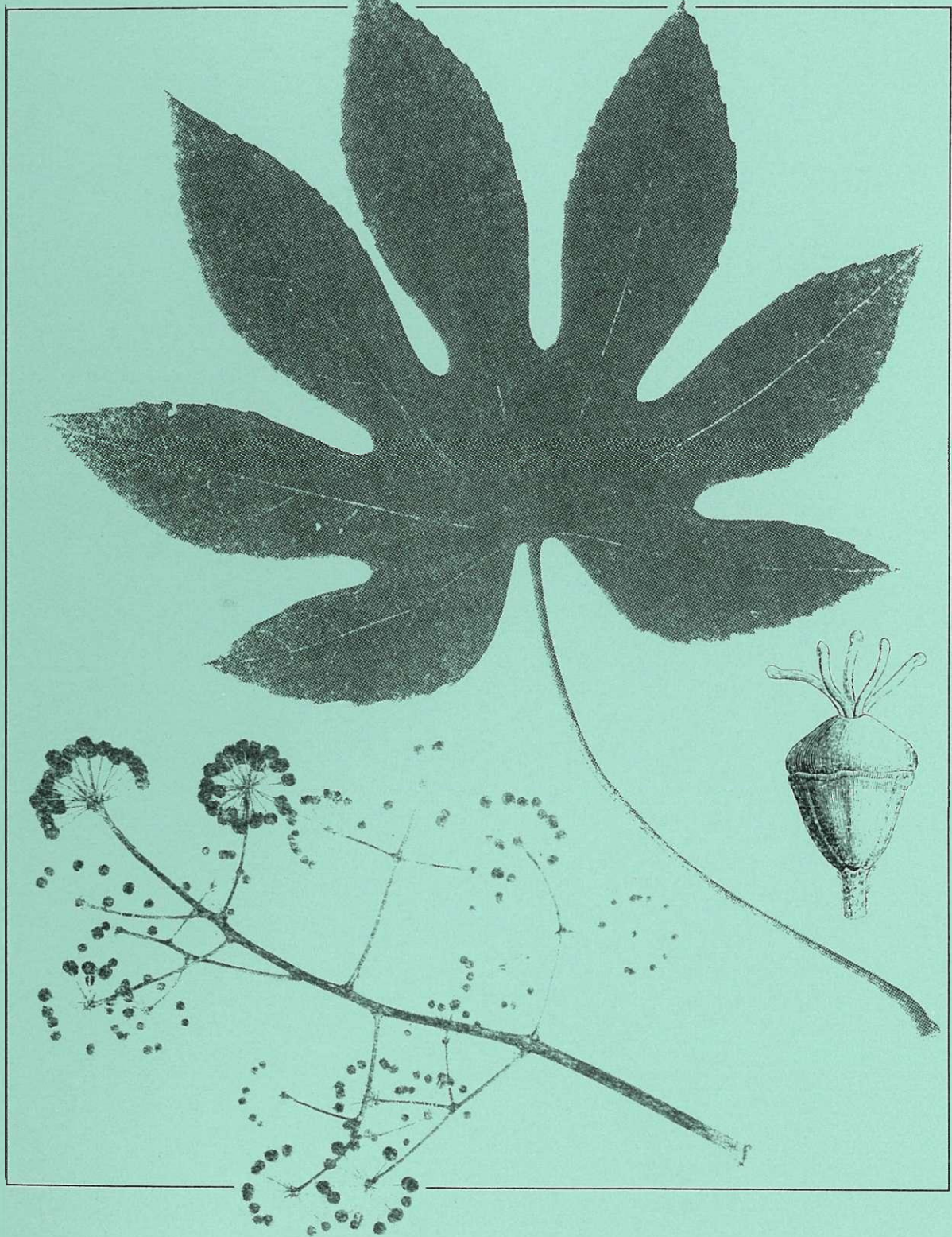


NEW ZEALAND BOTANICAL SOCIETY  
**NEWSLETTER**

NUMBER 48

JUNE 1997



NEW ZEALAND BOTANICAL SOCIETY  
**N E W S L E T T E R**  
NUMBER 48 JUNE 1997

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**Cover Illustration:**

Adult leaf (x 0.5), umbels of fruit (x 0.5) and young fruit (enlarged) of *Fatsia japonica*. See article on p. 7.

## **New Zealand Botanical Society**

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### **Subscriptions**

The 1997 ordinary and institutional subs are \$16 (reduced to \$12 if paid by the due date on the subscription invoice). The 1997 student sub, available to full-time students, is \$8 (reduced to \$6 if paid by the due date on the subscription invoice).

Back issues of the *Newsletter* are available at \$2.50 each - from Number 1 (August 1985) to Number 48 (June 1997). Since 1986 the *Newsletter* has appeared quarterly in March, June, September and December.

New subscriptions are always welcome and these, together with back issue orders, should be sent to the Secretary/Treasurer (address above).

Subscriptions are due by 28 February of each year for that calendar year. Existing subscribers are sent an invoice with the December *Newsletter* for the next year's subscription which offers a reduction if this is paid by the due date. If you are in arrears with your subscription a reminder notice comes attached to each issue of the *Newsletter*.

### **Deadline for next issue**

The deadline for the September 1997 issue (Number 49) is 22 August 1997.

Please forward contributions to: Bruce & Beverley Clarkson, Editors  
NZ Botanical Society Newsletter  
7 Lynwood Place  
HAMILTON

Contributions may be provided on an IBM compatible floppy disc (in Word Perfect 5.1) or by e-mail (ClarksonB@Landcare.CRI.NZ).

### Regional Botanical Society News

#### ■ Auckland Botanical Society

##### March Evening Meeting - AGM

After the business of the AGM, Anne Grace spoke on the Auckland Regional Council Regional Parks, with the theme of "Man in harmony with nature". The parks include many diverse areas including farm parks, coastal areas, botanic gardens, marine reserves, forests and catchment areas, and are reserved for conservation and recreation. Since the first of these parks, Wenderholm, was set aside in 1964, 33,000 ha have been reserved. The ARC is to be commended for adopting the lowest impact approach to re-vegetation, using eco-sourced plants where planting is deemed necessary.

##### March Field Trip

A repeat expedition to Okahukura Sand Island in the Kaipara Harbour saw an improvement in both the weather and the numbers attending. The stretch of sand between the mainland and the island is only covered at very high tides, so a dry footed crossing was made. The island is composed of a series of rolling sandhills vegetated with sand binding plants, with damper hollows between, where typical saltmarsh plants grow. The twin plagues of the north - pampas and gorse - are unfortunately gaining a strong foothold. The promised treat of seeing *Coprosma parviflora*, *Mazus novaezeelandiae*, and *Ranunculus urvilleanus* on the return to the mainland, had to be abandoned due to some navigational difficulties.

##### Easter Camp

A small party, based at Waipoua Forest Camp, enjoyed the botanical delights of this floristically rich part of Northland. The first day was spent in the forest itself, walking into the Yakas kauri, then down to the HQ. This track is boardwalked into the Yakas tree, but from there on is sadly showing the impact which heavy tourist traffic is having on our forest walks. The next day, the highlight of the weekend, was spent walking to the highest point of the Tutamoe Range (770 m), through a wonderful sub-tropical swamp forest, where the pukatea, swamp maire and towai trees are festooned with epiphytes, lianes, filmy ferns and mosses. On the summit grow several species which are rarely seen in the north. Day 3 was spent following a tributary of the Opouteke Stream, where a lava flow had solidified into pillars and other rock formations. Filmy ferns were prominent again, and it was interesting to see the closely related *Hymenophyllum atrovirens* and *H. flexuosum* growing together on rocks, but with *H. atrovirens* in its usual position close to the waterline. A quick visit to the Kai Iwi Lakes was managed by some on the way home.

##### April Evening Meeting

Dr Mahendra Giri spoke of the changing environment of Nepal. This talk gave an interesting insight into the geographical regions of Nepal, with slides showing some of the people and buildings of this exotic country, and giving tantalising glimpses of rhododendrons and other botanical treats.

##### April Field Trip

A joint trip with the Auckland Museum Geology Club saw a large party head out to Port Waikato to look for fossils in the Hurawai plant beds. These late Jurassic rocks were laid down in a braided river situation, fed by periodic volcanic eruptions, on the New Zealand margin of Gondwana.

After a longish walk from the road down to the shore the fossil beds were reached, and the constant roar of the waves was punctuated by the tap, tap of hammers as the rocks were fractured to give up their ancient secrets. The perfectly preserved impression of a large cone was the fossil find of the day. The botanists couldn't ignore the living plants completely. *Nertera setulosa* growing under tea-tree scrub, and the native mint, *Mentha cunninghamii*, growing in the halophyte meadows bordering the shoreline were the most notable of these.

##### May Evening Meeting

Rhys Gardner reported on his recent trips to New Caledonia, a country which has been described as a "biodiversity hot-spot" - an apt description for an island about the size of Northland but which boasts 44 gymnosperms in the flora. Slides illustrated the vegetation range from the ultramafic highlands to the dry western areas which support an often burnt sclerophyll scrub. Some herbarium sheets on display were an added interest.

### May Field Trip

Vinings Scenic Reserve has been visited by the ABS before, but this time Jack Mackinder led 12 members on a different route. The track followed a dry ridge through three quite distinct vegetation types; firstly through well established kanuka, tanekaha and towai, secondly through kauri/hard beech forest, then into damper forest with tawa, pukatea, rewarewa, rimu, miro and kahikatea. There was an abundance of perching orchids, the most common being *Drymoanthus adversus*. *Earina autumnalis* was flowering and *Dendrobium cunninghamii* bore large capsules.

### Forthcoming Activities

#### Evening Meetings:

- 2 July Visit to the new botany space at Auckland Museum (Ewen Cameron *et al.*)  
6 August Flora of Turkey (Mike Wilcox)  
3 September Reproduction biology of pohutukawa (Gabriele Schmidt-Adams)

#### Field Trips:

- 19 July Kawau Island (Rhys Gardner)  
16 August Kura Track, Waitakeres (Sandra Jones)  
20 September Western Springs/Auckland Zoo (Mike Wilcox).

**Maureen Young**, 36 Alnwick Street, Warkworth

### ■ **Canterbury Botanical Society**

#### April meeting

Dave Kelly, Plant and Microbial Sciences, University of Canterbury, spoke about the biology of mistletoe flower pollination, especially in *Alepis* and *Peraxilla* which parasitize beeches. Self-pollination of flowers occurs, but cross-pollination is more effective for good seed set. Honey eaters (bellbird and tui) are the prime pollinators, but native solitary bees are also able to pollinate by chewing at the tip of the bud. On a video we saw the intriguing details of the ways in which the birds and bees open the flowers and transfer pollen.

#### April field trip

We spent an interesting day in the small Boundary Creek Reserve, off Glendhu Road, North Canterbury. It is one of a group of remnant black beech stands in the area, close to the coast. A narrow, meandering stream bed is overhung by kanuka and broad-leaved forest, with scattered matai and totara. *Teucrium parvifolium* is abundant in places. A single shrub of *Pittosporum divaricatum* was found. *Microlaena stipoides* and *Echinopogon ovatus* were amongst the grasses. *Hymenophyllum revolutum*, rare on eastern South Island, was rediscovered.

#### May meeting

Ray Genet spoke about a scheme to develop native woody plant cover on Quail Island in Lyttelton Harbour. This is the subject of his Canterbury University M.Sc. thesis in Environmental Science. Quail Island is the only possible location for island restoration in Canterbury. Ray has studied other remnants of dry maritime forest in the district to devise a planting programme. The control of rabbits, stoats and ferrets would be necessary. Ray looks ahead to envisage the introduction of white-flipped penguins, robins, tomtits and yellowheads.

#### May field trip

About 30 members and friends travelled to Quail Island by launch. Ray Genet guided us right around the island, pointing out the native trees and shrubs that are already present largely due to the success of plantings made in 1983. Drought and browsing by rabbits are the limiting factors. Our lunch site on the summit in the heart of the Lyttelton caldera was spectacular.

#### Forthcoming meetings

- Saturday 14 June, 11am-2pm. St. Ninians Church Hall, Puriri St., Riccarton. A.G.M., and a talk by Sue Gibb, Landcare Research, on the Rare Plants Database, followed by a social gathering and lunch.  
Friday 4 July, 8pm. Botanical Discovery; "Some 19th century modernists of Canterbury, Otago and Southland." Speaker: Eric Godley.  
Saturday 5 July, 9.45am. A visit to the Macmillan Brown Library, University of Canterbury, which holds a set of illustrations of New Zealand and Australian plants from Joseph Banks' *Florilegium*, and many other volumes of botanical discovery.  
Friday 1 August, 8pm. "Flowers of Western Australia." Speakers: Ron Close and Peter Wardle.

Saturday 2 August. Mt Ararat, Omihi, North Canterbury, home of an isolated population of southern rata (*Metrosideros umbellata*).

**Bryony Macmillan and Colin Burrows**, PO Box 8212, Riccarton, Christchurch

### ■ Nelson Botanical Society

#### March field trip - Mt Starveall

The first part of the walk was through mainly red beech forest with a good variety of ferns and shrubs. *Pittosporum rigidum* and *P. anomalum* (later seen in open shrubland) caused some debate. On the edge of the ultramafic area *Hebe rigidula* was common. *Poranthera microphylla* was also found here in low manuka. Further on Jean Espie at the rear of the pack spotted a lone *Notothlaspi australe* in full fruit. Most of the alpine species were now well past flowering and many (such as the *Euphrasia*) were totally overlooked. The main flowers were gentians, especially *Gentiana bellidioides* and the tall ultramafic *G.* aff. *tenuifolia* which flowers from January to May or even later. Those who ventured on to the summit were rewarded with rock and scree plants such as edelweiss (*Leucogenes leontopodium*) vegetable sheep (*Raoulia bryoides* and *R. eximia*), more *Notothlaspi australe* and at the summit, *Celmisia cordatifolia*.

#### Easter camp - Awatere Valley

A good sized party of over 20, including three from Canterbury Botanical Society, descended on Upcot Station for the Easter Break. On Friday we headed the Enchanted Stream. Native plants were often scarce except in specialised habitats such as rock outcrops.

Local shrub species included *Hebe decumbens*, *Heliohebe pentasepala*, *Brachyglottis monroi*, *Pachystegia* ("B") and *Ewartia sinclairii*. Odd forms of *Raoulia tenuicaulis* were apparently hybrids with *Ewartia sinclairii*. Under taller matagouri the delicate blue-green *Acaena dumicola* and light green *A. juvenca* were present and on the stream banks *A. anserinifolia* and *A. inermis* (with its red spines sometimes and both purple and lime-green forms) also added interest. At the point where the party turned back at a small gorge *Aciphylla aurea* was seen.

On Saturday the first destination was an outcrop of volcanic rock in the Lee Brook. Here large patches of *Muehlenbeckia ephedroides* were found with many plants showing both flowers and fruit. Amongst the crags odd plants of Hall's totara, *Meliccytus alpinus*, *Hebe decumbens* and *Heliohebe pentasepala* were present with abundant *Helichrysum coralloides*. In one shady place *Ewartia sinclairii* was especially abundant. The second stop was at the Upcot Stream. Here two large overhanging *Notospartium carmichaeliae* attracted interest en route up stream. After the stream junction the creek soon became a gorge sheltering a beech forest remnant. Here several large *Olearia coriacea* were of special interest.

On Sunday the party explored the lower Penk River and Bolton Stream. The Penk exposed spectacular folding in the rocks. The area has an abundance of putaputaweta, fuchsia, and wineberry and tall riverbank kanuka stands had a dense understory of divaricating shrubs including *Coprosma rhamnoides*. In more open areas *Clematis afoliata* and kowhai were common. In the Bolton Stream tall putaputaweta stands attracted admiration and provided a habitat for a variety of ferns including the introduced *Dryopteris felix-mas*. On the dry banks *Muehlenbeckia ephedroides* was noted.

On Monday Altimarlock provided a stopover for the journey home. The first stop saw a foray around the summit taking in the vegetable sheep and a variety of herbs, few of which were in flower. Curiosities included hybrids between the abundant *C. sessiliflora* and *C. spectabilis*. At the next stop about half-way down to the old observatory the tussock grassland cover was more complete and *Hebe lycopodioides* was common as a scattered shrub with *Dracophyllum uniflorum* and *D. acerosum*. The last stop, at the edge of the scrub zone, was to see *Coriaria kingiana*, *Aristotelia fruticosa*, *Hoheria lyallii* and *Olearia cymbifolia*.

#### April field trip - Maitai Cave

The lower beech forest has a rich diversity of ferns including the less often seen *Hymenophyllum scabrum*. Near the track junction both *Botrychium australe* and *B. biforme* were noted. Towards the cave the forest became taller and warmth preferring species such as titoki and hinau became more common. Several large kahikatea were dramatically draped with bright green swards of *Blechnum filiforme*. The cave itself in mahoe forest was rather an anticlimax but around it *Lastreopsis velutina* and *Blechnum membranaceum* were common.

### May field trip - Wangapeka track end

Yet another huge turn out of members for the stroll up the Wangapeka end of the track. The brave slowly wandered along the frosty flats while the wise skipped from sunny spot to sunny spot but all scarcely reached Gibbs Creek before returning. The route was through shrublands with unmodified islands of red and mountain beech forest. Highlights of the day included mistletoe (*Peraxilla colensoi*) ably spotted by David Jackson on silver beech, and an erect form of *Parahebe lyallii* spotted on a rocky bank where the track ran close to the river.

### Forthcoming trips

July 20            Martin Conway/Waiiti Domain  
August 17        Tapu Bay to Little Kaiteiteri (J. McLintock)  
September 14    Abel Tasman Coast ? Boat trip, Bark Bay

**Graeme Jane**, 136 Cleveland Terrace, Nelson

## Research News

### ■ Plant biosystematics research in New Zealand

In a recent article (Breitwieser & Heenan 1996) on the plant biosystematics programme at Landcare Research, a request was made for information on who was studying which particular plant groups. The idea for this request originated with reviewers of our research proposal bid to FRST in 1995. A working database of plant taxonomists in New Zealand was envisaged as a useful management tool for several reasons. Firstly, it would allow for the identification of any groups of plants that are in need of taxonomic research but that had otherwise slipped through the cracks. Secondly, with an increase in the level of biosystematic research it would identify who was working on which groups and therefore avoid any potential duplication of efforts, and also possibly identify areas for collaboration. Thirdly, a published list would inform the wider botanical community about current botanical research. This third point was considered important for Landcare Research taxonomists given that the programme has several new recruits.

The list of research topics presented here does not necessarily mean that the research is currently active and that it will be completed in the immediate future. However, it does indicate the particular groups people are broadly interested in. The following list includes only information provided to us and it is therefore not exhaustive.

Michael Bayly, Museum of New Zealand, Wellington: *Hebe* complex.

Jessica Beever, Research Associate, Landcare Research, Auckland: *Fissidens*.

Ilse Breitwieser, Landcare Research, Lincoln: New Zealand Inuleae (Compositae), *Craspedia*.

Patrick Brownsey, Museum of New Zealand, Wellington: New Zealand ferns, *Hebe* complex.

Bruce Clarkson, Landcare Research, Hamilton: northern *Hebe*, *Celmisia* X *Olearia* hybrids, *Sporadanthus*.  
Collaborating with student Marilyn Merrett (*Alseuosmia quercifolia*)

Henry Connor, Research Associate, Landcare Research, Lincoln: *Festuca*, Grass Flora.

John Dawson, Victoria University, Wellington: *Aciphylla*, *Anisotome*, *Metrosideros*.

Murray Dawson, Landcare Research, Lincoln: cytology, *Kirkianella*, *Leucopogon*.

Peter de Lange, Department of Conservation, Auckland: mainly interested in the taxonomy of threatened and possibly unnamed taxa of the following genera: *Alectryon*, *Arthropodium*, *Atriplex*, *Beilschmiedia*, *Carex*, *Chenopodium*, *Coprosma*, *Geniostoma*, *Gratiola*, *Hebe*, *Hoheria*, *Lepidium oleraceum* agg., *Meliccytus*, *Myrsine*, *Parsonsia*, *Pennantia*, *Peperomia*, *Plagianthus*, *Picris*, *Pittosporum*, *Ranunculus recens* agg., *Senecio*, *Sporadanthus*, *Stellaria*.

Elizabeth Edgar, Research Associate, Landcare Research, Lincoln: *Trisetum*, Grass Flora.

Allan Fife, Landcare Research, Lincoln: Bryophytes.

Kerry Ford, Landcare Research, Lincoln: *Carex*.

David Galloway, Landcare Research, Dunedin: Lichens.

Rhys Gardner, Research Associate, Auckland Museum: Alseuosmiaceae, Araliaceae, Campanulaceae, Compositae (large-leaved *Olearia*), Convolvulaceae (*Dichondra*), Epacridaceae (*Dracophyllum*), Escalloniaceae, Euphorbiaceae (*Homalanthus*), Griselinaceae, Icacinaceae, Lauraceae, Loganiaceae (*Geniostoma*), Malvaceae (*Hoheria*), Myrsinaceae, Oxalidaceae, Piperaceae, Pittosporaceae, Rubiaceae (*Coprosma*).

Phil Garnock-Jones, Victoria University, Wellington: Brassicaceae (*Cheesemania*, *Ischnocarpus*, *Iti*, *Lepidium*, *Notothlaspi*, *Pachycladon*), Compositae (*Celmisia-Olearia* complex), Cunoniaceae, *Geniostoma*, *Hebe* complex, *Knightia*, *Ourisia*, *Scleranthus*, *Sonchus*, *Spergularia*. Collaborating with students Cara Maher (*Hebe stricta* complex), Bianca Maich (*Parahebe catarractae* complex), Gillian Harper (*Hebe rigidula* complex), Rob Smissen (*Scleranthus*).

David Glenny, Landcare Research, Lincoln: *Forstera*, *Gentiana*, *Kirkianella*.

Michael Heads, Department of Conservation, Whangarei: *Coprosma*, *Olearia*.

Peter Heenan, Landcare Research, Lincoln: *Carmichaelia* complex, *Cardamine*, *Arthropodium*, *Carex*, *Clianthus*, *Galium*, *Hypericum*, *Ischnocarpus*, *Leucopogon*, *Limosella*, *Mazus*, *Myrsine*, *Neopaxia*, *Phormium*, *Schoenus*, *Sophora*, *Sporadanthus*, *Stellaria*, *Swainsona*, *Uncinia*, *Viola*. Particularly interested in the taxonomy of threatened and possibly unnamed taxa.

Brian Molloy, Research Associate, Lincoln: conifers, orchids, limestone flora, *Meliccytus*.

Barbara Parris, Fern Research Foundation, Kerikeri: Grammitidaceae (*Ctenopteris*, *Grammitis*).

Alastair Robertson, Massey University, Palmerston North: *Myosotis*.

Barry Sneddon, Victoria University, Wellington: *Colobanthus*.

Steve Wagstaff, Landcare Research, Lincoln: molecular systematics of *Chionohebe*, *Hebe*, *Parahebe*, *Corynocarpus*, Inuleae (Compositae), *Phyllocladus*, *Carmichaelia*, *Swainsona*.

Josephine Ward, University of Canterbury, Christchurch: New Zealand Inuleae (Compositae). Collaborating with students Lynn Baxter (micromorphology of the Inuleae), Robert McKenzie (hybridism in the Inuleae), and Aaron Wilton (phenology and anatomy of the Inuleae).

#### Reference

Breitwieser, I.; Heenan, P. B. 1996: News on the FRST programme "Biosystematics of New Zealand plants" and the biosystematists at Manaaki Whenua - Landcare Research. *New Zealand Botanical Society Newsletter* 46: 6-9.

Peter Heenan and Ilse Breitwieser, Landcare Research, PO Box 69, Lincoln

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## NOTES AND REPORTS

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### Plant records

#### ■ The naturalisation of *Fatsia japonica* (Araliaceae) in New Zealand

##### Introduction

*Fatsia japonica* (fatsia) is a large-leaved warm-temperate plant from Japan that has been widely cultivated around the world for well over a hundred years. It has been cultivated in New Zealand since at least 1867 (Hay 1867). It has been used extensively as an indoor pot plant but in New Zealand is more common as an outdoor garden plant. Its large attractive leathery leaves, showy terminal inflorescences, innate



hardiness and low maintenance requirement make it an ideal plant for these purposes. However, these same properties make fatsia a potential threat to New Zealand's native bush.

Webb *et al.* (1988) list fatsia as naturalised from only three sites in the North Island and from two in the South, the first vouchered record being in 1976 from the North Island, Petone, Ngauranga cliffs (CHR 324081). More recently there has been an increase in the number of wild plants collected, suggesting an increase in the rate of naturalisation, with 20 vouchered herbarium specimens (herbaria searched were AK, CHR, WAIK & WELT) and numerous other sightings reported to me by botanists.

#### Taxonomy

The genus *Fatsia* (previously placed in *Aralia*) occurs naturally in south east Asia and is a member of the Araliaceae (the ginseng family). The name *Fatsia* comes from the Japanese name 'Fatsi' which was mistakenly applied to *F. japonica* (Mabberly 1990). The correct Japanese name for it is "Yatsude" (Ohwi 1965). There appears to be some disagreement over how many species are represented in *Fatsia* with some authors reporting 1 (Mabberly 1990), some reporting 2 (Webb *et al.* 1988) and others reporting 3 (Huxley 1992). The specific epithet *japonica* refers to the country where *F. japonica* originates - Japan. Aside from "Yatsude" and fatsia there are numerous other common names for the plant such as rice-paper plant, Japanese fatsia, Japanese aralia, glossy-leaved paper plant, and castor oil plant (Huxley 1992).

#### Chromosome number

*Fatsia* has a chromosome number of  $n=12$  (Darlington & Wylie), which is common for plants in the Araliaceae family. New Zealand genera that are in this family are *Meryta*, *Pseudopanax*, *Schefflera* and *Stilbocarpa* which all have a base chromosome number of 12 (Rattenbury 1957 & Druce 1993).

#### Distribution

*Fatsia* is generally found naturalised in urban areas, predominately around Auckland, but with a few collections from Hamilton, Wellington and Christchurch (Figure 1). It is very likely that the distribution of naturalised fatsia is considerably more widespread than shown in Figure 1 as this is based only on vouchered herbarium collections.

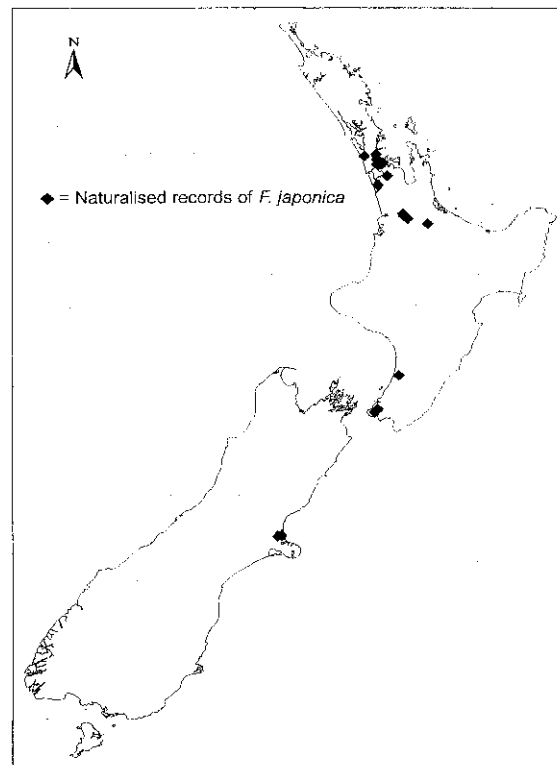
Because fatsia is very commonly cultivated in urban gardens its spread in New Zealand is likely to be more noticeable in the north due to the denser population. Temperature probably limits the spread of fatsia in very cold areas of New Zealand. *Fatsia* can tolerate temperatures down to  $-5^{\circ}\text{C}$  (Huxley 1992) so regions that have soil temperatures which are consistently less than  $-5^{\circ}\text{C}$  for long periods of time (e.g. upland areas) are unlikely to be colonised. Aside from very cold areas, probably the only aspect limiting its spread to more remote areas of New Zealand is the relatively low number of cultivated plants present compared to urbanised areas. This is borne out by Figure 1 with 15 naturalised plants recorded from Hamilton northwards compared with only 5 from south of Hamilton.

#### Frost tolerance

*Fatsia* is a very hardy plant and tolerates temperatures down to  $-5^{\circ}\text{C}$  (Huxley 1992). It is very frost hardy, although some cultivars (e.g. cv. 'Variegata') are slightly more susceptible than the wild form. To date none of the fatsia cultivars have been recorded naturalising in New Zealand. *Fatsia* is one of the largest-leaved of frost-resistant evergreen shrubs (Huxley 1992).

#### Flowering and fruiting

In New Zealand fatsia begins flowering in Autumn and can continue until mid-winter. Generally, copious fruit are set which are ripe from early winter on. The flowers attract flies and wasps, particularly blowflies (Calliphoridae) (pers. obs.) and German wasps



**Figure 1. Map showing the distribution of naturalised fatsia plants in New Zealand based on vouchered herbarium records.**

(*Vespula germanica*) (P J de Lange pers. comm.), and it is likely that these are its primary pollinators. Ants (*Ochetellus glaber*) have also been observed visiting the flowers in Auckland (pers. obs.). The ripe fruit is a berry which is green-black, with green to purple flesh, spherical, 5-8 mm diameter, with 1-5 small brown seeds present in each. Each fruit is borne on a c. 2 cm long stalk. Flowers and fruit are borne in compound umbels which arise from the apex of a stem.

#### Size and lifespan

Fatsia can grow to a height of around 6 m (Huxley 1992) but there appears to be no information in the literature about its longevity. In New Zealand the tallest wild plant recorded so far is c. 3 m from Dixon Street, Wellington (AK 232187), while the tallest cultivated plants are quite often well over 3 m tall (pers. obs.). As it tends to sucker from the base and can put up new shoots it can be more or less eternal.

#### Heteroblasty

As is commonly found in some other genera in the Araliaceae (e.g., *Pseudopanax*, *Schefflera* and *Hedera*) fatsia exhibits a marked difference in leaf shape and form between the juvenile and the adult (cf. Fig. 2 and front cover of this *Newsletter*). The first pair of leaves on a seedling is generally entire (although with toothed margins) with the second pair of leaves being sub-entire to tri-lobed. Young seedling leaves measure about 5-9 cm long x 4-5 cm wide and are also quite thin and delicate (when compared to the adult leaf). As the plant gets older new leaves are larger and thicker and develop more lobes. Adult leaves are thick and leathery, to 90 cm long x 40 cm wide, with 7-11 deep lobes.

#### Toxicity

Aside from the potential threat to native bush fatsia could also pose a threat to sheep and cattle. Connor (1977) lists only two members of the Araliaceae family growing in New Zealand that are known to exhibit some toxicity, namely ivy (*Hedera helix*) and five-finger (*Pseudopanax arboreus*). There has been at least one suspected poisoning of dairy cattle from just south of Matamata in 1995 which involved naturalised fatsia plants (CHR 510651A). P.J. de Lange (pers. comm., 1997) reported that after collecting a sample of fatsia he experienced some puffiness in the face and came out in a minor rash. The Kew index of poisonous plants in Britain and Ireland (1995) states that fatsia may be harmful if eaten and can be a skin or eye irritant. With the increasing spread of this plant there is every likelihood that there will be more reports of poisonings.

#### Invasion of Native Bush

Fatsia poses a threat to our native bush because its large leaves and high shade tolerance give it the potential to shade out native seedlings and saplings. Although fatsia usually has only a few main stems it tends to sucker from the base and can form multi-stemmed thickets which prevent other plants (even shade-tolerant plants) from establishing underneath.

Fatsia establishes relatively easily in areas of bush that are quite open but well-shaded (although they can grow equally well in full sun). There is a recent record from Auckland City of an adult fatsia naturalised epiphytically on a Canary Island palm (*Phoenix canariensis*) (AK 232183), suggesting that seeds germinate easily and adults can grow well even with very little soil.

Areas of native bush that are close to residential areas are more prone to invasion than remote areas simply because of the prevalence of fatsia in residential gardens. However, while naturalised plants are generally found in bush near residential areas they are frequently found with no adult plants in the immediate vicinity (i.e., an obvious seed source), suggesting that the seed is dispersed a reasonable distance, most probably by birds. Frugivorous birds that are commonly found in gardens, e.g. starlings, blackbirds, mynas and song thrushes, are all capable of eating the ripe fatsia fruit and ejecting the seed elsewhere. One of the most likely culprits however, is New Zealand's own pigeon (kereru).

#### Conclusion

While fatsia is not yet widely naturalised there is little doubt that it has the potential to spread widely throughout New Zealand and may become a threat to native forest. The increasing numbers of naturalised plants being recorded suggest that this plant should be closely monitored to ascertain just how widespread and damaging it will become. From our current knowledge of the plant we can say that it poses enough of a threat to warrant removal from areas of native bush where it has naturalised. Seedlings are easily removed but if a plant is left to establish then removal becomes more difficult. Cutting down the main trunk encourages the plant to sucker and put up more shoots making removal even more difficult. Removal of the entire plant, including the roots, is necessary. A systemic herbicide would most likely be effective in killing adult plants. Although fatsia has been cultivated in New Zealand for at least 130 years the first naturalised plant vouchered was collected only 21 years ago, suggesting a marked lag phase in its



Figure 2. Photocopy of herbarium specimen of *fatsia* seedling leaves (AK 183703).

naturalisation. This lag phase may be slightly artificial in that *fatsia* could have naturalised earlier than 1976 but, due to its prevalence in cultivation, naturalised specimens may have been overlooked for more unfamiliar plants. Only time will tell for certain just how damaging this plant will be.

The author would be most interested in receiving any new records of naturalised *fatsia* plants that extend the known distribution (see Figure 1), along with a specimen and precise locality data.

### Acknowledgements

I would like to thank Ewen Cameron and Peter de Lange for critically reviewing this paper and Hugh Grenfell for assistance in drawing the map.

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### ■ Cape tulip

One of the most undesirable weeds in New Zealand pastures has long been recognised to be Cape tulip, a very poisonous plant responsible for death of stock and even humans in this country and elsewhere. It has been, and still is, the subject of legislation designed to control or eliminate it in both Australia and New Zealand.

In New Zealand it has been known usually as *Homeria collina* (Thunb.) Salisb.<sup>1</sup> or sometimes *H. breyniana* (L.) G.J. Lewis, e.g. Healy, A.J. & Edgar, E. Flora of New Zealand III (1980). Since then the genus *Homeria* Vent. has been monographed by Peter Goldblatt who has studied the African Iridaceae intensively for many years and is the leading authority on them; Goldblatt, P. Systematics and biology of *Homeria* (Iridaceae). *Ann. Missouri Bot. Gard.* 68: 413-503 (1981). There he describes 31 species of *Homeria*, all from southern Africa.

**Table 1. Floral characters separating *H. flaccida* and *H. collina* based on the descriptions by Goldblatt (loc. cit.).**

	<i>Homeria flaccida</i>	<i>Homeria collina</i>
1.	Claws of the tepals spread outwards and slightly upwards to form a wide shallow cup enclosing filaments but not anthers (seen in fresh material only).	Claws of the tepals suberect to form a narrow cup enclosing stamens completely (seen in fresh material only).
2.	Outer tepals 3.5-4.5 cm long and 1.3-2 cm wide.	Outer tepals (2.5)-3-3.5 cm long and 1-1.2 cm wide.
3.	Anthers 8-11 mm long.	Anthers 5-6 mm long.
4.	Style dividing c. 3 mm above anther base; its branches to 7 mm long.	Style dividing just above anther base; its branches (5)-6 mm long.
5.	Capsule beak c. 2 mm long, ± acute.	Capsule beak c. 1 mm long, ± obtuse.

<sup>1</sup>In New Zealand the combination in *Homeria* is generally attributed to Ventenat but this is wrong.

Two related species from the S.W. Cape are *H. collina* and *H. flaccida* Sweet and they have been confused in New Zealand and Australia. Examination of New Zealand material shows that our plants belong to *H. flaccida* and in Australia this seems to be the commonest naturalised species of the genus. In South Africa *H. flaccida* is more widespread in Cape Province than is *H. collina* and has probably been introduced more widely elsewhere in the world than other species of the genus. Thus, cultivated plants of *H. flaccida* in England were illustrated in Curtis' Botanical Magazine in the early part of last century before the species was formally described. Cape tulip was first recorded wild in New Zealand in 1944 (Healy & Edgar loc. cit.) but had doubtless been cultivated for many years before then. In Australia the species was recorded early in the century; Black, J.M. Naturalised Flora of South Australia: 149 (1909).

*Homeria flaccida* is distinguished from *H. collina* by the combination of characters in Table 1. In addition, plants of *H. flaccida* are usually larger and have more inflorescence branches than *H. collina*. As far as I am aware, the latter does not grow in New Zealand, at least in the wild. In South Africa both species normally have salmon-coloured flowers but yellow variants are known. This also applies to *H. flaccida* in New Zealand.

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### ■ More wild Moreton Bay figs

Since the first record of a wild Moreton Bay fig (*Ficus macrophylla*) in New Zealand (Cameron 1996), three more populations have been found and the original Myers Park site revisited:

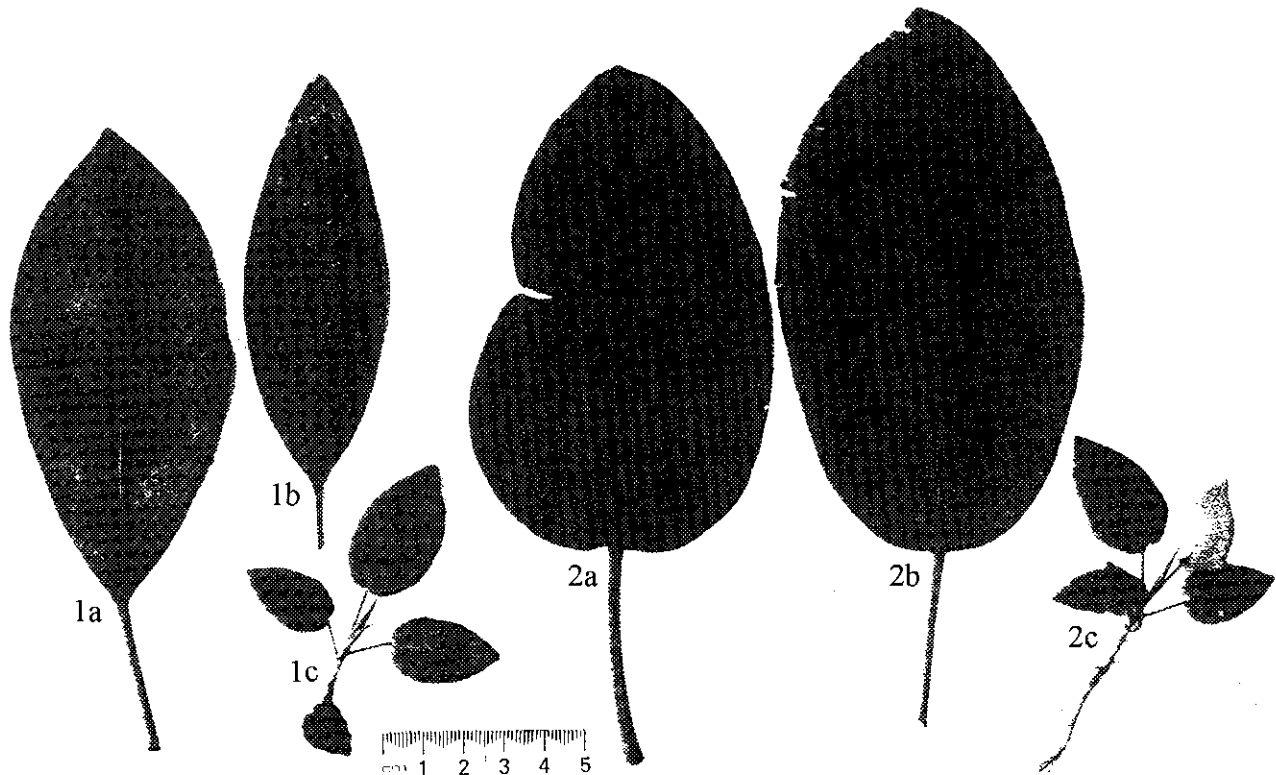
1. Kawau Island, south side of Mansion House, 20 February 1997. Two epiphytic Moreton Bay figs (each c. 1.5 m tall), one in the head of each of the two large (c. 10 m tall) Chilean wine palms (*Jubaea chilensis*) which are close together. There is a large cultivated Moreton Bay fig some 100 m distant on the north side of Mansion House. Binoculars were used to view the wild figs and no voucher material was obtained. Cultivated Port Jackson fig (*Ficus rubiginosa*) is also present in Mansion House grounds.

In January 1992 I collected a fig seedling (AK 207068, c. 25 cm tall) on the base of a Canary Island palm (*Phoenix canariensis*) near Mansion House which was thought to be a Port Jackson fig at that time. It has the flattish leaf bases of Moreton Bay fig and is most likely to be that species which would make it New Zealand's first wild collection of Moreton Bay fig.

2. Auckland Domain, in the formal, old part of the gardens north side of the Watson Bequest, June 1997. One epiphytic Moreton Bay fig (c. 1.5 m tall) in the head of an old 8 m tall wine or jelly palm (*Butia capitata*), no voucher. Four Moreton Bay figs (c. 40 cm tall, AK 232328) growing out of humus-lined hollows in the upper side of two branches in an adjacent honey-locust (*Gleditsia triacanthos*) 5 m above the ground. Probable parent tree 30 m distant. Winter is a good time to look for epiphytic figs in deciduous trees.

Over 150 m away towards the Museum, in hollows in an old pepper tree (*Schinus molle*) there were two fig seedlings low down (AK 232332, < 15 cm tall) which are most likely Moreton Bay figs, June 1997. Probable parent tree c. 80 m distant.

3. Auckland, Cornwall Park, east of Acacia Cottage, June 1997. One epiphytic Moreton Bay fig (AK 232329, almost 2 m tall) 2 m up on a large straight-trunked macrocarpa (*Cupressus macrocarpa*). Many other smaller fig seedlings were present in cracks in the same tree trunk (AK 232330, < 20 cm tall), at least one of these was a Port Jackson fig (c. 1 m tall). Mature cultivated Moreton Bay and Port Jackson fig trees exist within 50 m of the macrocarpa and I could not be sure of the identification of the small fig seedlings (see Note below).
4. Auckland, Myers Park, a revisit, June 1997. Site of the first wild Moreton Bay figs, one of which was trimmed to its base on the side of a Canary Island palm in September 1996 (Cameron 1996). The pruned-back fig has resprouted with many stems (c. 13) up to 1 m long. On seeing this I now believe this is not the first time this plant has been trimmed as it already had six main basal branches in July 1996 (cf. mainly unbranched basal stems of the other wild figs, unless their stem has been damaged). The removal of the basal fronds of the tall Myers Park Canary Island palms last year has given better views of the epiphytes they support in their leafy heads. The untrimmed Moreton Bay fig in the head of the Canary Island palm is over 3 m tall and there are many other Moreton Bay figs (< 1.5 m tall) in some of the other tall Canary Island palms close by. For a reversal of roles there is an epiphytic Canary



**Figure 1. Leaves of adult (a), c. 1 m seedling (b) and suspected seedling (c). Port Jackson fig (1), Moreton Bay fig (2).**

Island palm (trunkless with 1.5 m long leaves) in the fork of a large cultivated Moreton Bay fig close to the palms with the epiphytic figs.

Note

The distinction between Moreton Bay and Port Jackson figs is not clear in small seedlings (< 30 cm). Both appear to start with cordate leaf bases. The sapling and adult leaves of Port Jackson figs have cuneate leaf bases and Moreton Bay figs have a flattish leaf bases (see Fig. 1). Both species appear to be rather variable in the amount of hairiness. A good character to separate the small seedling plants is required. In adult plants the generally larger leaves, different shaped leaves (see Fig. 1), larger figs and figs being stalked readily separates Moreton Bay from Port Jackson figs.

Discussion

So far all wild Moreton Bay figs have been found within 100 m of a suspected parent tree. Searching near other cultivated Moreton Bay figs will no doubt reveal more seedlings as Gardner & Early (1996) showed that the pollinating fig wasp is already present in New Zealand from Whangarei to Tauranga. The two larger figs originally recorded from Myers Park probably still represent the first known established wild Moreton Bay figs in New Zealand as the newly recorded wild figs are smaller. The probable Moreton Bay fig seedling collected in 1992 on Kawau Island is unlikely to have established earlier because of its smaller size. However, this seedling had probably been damaged near the base as it was branched low down. The original establishment date of one of the Myers Park figs is likely to be older than I suggested last year (Cameron 1996) because of the suspected second trimming.

There is still no need to panic about Moreton Bay fig becoming an environmental weed but it should be monitored. In the meantime it should not be planted.

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## Research Report

### ■ A new *Melicytus* species: *Melicytus drucei* Molloy et B.D. Clarkson

The genus *Melicytus* in New Zealand is represented by a range of indigenous trees and shrubs. Perhaps the most commonly known are the forest tree mahoe (*Melicytus ramiflorus*) and the divaricating understorey shrub manakura (*Melicytus micranthus*). However, as at 1994 some 11 species had been named and several unnamed entities were also recognised (Molloy & Druce 1994; Wilson & Galloway 1993). All of the unnamed entities are shrubs which would have previously been assigned to the genus *Hymenanthera* no longer considered separable from *Melicytus* (Molloy & Druce 1994).

In a recently published paper (*New Zealand Journal of Botany* 34:(4)) we have described and named a new species of *Melicytus*, *Melicytus drucei*, from Egmont National Park, bringing the total of named species in the genus to 12. The species had formerly been referred to *Hymenanthera angustifolia* and the informal tag names *Melicytus* sp. (a) (Eagle 1982; Clarkson 1986) and *Melicytus* "Egmont" (Cameron et al. 1995) had also been used. We chose the specific epithet *drucei* to honour A.P. (Tony) Druce for his unrivalled field knowledge of New Zealand plants, and his discovery of this species during his botanical explorations of the Egmont Ecological Region.

*M. drucei* is an erect, evergreen, hermaphrodite, divaricating shrub up to 2.5 m tall with rigid stems and branchlets tapering to spinous tips (Fig. 1). The adult leaves are rather inconspicuous, small, linear-oblong, entire or irregularly lobed and distinctly reflexed. The flowers which appear from October to December are small (2.5-3.5 mm diam.) cream or yellow, and droop from the branches. These produce abundant fruit (a globose berry 4-5 mm diam.) from March to May, which are white with scattered purple to black spots or patches.

*M. drucei* is known only from the Ahukawakawa mire and Pouakai Range, Egmont National Park. It is a component of mixed scrub/shrubland dominated by small-leaved shrubs ('grey scrub' *sensu* Wardle 1991) in its lower-altitude mire margin habitat, and of *Brachyglottis elaeagnifolia* (leatherwood) scrub/shrubland in its habitat above tree-line on the Pouakai Range. Its presence in these habitats is extremely restricted; at least 700 adult shrubs occur scattered through a narrow belt (about 6 km long and up to 20 m wide, but mostly less than 10 m) of colluvial toeslope, alluvial fan, and alluvial terrace where the Ahukawakawa

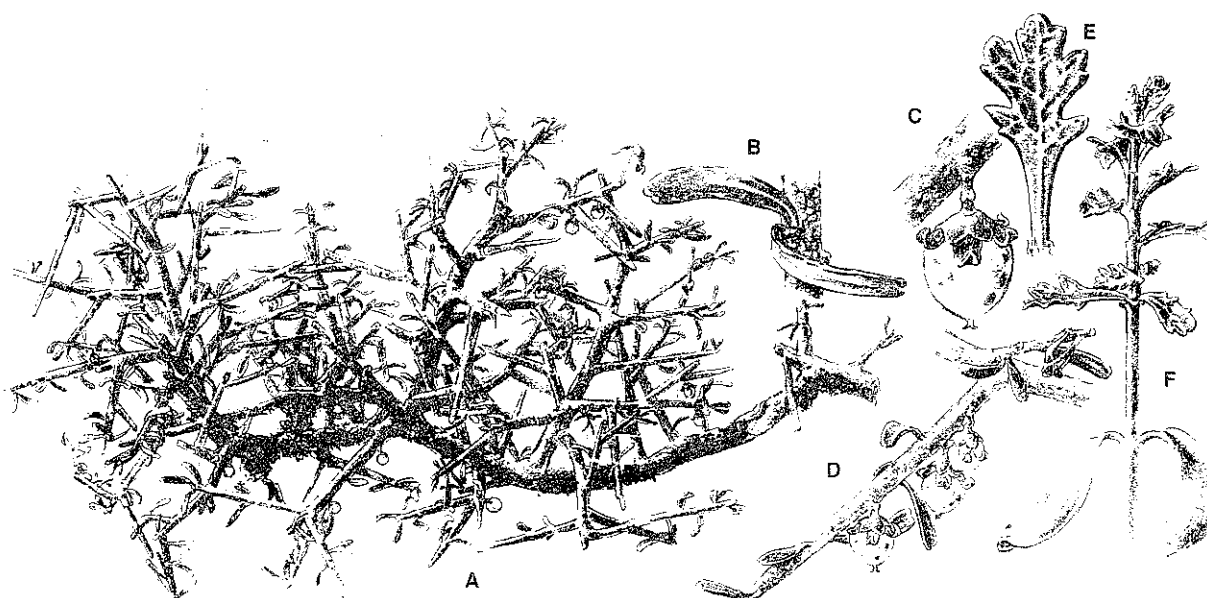


Figure 1. Illustration of *Melicytus drucei* (from Clarkson 1986, pl. 10, 5, as *Melicytus* sp. (a)), showing a range of vegetative and reproductive features: A, branch showing divaricating habit, x 0.6; B, adult leaves and method of attachment, x 3.0; C, fruit, x 3.0; D, branchlet with pendulous fruit x 2.0; E, juvenile areolate leaf, x 8.0; seedling with cotyledons and juvenile leaves, x 4.0. (Drawing: J.B. Irwin)

mire meets the southern flanks of the remnant Pouakai volcano north of Hangatahua (Stony) River. Less than 100 adult shrubs have been recorded above tree-line on the Pouakai Range proper, although a detailed survey may detect more.

Chromosome counts showed that *M. drucei* is the first triploid species found in the genus *Melicytus*. *M. drucei* is morphologically similar to diploid *M. flexuosus* and an unnamed member of the tetraploid *M. alpinus* complex. These morphological similarities, together with its chromosome number and high degree of morphological uniformity, suggested that it is a stable triploid hybrid between *M. flexuosus* and the unnamed taxon above. Both putative parents occur in central North Island, although not in Egmont National Park nor the remainder of the Egmont Ecological Region.

*M. drucei* is highly palatable to introduced browsing animals. Up to 1986 seedlings and saplings were present in several sites, but browsing by hares was a potential problem (Clarkson 1986). Field observations and three population measurements taken in 1991/92 confirmed that adult plants were being heavily browsed, and seedlings and saplings were being completely removed by possums and/or hares. Significant recovery by coppicing has occurred after a 1993 1080 poison drop by the Department of Conservation to reduce possum numbers.

In the 1995 revision of the New Zealand Botanical Society's Threatened and Local Plants Lists (Cameron *et al.* 1995, p. 20), *M. drucei*, as *M.* "Egmont", was assigned the IUCN threat category 'Vulnerable'. Since *M. drucei* is specifically targeted by introduced browsing animals such as possums and hares, and it has such a restricted distribution, we recommended that its present threat category be retained.

*Melicytus drucei* is therefore a unique member of the New Zealand flora, being a stable triploid and endemic to Egmont National Park. So far, *M. drucei* is the only indigenous species known to be endemic to the Park although several other unresolved taxa there may also qualify (Clarkson 1986).

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### ■ Pioneer New Zealand women botanists: Elizabeth Maude Herriott

Miss Elizabeth Maude Herriott (1882-1936) was a pioneer botanist and the first woman to be appointed to the permanent teaching staff of the University of Canterbury (Canterbury University College).

Elizabeth was born in Rangiora and educated at East Christchurch Primary School and Christchurch Girls' High School. She had a distinguished scholastic career. Elizabeth was Head Prefect (1899) at Christchurch Girls' High School and won an Entrance Scholarship from Girls' High to attend Canterbury University College, and a Junior University Scholarship (1899). She attended Canterbury University College from 1900-1905 and held Exhibitions in chemistry and botany. She graduated B.A. (1904) and M.A. (1905) in botany.

Elizabeth initially had a career in teaching, firstly in private schools in Christchurch (1905-6), including Rangi Ruru Girls' School, then at Kaikoura District High School (1908-12). Rosemary Britten in her history of Rangi Ruru Girls' School records that Elizabeth (1, p.26), "...introduced physiology, 'but only from the



waist up' the girls said. She, and sometimes Ethel [Gibson] taught from a book published in the 1880s, which the girls later discovered to be a mine of misinformation".

Elizabeth was appointed Assistant Lecturer in the Department of Biology at Canterbury University College in 1916 and held this position until she was promoted to Lecturer (1928-34) and she retired from the College in 1934. During this period Charles Chilton (1860-1929) held the Chair of Biology (1903-28) and was also appointed the first Rector of Canterbury University College (1921-27). Elizabeth also held the position of clerical assistant to the Rector.

Elizabeth's published work is not extensive though four substantial papers are recorded in Transactions of the N.Z. Institute. They reflect the diversity of her interests in biology. Her first paper (3) was an extensive study of the leaf structure of 29 plant species from the Subantarctic Islands of New Zealand. The study was an attempt to see how the microscopic leaf structure is adapted to the Subantarctic environment. The plants used in her study were obtained from the Subantarctic Islands by L. Cockayne (1855-1934) during his visit to the Islands in 1903 and they were grown in a rock garden at Canterbury University College. This 1906 study helps to establish Elizabeth as a pioneer New Zealand plant anatomist. Her next paper was in the field of zoology and unrelated to plant science, "Notes on the occurrence and habits of the fresh-water crustacean *Lepidurus viridus* Baird" (4). The study demonstrates the versatility of this early biologist.

Then followed in 1919 her account of the history and plants of Hagley Park in Christchurch (5). This is the most authoritative early account of Hagley Park and one of Elizabeth's most significant contributions. She spoke on the topic at the first New Zealand Science Congress in Christchurch on 7 February 1919 (1, p.478). Elizabeth's final published work of which I have a record is entitled "Some morphological notes on the New Zealand giant kelp" (6). This is also a pioneer study on what was then a little known seaweed.

Elizabeth died in Christchurch on 13 March 1936 aged 54.

#### Acknowledgement

Mr J.J. Field, Head of Public Relations at the University of Canterbury kindly confirmed the status of Miss Herriott as the first woman appointed to the permanent staff of the University of Canterbury.

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#### ■ **Biographical Notes (26): Christopher Louis Maling NZC (1841 - 1916)**

In July, 1912, during an interview in London, Christopher Maling stated that he "was born at Penrith, Cumberland, and went out to New Zealand with his parents on the *Martha Ridgway* when he was only a month or two old" (1). They embarked on 5 November, 1841, (with Christopher listed as William) and arrived at Nelson on 7 April, 1842 (2). Then, on 17 June, 1843, when Christopher was about 2 years old his father, Thomas Awdos Maling, Chief Constable at Nelson, was killed in what is now called the Wairau affair. Thus Scholefield (3) is incorrect in stating that Christopher was born in Nelson in 1843 "a few months after the death at the Wairau of his father"; and Lash (4) is incorrect in stating that Christopher was born in Nelson in c. 1842.

Christopher and his sister Elizabeth, three years older, were then left orphans with the death of their mother. They were taken by Bishop Selwyn to Auckland where they were brought up by Captain and Mrs David Rough (*Lobelia roughii*) (4). Rough held various Government positions in Auckland and had visited Nelson in 1848 with Sir George Grey (3).

Maling (1) stated that he was educated at St. John's School in Auckland, but the Librarian of the Kinder Library, Ms Judith Bright, tells me that Maling is not listed for that school and that, in fact, "St. John's

School as an institution was not started until the 1880's when it used the St. John's College buildings, but was a private institution". Ms Bright also noted: "In the 1840's, St. John's College did have an English boy's school as part of the College, and again from June 1853, run by the Rev. Charles Abraham for a short time and again in 1860. In 1855 the Church of England Grammar School was run in Parnell by the Rev. Dr. John Kinder. I have checked the St. John's College lists, and also the Church of England Grammar School lists without success. The latter are very incomplete, and that does not rule out the possibility of his having been a pupil there. Neither do we have proper lists for the Collegiate school run by Abraham."

In 1856 Rough was appointed Collector of Customs, Nelson, and on 4 June Mrs Rough, Miss Maling and Master Maling arrived there on *S. S. Zingari* (5). Then, "at the age of fifteen or so" Christopher joined the provincial survey (1). His contributions to science and exploration over the next few years were as follows.

- 1857 Maling recorded that "almost his first experience" after joining the Nelson Survey Department "was the laying out of the town of Collingwood when the diggings broke out there" (1). Gold digging in the Collingwood district began in 1857 and Maling was no doubt assisting Henry Lewis, who "was given the task of laying out the town, already called Collingwood, on the higher terraces behind the present town" (6).
- 1859 During August and September Maling assisted Ferdinand von Hochstetter of the Austrian *Novara* expedition who was in Nelson with Julius von Haast. Moa bones were found in caves in the Aorere valley and from 12 to 15 August, while Hochstetter inspected the Pakawau coal-fields, Haast and Maling dug out bones, washed them, and made notes. They returned in triumph to Collingwood with two garlanded oxen laden with bones (7). Hochstetter wrote: "After my departure from New Zealand, [from Nelson on 2 October 1859 on the *Prince Alfred*] the Provincial Government of Nelson on behalf of the Nelson Museum, arranged further excavations by Mr. Ch. Maling in the bone caves of the Aorere Valley, which once more yielded a very rich profit" (8).
- 1859 Early in December, Alfred Domett, Nelson Provincial Secretary, and John Blackett, Nelson Provincial Engineer, accompanied by Christopher Maling, journeyed from Nelson to Canterbury inspecting the proposed line of the Middle Road. Their route lay through the Wairau Gorge to Jollie Pass, near Hanmer Springs, and while looking across Lake Tennyson, in the valley of the upper Clarence, Maling noted a low saddle leading westward (9).
- 1860 In late February William Thomas Locke Travers, the Nelson lawyer, (*Traversia* etc.) set out to explore the headwaters of the Waiau and find a route through to the Grey. He wrote: "I may here mention that I was accompanied in my excursion by Mr Christopher Maling to whom leave of absence had at my request been granted and by a man named David Stewart whom I had engaged to carry provisions." Travers also wrote: "I may now state that Mr Maling who had accompanied Mr Domett on a visit to Lake Tennyson some time ago, mentioned to me the existence of a low saddle in the mountains on the western side of the Clarence which he believed to be a pass. This being on the very line of route intended to be taken by me I availed myself of it and on the first instant, after lunching on the southern shore of the lake, we ascended the hill to the saddle in question. I named the saddle over which we passed from the Clarence, Malings Pass, he having been the first to observe it as above mentioned" (10). This Pass led them to the upper Waiau, and exploring downstream Travers named tributaries the Ada, Anne and Henry after his children.
- 1860 In late March Maling was sent back to continue the search for passes accompanied by Henry Lewis. They went through Cannibal Gorge to the Maruia, and, returning southwards, came over the saddle now called Lewis Pass (9). On 21 April, 1860, "The Nelson Examiner" announced that Mr Lewis and Mr Maling of the Survey Department returned to town on Monday evening.
- 1861 In March Maling and the engineer H. Handisyd found that the Boyle and the Lewis join and together form into the Waiau (9).
- 1862 On 1 April Sir William Jackson Hooker, Director of the Royal Botanic Gardens, Kew, described *Trichomanes malingii* ("Mr Maling's Trichomanes") and wrote: "In a letter from my valued correspondent W. T. Luke [*sic*] Travers, Esq., dated Christchurch, New Zealand, 6th July, 1861, I received my first specimen of this plant, stating that it was obtained by Mr. C. Maling, who found it on the "ranges of Golden Bay, Middle Island, New Zealand," after whom I at once proposed to name the species. In a subsequent letter from D. Rough, Esq., dated Nelson, New Zealand, 6th November, 1861, to Dr. [J. D.] Hooker, that gentleman sends specimens gathered by Mr. Brunner, Surveyor-General, gathered on "the mountain-range between Blind Bay and Massacre Bay."

Possibly the same range is meant in both cases.”(11). Note that Field erroneously states that *Trichomanes malingii* (now *Hymenophyllum malingii*) “was called after one of the New Zealand Company’s surveyors who first found it and was killed in the Wairau massacre -” (12). This was repeated in the various editions of Dobbie’s “New Zealand Ferns”.

After leaving Nelson Maling worked as a surveyor in Southland and the Waikato. He then served in the so-called Maori Wars as a scout in the Wanganui-Taranaki area under Colonel Whitmore and up to the end of the campaign in Taupo (1, 4). He was awarded the New Zealand Cross, the New Zealand equivalent of the Victoria Cross, with the following citation (13).

“Guides. Sergeant Christopher Maling. For most valuable and efficient services as Sergeant of the Corps of Guides on many occasions, and especially in going out to scout in advance with three men (two of whom were shot on the morning of the 26th February 1869), by which an intended ambush was discovered, and many lives saved. And for a long reconnaissance with two men of the Corps of Guides (which lasted two nights and days) in advance, to ascertain the direction of Titoko-Waru’s retreat after he had evacuated Tauranga-ika. This service was a most daring one, and of the utmost importance to the force, as intelligence was thus obtained which in no other way could have been procured.”

After the war Maling was engaged in the survey and construction of telegraph lines from Tauranga to Grahamstown, Hawera to New Plymouth, Nelson to the Buller, Auckland to Manganui, and in the Opotiki and Taupo country (1). His adventurous life continued in Japan (1), and then in Africa where he was engaged in telegraph construction in the Cape back country and became an intelligence officer in the Bechuanaland campaign. In South America he prospected in the Parana and in Venezuela. For a long time he was a planter in Florida (1). He died in England on 18 December, 1916, survived by his wife, Hilda J. Maling (14). Elizabeth remained with the Rough family until she died, and was a much valued and loved member of it (2).

#### Acknowledgements

I am especially indebted to Dr. Peter Maling (Christchurch) for information from his family records; and I also thank two librarians, Ms Stephanie von Gaalen (Nelson Provincial Museum) and Ms Judith Bright (Kinder Library, St. John’s College, Auckland) for their answers to my questions.

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## PUBLICATIONS

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### ■ *Tane* 36 (1997)

*Tane* vol. 36 has been published by the Offshore Islands Research Group (OIRG). *Tane* specialises in natural and human history of northern New Zealand, especially the offshore islands.

The following botanical articles are included in volume 36:

Orchids of Great and South West Islands, Three Kings Islands Group, northern New Zealand. P.J. de Lange

Flora and fauna of Sentinel Rock, Mangawhai Heads, northern New Zealand. E.K. Cameron and G.A. Taylor  
Fauna, flora and history of Moturekareka, Motutara and Kohatutara Islands, Hauraki Gulf. Alan J.D. Tennyson, Ewen K. Cameron and Graeme A. Taylor  
*Rhamnus alaternus* - environmental weed on Motutapu and Rangitoto Islands, Auckland. Mairie L. Fromont  
Intertidal biota of Te Matuku Bay, Waiheke Island, Auckland. Bruce W. Hayward, A. Brett Stephenson, Margaret S. Morley, Nancy Smith, Fiona Thompson, Wilma Blom, Glenys Stace, Jenny L. Riley, Ramola Prasad and Catherine Reid.  
Flora and vegetation of Stanley (Atiu) Island, Mercury Islands. G.A. Taylor and T.G. Lovegrove  
Claudelands Bush: ecology of an urban kahikatea (*Dacrycarpus dacrydioides*) forest remnant in Hamilton, New Zealand. Patrick T. Whaley, Bruce D. Clarkson and Mark C. Smale  
A review of the aquatic macrophyte family Hydrocharitaceae (Angiospermae) in New Zealand. Clinton D. McCullough  
Introduced marine organisms in New Zealand and their impact on the Waitemata Harbour, Auckland. Bruce Hayward.

#### Cost

\$20.00 standard

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#### Invitation

To submit a paper to *Tane* 37. Instructions for authors are inside the back cover of *Tane* 36. Feel free to contact the Editors to discuss a proposal. The deadline for receipt of manuscripts is 30 September 1997.

**Ewen Cameron**, Convenor of *Tane* editorial committee, C/- Auckland Museum, Private Bag 92018, Auckland

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## DESIDERATA

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### ■ *Polystichum richardii* complex

I am a M.Sc. student at Massey University under the supervision of Dr. Mark Large in the Plant Biology Department. The topic of my thesis project is the investigation of the systematics of the native common shield fern, *Polystichum richardii*, in which both genetic and morphological analyses will be undertaken.

For the analyses we require two fronds from each plant sampled. One of these fronds will be pressed for a herbarium specimen, and the other will be used in the molecular analysis. Anyone willing to help me with the collection of samples can contact me viz. the address below, and I can then supply you with further collection-instructions. Any assistance with sample-collection would be greatly appreciated, as also would be any views on the current taxonomy of *P. richardii*.

**Leon Perrie**, Department of Plant Biology and Biotechnology, Massey University, Private Bag 11222, Palmerston North (e-mail: pgrad4@mail.massey.ac.nz)

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## FORTHCOMING CONFERENCES/MEETINGS

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### ■ Australian Systematic Botany Society and "Society of Australian Systematic Biologists" Joint National Conferences, Adelaide '97, 28 September - 3 October 1997

#### Venues

Main: Bragg and Kerr-Grant Lecture Theatres, Department of Physics, University of Adelaide, North Terrace, Adelaide

Off-campus: Ngapartji Co-operative Multimedia Centre, 211 Rundle Street (Rundle St East), Adelaide

Pre-Conference Information

Please contact: Mrs Robyn Barker, State Herbarium of South Australia  
Phone: 08 88282348  
Fax: 08 82231809  
Email: rbarker@btg.lands.sa.gov.au

Registration forms and updates to this circular will be posted on web site of ASBS at  
<http://155.187.10.12/asbs/asbs.html>

**Robyn Barker**, State Herbarium of South Australia

*Acknowledgement: Thanks to Anna Clarkson, Manaaki Whenua - Landcare Research, Hamilton who typed the text, and to Antoinette Nielsen and Ewen Cameron who produced the camera-ready copy for the printer.*

ISSN 0112-6865