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DICRANOSTERNA SEMIPUNCTATA NOW IN THE SOUTH ISLAND

Dicranosterna semipunctata (Chrysomelidae), the blackwood tortoise beetle, is an Australian species that was first found in New Zealand at Remuera, Auckland in April 1996 on *Acacia melanoxylon* (blackwood). By the end of that year it had been found at Whitford and in 2001 it was found in the Waikato for the first time. By 2002 it had spread to the Coromandel and the Bay of Plenty and in 2003 it was found in Northland. In 2008 it was found in Taupo and in 2009 in Wanganui. In late September this year it was found in Nelson during High Risk Site Surveillance conducted by SPS Biosecurity.

In Australia *D. semipunctata* is found in Victoria, New South Wales and south east Queensland and its usual hosts are large phyllode *Acacia* spp. In New Zealand it is usually found on *Acacia melanoxylon* but it has also been recorded from *A. koa*, *A. implexa* and *A. longifolia*. Adults have been found feeding on *Paraserianthes lophantha* but it is not known if the females will oviposit on this host or if the larvae will feed on it.

Dicranosterna semipunctata can cause moderate to severe defoliation of *Acacia melanoxylon* and in 1999 a Scion (then Forest Research) entomologist investigated parasitoids in northern New South Wales (see FH News 105, March 2001). A tachinid larval parasitoid and two hymenopterous egg parasitoids species, *Enoggera polita* and *Neopolycystus* sp. (Pteromalidae) were found. Between 33-60% of the eggs were parasitized and this gave consideration to them being introduced to New Zealand as biological control agents. However, this was not followed up, mainly because of lack of funding.

The egg parasitoid *Enoggera nassaui* (Pteromalidae) and the predatory beetle *Cleobora mellyi* (Coccinellidae), introduced into New Zealand as biological control agents for the Eucalyptus defoliator *Paropsis charybdis* (Chrysomelidae), have also been considered as control agents for *D. semipunctata*. However, *Enoggera nassaui* has not been found parasitizing *D. semipunctata* eggs in the field although it will parasitize them in the laboratory. *E. nassaui* will not normally encounter *D. semipunctata* because it searches *Eucalyptus* not *Acacia* species.

During the summer of 2009-2010 an undescribed, self introduced species of *Neopolycystus* was found parasitizing *D. semipunctata* eggs in Auckland, Waikato and Bay of Plenty. Rates of parasitism ranged from about 6% to 78% and the parasitoid seemed to be most active in mid to late summer. This means the *Neopolycystus* sp. will exert pressure mainly on the second *D. semipunctata* generation, the adults of which feed voraciously prior to overwintering and can cause significant defoliation to *A. melanoxylon*.

Now that *D. semipuncata* is in the Nelson area, it will be interesting to see how long it takes to reach the prime *A. melanoxylon* growing regions on the West Coast.

John Bain and Toni Withers

Dicranosterna damage to *Acacia melanoxylon* (photo courtesy of D. Satchell). Inset shows the distinctive copper colour of *Dicranosterna semipunctata*.

*Newsletter of the **Scion Forest Protection team**, and the **Forest Health Reference Laboratory** (incorporating the Forest Research Mycological Herbarium (NZFRI-M), the Forest Research Culture Collection (NZFS), and the National Forest Insect Collection (FRNZ). Edited by John Bain, New Zealand Forest Research Institute Ltd, Private Bag 3020, Rotorua.*
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DUTCH ELM DISEASE

Dutch elm disease, caused by *Ophiostoma novo-ulmi*, was first found in Myers Park, Auckland in December 1989. *Scolytus multistriatus*, a European bark beetle and one of the known vectors of the fungus, was detected at the same time. Surveys indicated that the disease was limited to only a part of greater Auckland and an eradication programme was started.

The programme followed a strategy of locating all elms in the infected area, inspecting all known elms at least three times during the flight season of the vector beetle and felling, fumigating and burying all infected material immediately after detection. Trapping of *S. multistriatus* adults using an aggregating pheromone and plating of all trapped beetles on to a selective medium for *O. novo-ulmi* to detect contaminated beetles also formed a part of the strategy after the first season. After twenty-three years eradication has not been achieved, although the disease is still contained within the Auckland area.

The Ministry of Agriculture & Forestry stopped providing financial support for the programme after the 2006-07 season, and funding is now provided by Auckland Council with in-kind contributions received from Treescape Ltd, Scion and SPS Biosecurity. Treescape completed six removals at no cost to the programme, one included trees in Pakuranga that required significant traffic management.

The 2011-12 programme consisted of one continuous disease detection survey over the summer and a pheromone trapping programme (67 traps) in high risk areas to determine sources of infection or large amounts of breeding material. The disease detection survey started in December 2011 and was completed in May 2012. All elms recorded in areas considered to be a high risk were surveyed. The traps were inspected weekly from early December 2011 until late April 2012.

A total of 58 elm samples were received during the season (the previous season was 66) and 31 trees from 23 locations were infected with *O. novo-ulmi.* This was a significant increase from the previous season when only four infected trees at four locations were found. Only two diseased elms were discovered before Christmas.

During the season 2,200 beetles were trapped. This compares with 10,259 in the 2010-11 season. Only 0.55% of the beetles were positive for *O. novo-ulmi* compared to 1.54% the previous season. Interestingly just three traps accounted for 53% of all the beetles caught. One was in Pakuranga, one on Henderson Valley Road and the third Whitford. The Pakuranga and Henderson Valley traps had the highest catches in 2010-11. The Whitford trap was not there in the previous season.

In April 2012, a large group of dead and dying elms was found in a gully off Clifton Road, Whitford. Healthy elms were also in the gully. Some of the standing dead elms were at least two seasons old. Because of access difficulties the elms were not sampled until September 2012. On 24 September *O. novo-ulmi* was isolated from those samples. The dying trees have been removed and the site treated.

For further details see: http://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=10837606

John Bain and Lindsay Bulman

Diseased elm - Myers Park, Auckland.

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