 1980s. *Neopolycystus insectifurax* was detected at the sampling sites only sporadically in December, but parasitism of *Paropsis* by this insect increased steadily as the season progressed, reaching high levels in Autumn. This implies that *N. insectifurax* is able to provide effective control of the second generation population of *P. charybdis* (see figures). *Neopolycystus insectifurax* was present at three out of four sites monitored over the 2002-2003 season, and at one site near Reporoa it achieved 80% parasitism of the eggs laid by the second generation of *Paropsis* adults.

(*Diane Jones and Toni Withers, Forest Research*)

- **INTERNATIONAL CONFERENCE ON FOREST BIOSECURITY IN NEW ZEALAND**

A forest entomology conference will take place in Hanmer Springs in North Canterbury from 10-13 August 2004. The main subjects will be invasions of alien insect pests and the role of forest diversity in pest dynamics. This meeting is being sponsored by IUFRO (International Union of Forest Research Organisations) and has been scheduled to directly precede the XXII International Congress of Entomology 15-20 August 2004 in Brisbane, Australia.

The importance of forest biosecurity does not need to be emphasised as New Zealand has recently seen the arrival of a large number of significant forest insects including the white-spotted tussock moth (*Orgyia thyellina*) and the painted apple moth (*Teia anartoides*). Invasions of exotic forest pests pose a major threat to forest health worldwide. Overseas, a number of high-profile pests such as the Asian longhorn beetle (*Anaplophora glabripennis*), gypsy moth (*Lymantria dispar*), and the horse chestnut leaf-miner (*Cameraria ohridella*) have made headlines over the last few years.

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The other conference topic, the potential role of forest diversity in pest dynamics, has received renewed interest as ecologists debate the importance of biodiversity for the functioning of ecosystems. Recent evidence suggests that mixed forests are more resistant to pests than monocultures, but this does not appear to apply to New Zealand's plantation forests. Or does it? This issue is highly relevant for forest management, especially for the sustainability of plantation forests.

To attend, or for more information on the conference, visit: http://iufro.boku.ac.at/infro/iufronet/d7/wu70307/nz, or contact the organiser, Eckehard Brockerhoff, Forest Research, Christchurch, Tel. (03) 364 2949, e-mail: eckehard.brockerhoff@forestresearch.co.nz.

- **SUDDEN OAK DEATH IN CANADA**

Sudden oak death caused by *Phytophthora ramorum* has killed tens of thousands of oaks in California and Oregon, and infection has also led to disease symptoms in two conifer species (*FHNews* **113**:1, **123**:1-2). This month sudden oak death was found for the first time in Canada on a rhododendron plant in a nursery in British Columbia. Following a notification from the United States, the Canadian Food Inspection Agency traced its origin to an import from a wholesale nursery in Oregon, which had tested positive for the disease. Strict regulatory measures have been put in place to destroy all infected material in order to prevent spread. Restrictions already in place prohibiting the entry of a number of hardwood species from parts of Europe and California are being maintained. The fungus found in BC is said to be a less severe strain, and the BC Landscape and Nursery Association believe the find should not be considered a major issue. However, the Canadian Forest Service is treating the discovery as very serious, because of the potential for export losses of billions of dollars.

Sources: CFIA news release, 13 June;Canadian Broadcasting Corporation News British Columbia, June 16 2003.

- **NEW RECORDS**

The following records reported by the Forest Health Reference Laboratory (*Forest Research*) result from a general surveillance programme comprising public enquires, and small block and risk site surveys, funded by the Ministry of Agriculture and Forestry. Members of the public are encouraged to submit to this laboratory any samples of pests or pest damage on trees or shrubs that they suspect might be new to New Zealand. This is a free service funded by Ministry of Agriculture and Forestry for the detection of new pest introductions.

Extension to known distribution – Insect: *Psyllaephagus quadricyclus* (Encyrtidae); **Bioregion:** Northland; **Host:** *Glycaspis granulata* (Psyllidae); **Coll:** D Brunt, 21/01/2003; **Ident:** J Berry, 27/02/2003; **Comments:** Previously known from Auckland and Bay of Plenty.

New to New Zealand – Fungus: *Cylindrocladium* aff. *hurae*; **Bioregion:** Northland: **Host:** *Pinus radiata*; **Coll:** M Twaddle, 06/05/2003; **Ident:** M Dick, 12/06/2003; **Comments:** It is likely that this is an undescribed species. It was isolated from discoloured needles along with known saprophytic fungi and its role in needle death is probably negligible.

Extension to known distribution & new host record for New Zealand – Fungus: *Placoasterella baileyi*; **Bioregion:** Hawkes Bay; **Host:** *Grevillea lanigera*; **Coll:** B Rogan, 22/05/2003; **Ident:** M Dick, 10/06/2003; **Comments:** This fungus which was described from Australia causes leaf spots on a number of genera in the Proteaceae.

Extension to known distribution – Fungus: *Coleroa senniana*; **Bioregion:** Auckland; **Host:** *Protea neriifolia*; **Coll:** B Rogan, 06/05/2003; **Ident:** M Dick, 21/05/2003; **Comments:** This fungus was only recently recorded from NZ. Previous records were from Bay of Plenty and Taranaki.

Extension to known distribution – Fungus: *Microthyriella hibisci*; **Bioregion:** Hawkes Bay; **Host:** *Hibiscus rosa-sinensis*; **Coll:** B Rogan, 23/05/2003; **Ident:** M Dick, 03/06/2003; **Comments:** Recently identified from New Zealand; previously recorded from Auckland, Gisborne, Northland and Bay of Plenty.

New host record for New Zealand – Insect: *Nambouria xanthops* (Pteromalidae); **Bioregion:** Auckland; **Host:** *Eucalyptus aggregata*; **Coll:** B Rogan, 06/05/2003; **Ident:** T Withers, 15/05/2003; **Comments:** This species is common on *Eucalyptus nicholii* and *E. cinerea*.

New host record for New Zealand – Insect: *Eriococcus coriaceus* (Eriococcidae); **Bioregion:** Auckland; **Host:** *Eucalyptus pulverulenta*; **Coll:** C Inglis, 06/05/2003; **Ident:** T Withers, 14/05/2003; **Comments:** This species has been recorded from a large number of *Eucalyptus* spp.

New host record for New Zealand – Insect: *Lindingaspis rossi* (Diaspididae); **Bioregion:** Auckland; **Host:** *Leptospermum laevigatum*; **Coll:** C Scott, 02/05/2003; **Ident:** R Henderson, 22/05/2003; **Comments:** This introduced species is found throughout the North Island and the north of the South Island.

New host record for New Zealand – Insect: *Ceroplastes sinensis* (Coccidae); **Bioregion:** Waikato; **Host:** *Crataegus mongyna*; **Coll:** C Inglis, 21/05/2003; **Ident:** J Bain, 27/05/2003; **Comments:** A polyphagous, introduced species found throughout most of the north of the North Island.

New host record for New Zealand – Insect: *Anoplaspis metrosideri* (Diaspididae); **Bioregion:** Bay of Plenty; **Host:** *Metrosideros excelsa*; **Coll:** B Rogan , 12/05/2003; **Ident:** R Henderson, 29/05/2003; **Comments:** Also found on other *Metrosideros* spp.

New host record for New Zealand – Insect: *Lindingaspis rossi* (Diaspididae); **Bioregion:** Waikato; **Host:** *Ligustrum lucidum*; **Coll:** C Inglis, 19/05/2003; **Ident:** J Bain, 27/05/2003; **Comments:** Sub cosmopolitan in tropics and subtropics. Polyphagous.

New host record for New Zealand – Insect: *Uraba lugens* (Nolidae); **Bioregion:** Auckland; **Host:** *Eucalyptus aggregata*; **Coll:** C Inglis, 30/05/2003; **Ident:** T Withers, 05/06/2003; **Comments:** *U. lugens* is now widespread in Auckland, Manukau and has recently been found in North Shore.

New host record for New Zealand – Insect: *Uraba lugens* (Nolidae); **Bioregion:** Auckland; **Host:** *Angophora floribunda*; **Coll:** C Inglis, 30/05/2003; **Ident:** T Withers, 05/06/2003; **Comments:** *U. lugens* is now widespread in Auckland, Manukau and has recently been found in North Shore.

New host record for New Zealand – Insect: *Hemiberlesia lataniae* (Diaspididae); **Bioregion:** Auckland; **Host:** *Zelkova serrata*; **Coll:** C Inglis, 28/05/2003; **Ident:** R Henderson, 09/06/2003; **Comments:** A cosmopolitan species first recorded in NZ in 1979. Polyphagous and found throughout the North Island.

New host record for New Zealand – Insect: *Icerya purchasi* (Margarodidae); **Bioregion:** Auckland; **Host:** *Ulmus crassifolia*; **Coll:** C Inglis, 22/05/2003; **Ident:** R Henderson, 09/06/2003; **Comments:** An Australian species that has been in NZ since the 1870s; on quite a range of hosts.

New host record for New Zealand – Insect: *Phloeosinus cupressi* (Scolytidae); **Bioregion:** Rangitikei; **Host:** *Juniperus flaccida*; **Coll:** B Rogan, 03/06/2003; **Ident:** J Bain, 10/06/2003; **Comments:** This introduced bark beetle is usually found in *Cupressus* spp.

New host record for New Zealand – Insect: *Callidiopsis scutellaris* (Cerambycidae); **Bioregion:** South Canterbury; **Host:** *Eucalyptus viminalis*; **Coll:** P Bradbury, 09/06/2003; **Ident:** J Bain, 12/06/2003; **Comments:** This Australian species is found throughout most of NZ It is confined to *Eucalyptus* spp.

New host record for New Zealand – Insect: *Navomorpha lineata* (Cerambycidae); **Bioregion:** Taupo; **Host:** *Buddleja davidii*; **Coll:** L Renney, 04/06/2003; **Ident:** J Bain, 12/06/2003; **Comments:** This native species is found in a very wide range of hosts.

New host record for New Zealand – Insect: *Nipaecoccus aurilanatus* (Pseudococcidae); **Bioregion:** Auckland; **Host:** *Agathis ?robusta*; **Coll:** C Inglis, 03/06/2003; **Ident:** J Bain, 06/06/2003; **Comments:** This Australian species was first recorded in NZ in 1890 on *Araucaria* spp. and is common on these hosts throughout most of the North Island and Nelson. It has been recorded from Agathis sp. in California. There are no records of it on NZ kauri, *Agathis australis.*

New host record for New Zealand – Insect: *Eriococcus coriaceus* (Eriococcidae); **Bioregion:** Auckland; **Host:** *Eucalyptus microcorys*; **Coll:** C Inglis, 11/06/2003; **Ident:** J Bain, 13/06/2003; **Comments:** An Australian species first found in NZ in 1900. It is found throughout the country and is restricted to *Eucalyptus* spp.

New host record for New Zealand – Insect: *Pseudaulacaspis eugeniae* (Diaspididae); **Bioregion:** Auckland; **Host:** *Eucalyptus microcorys*; **Coll:** C Inglis, 11/06/2003; **Ident:** R Henderson, 13/06/2003; **Comments:** An Australian species first recorded in NZ in 1922. Polyphagous and found mainly in the North Island but there is one record from Invercargill.

New host record for New Zealand – Insect: *Pseudaulacaspis eugeniae* (Diaspididae); **Bioregion:** Auckland; **Host:** *Syncarpia glomulifera*; **Coll:** C Inglis, 11/06/2003; **Ident:** R Henderson, 13/06/2003; **Comments:** An Australian species first recorded in NZ in 1922. Polyphagous and found mainly in the North Island but there is one record from Invercargill.

New host record for New Zealand – Insect: *Naupactus leucoloma* (Curculionidae); **Bioregion:** Nelson; **Host:** *Eucalyptus ovata*; **Coll: B Doherty**, 15/05/2003; **Ident:** R Crabtree, 05/06/2003; **Comments:** A South American species first recorded in NZ in 1944. It is very polyphagous but seems to prefer legumes.

Extension to known distribution & new host record for New Zealand – Insect: *Acrocercops laciniella* (Gracillariidae); **Bioregion:** Wanganui; **Host:** *Eucalyptus regnans*; **Coll:** B Rogan, 03/06/2003; **Ident:** J Bain, 12/06/2003; **Comments:** A continuation southward spread of this Australian leaf miner.

(*John Bain, Forest Research.*)