



NECTRIA ECOLOGY COLLABORATION WITH SCANDINAVIA

Neonectria fuckeliana is the fungus associated with Nectria flute canker disease in *Pinus radiata* in the South Island of New Zealand. The fungus is an introduced species and was first formally recorded in New Zealand in 1996, although it is likely to have been present for some years prior to this time. It originates from Northern Europe and North America where it is found as a saprophyte or wound invader of species of spruce and fir. Interestingly, it causes little or no natural disease in spruce or fir and is not considered to be an important pathogen in the Northern Hemisphere. It has not been recorded on native pines in the Northern Hemisphere.

In August and September this year, Anna Hopkins from Scion spent five weeks in Sweden and Denmark working on a collaborative research project on the fungus *Neonectria fuckeliana* with scientists from two prominent Scandinavian universities. The principle aims of this research are to exchange isolates and genetic material of *N. fuckeliana* as well comparing the behaviour of the fungus in Scandinavia and New Zealand.

In Sweden Anna was hosted by Dr Rimvys Vasiatis from the Swedish University of Agricultural Sciences in Uppsala. Rimvys is a forest pathologist and molecular biologist who has published a number of papers on the ecology and genetics of *N. fuckeliana* in Sweden and Lithuania. Anna was able to access Rimvys' vast collection of isolates of *N. fuckeliana* from throughout Scandinavia and the Baltic States and use these for a number of ecological and genetic studies. Along with Rimvys and colleague Jan Stenlid, Anna was also given the opportunity to see *N. fuckeliana* in its natural habitat by visiting Norway spruce plantations around Uppsala. One of the most obvious differences with New Zealand *radiata* plantations was that Norway spruce is not pruned in Swedish plantations. The stocking rates are fairly high however, resulting in much smaller branch sizes and trees that tend to self-prune.

In Denmark, Anna was hosted by Dr Iben Thomsen from Forest and Landscape Denmark, now a part of the University of Copenhagen. Together Iben and Anna visited a large number of Norway spruce plantations throughout Denmark and were lucky enough to observe fruitbodies of *N. fuckeliana* on numerous occasions and to make several collections. The fungus was found almost exclusively on stem wounds of Norway spruce caused by

deer bark stripping during winter. Despite frequent large wounds and excessive resin production, trees were rarely observed with canker symptoms, even when *N. fuckeliana* was present in the stem.

Another useful aspect of the exchange was the opportunity to meet many staff and students at the Swedish University of Agricultural Sciences and the University of Copenhagen and to exchange ideas about forest pathology research in Scandinavia and New Zealand. Anna presented her work in seminars in both Sweden and Denmark and was also able to attend seminars and observe research undertaken by local researchers.

Now that Anna is back in New Zealand, the collaboration with Rimvys and Iben will continue with further studies comparing the ecology and genetics of *N. fuckeliana* in Scandinavia and New Zealand. Early results indicate that the behaviour of *N. fuckeliana* is similar in Scandinavia and New Zealand. As a result, it appears likely that the high levels of disease caused by *N. fuckeliana* in New Zealand are related to the different environmental conditions, silvicultural practices and host characteristics compared with the Northern Hemisphere, rather than a change in the behaviour of the fungus itself. Further experiments are currently under way to test this theory – watch this space!

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Anna Hopkins



At left: A bark stripping wound caused by deer on a Norway spruce in Jutland, Denmark.

NEW RECORDS

New distribution record for New Zealand – Insect: *Trachymela sloanei* (Chrysomelidae); **Region:** Nelson; **Host:** *Eucalyptus johnstonii*; **Coll:** J Bartram, 16/08/2008; **Ident:** S Sopow, 17/10/2008; **Comments:** This Australian species was first found in New Zealand in 1976. It has previously been recorded from most regions in the North Island and Marlborough, Marlborough Sounds and Mid Canterbury.

New distribution record for New Zealand – Insect: *Anisoplaea cosmia* (Gelechiidae); **Region:** Nelson; **Host:** *Lagunaria patersonia*; **Coll:** B Rogan, 13/10/2008; **Ident:** S Sopow, 21/10/2008; **Comments:** This moth is from Norfolk Is. The larvae feed in the shoots and fruits of Norfolk Is. hibiscus.

New distribution record for New Zealand – Insect: *Acizzia hakeae* (Psyllidae); **Region:** Marlborough Sounds; **Host:** *Grevillea rosmarinifolia*; **Coll:** B Rogan, 14/10/2008; **Ident:** S Sopow, 21/10/2008; **Comments:** This psyllid has previously been recorded from Northland, Auckland, Bay of Plenty, and Wanganui.

New host record for New Zealand – Insect: *Glyptotermes brevicornis* (Kalotermitidae); **Region:** Auckland; **Host:** *Rhododendron* sp.; **Coll:** C Inglis, 13/10/2008; **Ident:** J Bain, 15/10/2008; **Comments:** This Australian drywood termite was first found in New Zealand in 1977 in Auckland and has subsequently been recorded from Northland and Hawke's Bay. It has also been found in imported power poles in Auckland and Wellington.

New host record for New Zealand – Insect: *Oeomona hirta* (Cerambycidae); **Region:** Auckland; **Host:** *Phyllostachys* sp. nr. *aurea*; **Coll:** C Inglis, 25/09/2008; **Ident:** J Bain, 02/10/2008; **Comments:** This native long horn beetle is extremely polyphagous.

New host record for New Zealand – Insect: *Parlatoria fulleri* (Diaspididae); **Region:** Auckland; **Host:** *Buxus sempervirens*; **Coll:** C Inglis, 25/09/2008; **Ident:** R Henderson, 03/10/2008; **Comments:** This Australian armoured scale insect was first recorded in New Zealand in 1956 but was not collected again until 1999. It has been recorded from *Callistemon*, *Eleagenus*, *Griselinia*, *Melaleuca*, *Pinus*, and *Phoenix*.

New host record for New Zealand – Insect: *Hemiberlesia rapax* (Diaspididae); **Region:** Auckland; **Host:** *Buxus sempervirens*; **Coll:** C Inglis, 25/09/2008; **Ident:** R Henderson, 03/10/2008; **Comments:** This cosmopolitan armoured scale insect has a very wide host range.

New host record for New Zealand – Insect: *Aspidiotus nerii* (Diaspididae); **Region:** Auckland; **Host:** *Buxus sempervirens*; **Coll:** C Inglis, 25/09/2008; **Ident:** R Henderson, 03/10/2008; **Comments:** This cosmopolitan armoured scale insect has a very wide host range including native and exotic plants.

New host record for New Zealand – Insect: *Coccus longulus* (Coccidae); **Region:** Auckland; **Host:** *Buxus sempervirens*; **Coll:** C Inglis, 25/09/2008; **Ident:** R Henderson, 03/10/2008; **Comments:** This cosmopolitan scale insect was first recorded from New Zealand in 1897. It is seldom collected and most records are from Auckland but it has been found in Bay of Plenty and Marlborough. It has been recorded previously from *Carmichaelia*, *Castanospermum*, *Chordospartium*, *Citrus*, *Hypericum*, *Litchi*, *Melicope*, *Mangolia*, and *Vitis*.

New host record for New Zealand – Insect: *Saissetia coffae* (Coccidae); **Region:** Auckland; **Host:** *Buxus sempervirens*; **Coll:** C Inglis, 25/09/2008; **Ident:** R Henderson, 03/10/2008; **Comments:** This polyphagous scale insect is often a pest of ornamentals, especially ferns and potted plants.

New host record for New Zealand – Insect: *Aspidiotus nerii* (Diaspididae); **Region:** Auckland; **Host:** *Coleonema pulchellum*; **Coll:** C Inglis, 09/09/2008; **Ident:** R Henderson, 26/09/2008; **Comments:** This cosmopolitan armoured scale insect has a very wide host range including native and exotic plants.

New host record for New Zealand – Insect: *Lindingaspis rossi* (Diaspididae); **Region:** Bay of Plenty; **Host:** *Pittosporum*

crassifolium; **Coll:** D Brunt, 26/09/2008; **Ident:** S Sopow, 29/09/2008; **Comments:** This scale insect is sub-cosmopolitan in the tropics and sub-tropics. It has a very wide host range and has been recorded from *Pittosporum* overseas.

New host record for New Zealand – Insect: *Xylotoles laetus* (Cerambycidae); **Region:** Auckland; **Host:** *Tibouchina urvilleana*; **Coll:** C Inglis, 07/10/2008; **Ident:** S Sopow, 13/10/2008; **Comments:** This native species has a wide host range.

New host record for New Zealand – Insect: *Trachymela sloanei* (Chrysomelidae); **Region:** Nelson; **Host:** *Eucalyptus johnstonii*; **Coll:** J Bartram, 16/10/2008; **Ident:** S Sopow, 17/10/2008; **Comments:** This Australian species was first found in New Zealand in 1976 and feeds on quite a range of *Eucalyptus* spp.

New host record for New Zealand – Insect: *Ceroplastes sinensis* (Coccidae); **Region:** Bay of Plenty; **Host:** *Callistemon viminalis*; **Coll:** D Brunt, 15/10/2008; **Ident:** S Sopow, 20/10/2008; **Comments:** This introduced scale insect is found in most regions in the northern half of the North Island. It has a wide host range and has been recorded from *Callistemon* sp. before.

New host record for New Zealand – Insect: *Lindingaspis rossi* (Diaspididae); **Region:** Bay of Plenty; **Host:** *Callistemon viminalis*; **Coll:** D Brunt, 15/10/2008; **Ident:** S Sopow, 20/10/2008; **Comments:** This scale insect, which is probably native to Australia, is sub-cosmopolitan in the tropics and sub-tropics. It has a wide host range and has been recorded from *Callistemon citrinus* and *Callistemon* sp. before.

New host record for New Zealand – Insect: *Acizzia hakeae* (Psyllidae); **Region:** Marlborough Sounds; **Host:** *Grevillea rosmarinifolia*; **Coll:** B Rogan, 14/10/2008; **Ident:** S Sopow, 21/10/2008; **Comments:** This psyllid has previously been recorded from *Hakea acicularis* and *Grevillea* sp.

New distribution record for New Zealand – Fungus: *Volutella buxi*; **Region:** Bay of Plenty; **Host:** *Buxus sempervirens*; **Coll:** J Bartram, 08/10/2008; **Ident:** J Gardner, 08/10/2008; **Comments:** This species which causes leaf necrosis and shoot dieback was first recorded in New Zealand in 1999. It has previously been recorded from Auckland, Gisborne, and Hawke's Bay.

New distribution record for New Zealand – Fungus: *Eutypella scoparia*; **Region:** Wanganui; **Host:** *Robinia pseudoacacia*; **Coll:** B Rogan, 21/05/2008; **Ident:** P Gadgil, 13/10/2008; **Comments:** This species has previously been recorded on *Nothofagus fusca* and *N. menziesii* from Bay of Plenty. It is widely distributed in the Northern Hemisphere and recorded there on a large number of hosts including *Robinia*. It is probably saprophytic or possibly a weak pathogen.

New distribution record for New Zealand – Fungus: *Chaetomium trigonosporum*; **Region:** Bay of Plenty; **Host:** *Pinus radiata*; **Coll:** J Gardner, 25/07/2008; **Ident:** P Gadgil, 15/10/2008; **Comments:** This is fungus is coprophilous, i.e. it lives in or on dung. Previous records in New Zealand are from wallaby and possum dung. It was recovered from surface sterilised pine needles from plants in a nursery that has both wallaby and rabbit activity. The pine needle colonisation is likely to be incidental. It has previously been recorded from Northland and Auckland.

New host record for New Zealand – Fungus: *Eutypella scoparia*; **Region:** Wanganui; **Host:** *Robinia pseudoacacia*; **Coll:** B Rogan, 21/05/2008; **Ident:** P Gadgil, 13/10/2008; **Comments:** See above.

New host record for New Zealand – Fungus: *Chaetomium trigonosporum*; **Region:** Bay of Plenty; **Host:** *Pinus radiata*; **Coll:** J Gardner, 25/07/2008; **Ident:** P Gadgil, 15/10/2008; **Comments:** See above.

New host record for New Zealand – Alga: *Cephaleuros virescens*; **Region:** Auckland; **Host:** *Cunonia capensis*; **Coll:** C Scott, 17/10/2008; **Ident:** M Dick, 21/10/2008; **Comments:** This is a very common algal leaf pathogen with a wide host range.

John Bain