

• MANGEAO DISORDER

The reduction in area of New Zealand's native forests has enhanced the value of those tracts and reserves that still remain. Among the appeal of these forests are the many broadleaved evergreen canopy trees such as *Litsea calicaris* (mangeao), found in more northern parts of the country. Unfortunately, since the 1970s dead and dying mangeao has become a feature in many localities throughout the Waikato and Bay of Plenty districts. Early investigations by Forest Health staff found canopy trees ranging in condition from very healthy through all stages of dieback to death. Small seedlings were usually healthy, but understorey saplings exhibited random dieback. Characteristic symptoms of fungal or insect damage were absent, and there were no clear answers, although possums were often mooted as the likely cause.



Healthy remnant mangero not far from Rotorua



Dead and dying mangero within a few kilometres of the healthy grove pictured above

Recently a systematic Forest Health study was undertaken in a more concerted effort to determine the cause of the mangero mortality. Plots were established at Lakes Tikitapu and Okataina, near Rotorua, in which trees of different ages were monitored over a two-year period. Every two months the crown health of each canopy and understorey tree was assessed using a set of criteria comprising the extent of shoot dieback, foliage colour and density, occurrence and health of epicormic shoots, and overall condition. Root systems of healthy and unhealthy saplings were also compared, and isolations for pathogenic fungi or bacteria were periodically attempted from diseased tissue.

It was found that overall dieback persisted at approximately the same level throughout the entire study period. The data revealed no association between the degree or timing of ill-health and season, and no pattern of distribution was found within the tree crown. There was no evidence that the condition was caused by unhealthy root systems, and no likely fungal or bacterial agents were cultured from diseased tissues during the study. It was established that possum browsing was not associated with the dieback symptoms.

While this work has not resolved the cause of the mangero disorder, it has eliminated a number of possibilities. In addition, the observation in neighboring forests of healthy mangero comparable in maturity to those in the ailing stands implies that the decline is not due to senescence. Rather, these results suggest that some mangero may be experiencing physiological stress possibly related to changes in their local environment. Two years was clearly too short a period to detect significant trends. It will require observations over a longer term to determine if mangero is being eliminated on the affected sites, or whether the condition is merely temporary, and that recovery of older trees or recruitment from a younger generation will restore these forests to their former state.

(Judy Gardner, Margaret Dick, Forest research)

• MONOCHAMUS SARTOR: AN UNWANTED PEST

With increased trade there is now a greater awareness of the ability of forest pests such as the Asian longhorn beetle (*FHNews* 114:2) to hitchhike between countries on forest products such as logs and solid wood packaging (crates, pallets and dunnage). This has prompted more stringent regulation of the procedures governing the transport of these materials (*FHNews* 118:1-2). However, it has long been appreciated that commodity based border surveillance alone cannot completely protect either forestry or forest ecosystems. That is to say, pests can also arrive on goods that have no obvious forest links, as was demonstrated in a recent report by Gabby Russell of the Australian Quarantine and Inspection Service (*AQIS Bulletin* 15 (15):2). Gabby's item describes the discovery at Port Botany in Sydney of an exotic longhorn beetle, *Monochamus sartor*, by port workers unloading a shipping container of glassware, ceramics and tools from Europe.



The Port Botany workers who discovered the beetle

Monochamus sartor naturally occurs from the European Alps to east Siberia principally on *Picea* and more rarely on *Abies* and *Pinus* species. This wood boring beetle is a timber pest in its own right but also has the potential to vector *Bursaphelenchus xylophilus* the causal agent of pine wilt disease. Records held at Forest Research show that living *M. sartor* adults have been intercepted at least four times between 1978 and 1999 at the Port of Auckland. Three of the interceptions were from pallets or cases constructed from pine or spruce, and the fourth from a shipping container. The points of origin of these intercepted beetles were the Soviet Union, Sweden and Italy. The New Zealand and Australian interception data highlight the value of such records in determining the types of organisms that are capable of arriving unsolicited in our region of the world and the pathways they will travel. The Sydney example also draws attention to the need for all workers "at the border" to have biosecurity awareness of potential pests.

(Geoff Ridley, Forest Research)



The intercepted beetle.

• **UPDATE ON NEW PSYLLIDS¹**

Two Australian psyllids, an aphid-like pest which causes damage to certain eucalypt trees, have been detected for the first time on the surrounds of Auckland Airport.

The insects were detected as part of routine risk site inspections by MAF. One of the psyllids (*Creiis lituratus*²) is a known pest species in Australia where it causes significant damage to some commercial eucalyptus species.

"At this stage we have completed our initial survey around a 5 kilometre radius of the first interception," said Peter Thomson, Director of MAF Forest Biosecurity. "The conclusion of our technical advisory group is that the species has become locally established and eradication is not an option. In any case, available sprays have limited efficacy and are not suitable for use in urban areas. Living as they do under a protective cover, these insects are difficult to reach with chemicals."

"Severe infestations can result in extensive damage to foliage. We are certain that these pests damage eucalypt trees only, and we are now investigating the species of eucalypts they are likely to prefer as hosts here. There is some evidence that these pests have arrived complete with their own natural parasite and this could provide us with a means of biological control," said Mr Thomson. An information sheet on the psyllids - *C. lituratus* and *Anoeconeoassa communis* - will be published for circulated to plant nurseries, wood lot owners and local government biosecurity officers to assist them with localised management.

Technical advisory group member Denis Hocking, of the Farm

Forestry Association, said it is unfortunate some of the trees that surround our seaports and airports, especially some of the eucalypts, provide convenient "pest motels". "Australia is our nearest neighbour and host material and pests from there regularly cross the Tasman. One of our options might be to remove the large, inaccessible eucalypt trees in these high risk zones and replace them with trees that aren't attractive to pests, or perhaps low-growing varieties that are easier to inspect and can provide a more effective buffer. This could be combined with improved landscape and amenity values," said Mr Hocking.

MAF Forest Biosecurity surveys the surrounds of Auckland Airport for exotic pests seven times a year. The frequency of surveillance was recently increased from five to seven times, in recognition of the potential number of interceptions.

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¹Ministry of Agriculture and Forestry (MAF) press release entitled "Eucalyptus trees at Auckland Airport attract Australian pests", Friday, 6 September 2002 (*FHNews* 120:1; 121: 2).

²Identified by David Hollis, British Museum (Natural History), London, after being tentatively assigned to the genus *Hyalinaspis* (*FHNews* 120:1).

• **PETER THOMSON – NEW DIRECTOR OF FOREST BIOSECURITY**

Forest Health News welcomes the appointment of Peter Thomson to the position of Director of Forest Biosecurity within the Ministry of Agriculture and Forestry (MAF) Biosecurity Authority. Peter brings with him a long history of experience in the forestry sector, most recently as Operations Manager for Carter Holt Harvey Forest Fibre Solutions Central Region, and a brief period as a forestry consultant. He has a long standing interest in forest health and biosecurity, having served as a Forest Owners' Association (FOA) representative on the now defunct Forest Biosecurity Advisory Committee, and as the first chairman of the Forest Health Research Collaborative. The position of Director of Forest Biosecurity is a critical link between Government and the wider forestry sector. Peter's strong knowledge of the sector and past experience in forest health can only be good news for this relationship.

(Gordon Hosking, Forest Research)

• **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 – Fungus: *Winterella betulae*:
Bioregion: Taranaki; **Host:** *Betula pendula*; **Coll:** BJ Rogan, 7/8/2002; **Ident:** K Dobbie, 28/8/2002; **Comments:** *Winterella betulae* is reported to be endophytic on small dead, often attached twigs of *Betula* species. Previously known only from the Wellington bioregion.

New host record for New Zealand – Insect: *Phloeosinus cupressi*; **Bioregion:** Mid Canterbury; **Host:** *Thujopsis dolabrata*; **Coll:** PM Bradbury, 29/7/2002; **Ident:** R Crabtree, 31/7/2002; **Comments:** *Phloeosinus cupressi* is restricted to cypress type conifers. This Californian insect has been established in New Zealand for many years.

(Geoff Ridley, Forest Research)