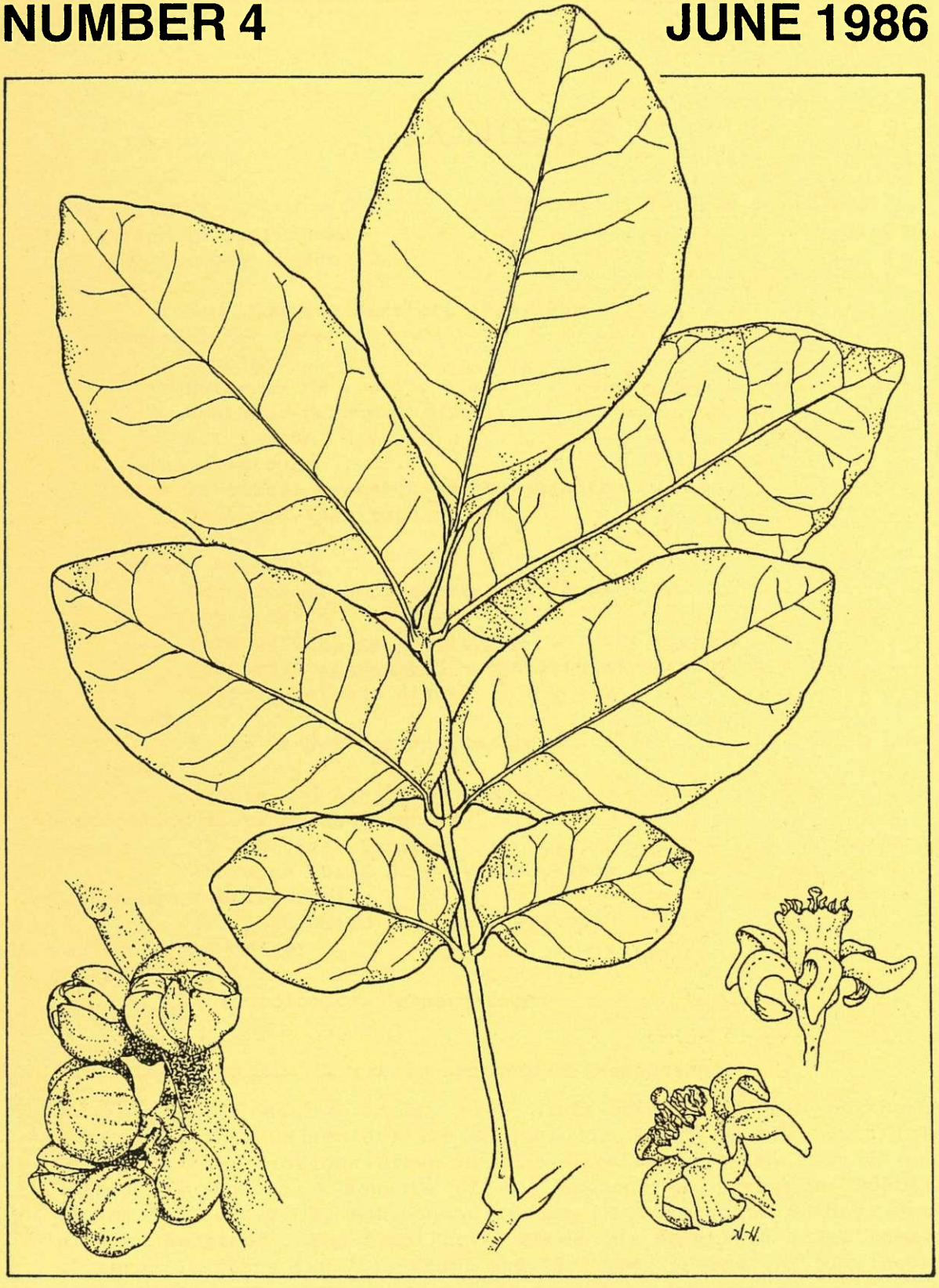
NEW ZEALAND BOTANICAL SOCIETY

NEWSLETTER

NUMBER 4 JUNE 1986



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CONTENTS

Cover illustration: ***Dysoxylum spectabile*** **(Meliaceae)**

Kohekohe is a native forest tree distributed from the northernmost North Island to Nelson and the Marlborough Sounds of the South Island. The cover illustrations drawn by Alix Harris are taken from an unpublished MSc thesis "Aspects of the ecology of **Dysoxylum spectabile** (Forst.f.) Hook.f. by Adrienne J. Court (Department of Botany, University of Auckland). The front cover shows the detail of a leaf composed of seven leaflets (x0.75), fruit (x0.75), and flowers (x1.5). The seedling on the back cover is about 0.75 actual size.

SUBSCRIPTIONS

Thankyou for the response to the financial concerns expressed in the last Newsletter. Donations have now covered the costs of the two 1985 issues, and with 255 subscriptions paid we are pretty well on budget for 1986.

The following people who have received the three issues to date, but have not responded to the subscription invoice sent with Number 2 or the reminder notice sent with Number 3 have been removed from the mailing list. If you know them, and think they may wish to continue receiving Newsletters, please urge them to return their subscription monies to the address below as soon as possible.

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The 1986 subscription for four issues of the Newsletter (March, June, August, December) is $10.00, payable to the New Zealand Botanical Society, c/- Auckland Institute and Museum, Private Bag, Auckland 1. Back copies are available at $1 for Number 1, August 1985, and $2 for Number 2, December 1985.

INVITATION TO CONTRIBUTE

Contributions from all sources are welcome. A list of possible column headings can be found on p.2 of Number 1. Feel free to suggest new headings, and provide content for them!

DEADLINE FOR NEXT ISSUE

The deadline for the August 1986 issue (Number 5) is 25 July 1986. Please forward contributions to the Editor:

Anthony Wright
Auckland Institute & Museum
Private Bag
AUCKLAND 1

NEWS

■ John Kenneth Bartlett 1945-1986

It is with sadness that we record the sudden death of John Bartlett on 1 May 1986. A schoolteacher by profession, John was a leading 'amateur' botanist, particularly in the fields of rare and endangered plants, lichens, and bryophytes. He collected indefatigably throughout New Zealand, with a particular emphasis on botanically under-explored areas. A measure of the acuity of his powers of observation is given by the fact that he added some 50 mosses to the New Zealand flora - many of which were also new to science. His work with New Zealand plants was internationally recognised, and he corresponded with leading botanists throughout the world. In 1985 a new family of mosses, the Hypnobartlettiaceae, was named in his honour (based on specimens collected by John in North West Nelson). In 1986, a native tree rata discovered by John at the northern tip of the North Island was named Metrosideros bartlettii.

We offer condolences to his father, Mr K.G. Bartlett, who has presented John's scientific specimens and papers to the Auckland Institute and Museum.

Regional Bot Socs

■ **Auckland Botanical Society**

Wednesday Evening Meetings	Saturday Field Trips
4 June Dr Vivienne Cassie-Cooper Micro-algae associated with thermal areas in New Zealand.	21 June Dr Barbara Segedin Fungi: Eave's Bush, Orewa & Wenderholm Regional Park.
2 July Graeme Platt Germination of native plants.	19 July Geoff Davidson Morgan Reserve, Huapai.
6 August Peter Buchanan Introducing the polypore fungi.	16 August Brian Oldham Millers Bush, Warkworth.
3 September Hugh Wilson The Lucy Cranwell lecture.	20 September Mark Paterson Hapuakohe, Te Kauwhata.

Members of other botanical societies and visitors to Auckland are welcome to join these meetings and field trips.

The Secretary, Auckland Botanical Society, 14 Park Road, Titirangi, Auckland 7.

■ **Rotorua Botanical Society**

Members of other botanical societies are welcome to join the Rotorua Bot Soc on any of their forthcoming field trips.

Sunday 15 June MAUNGATAUTARI SCENIC RESERVE, near Karapiro. A Waikato volcanic dome. Tawa and tawari forest with some interesting rocky outcrops. Meet at Rotorua Civic Theatre at 8.15 am or at the junction of SH1 and Hydro Rd at Karapiro at 9.15 am. Leaders - Bruce Clarkson (ROT 24 622) and Murray Boase (Hamilton 67 798).

Sunday 13 July OPOTIKI-WAIOEKA and HUKUTAIA DOMAINS, OPOTIKI Opotiki-Waioka Domain (Recreation Reserve). Early successional scrub and forest, lowland forest, semi-coastal forest, and wetland. Interesting species include Bulbophyllum tuberculatum Schizaea dichotoma and Syzygium maire.
Hukutaia Domain (Recreation Reserve). Small remnant of semi-coastal tawa-puriri forest and arboretum (0.5 ha) with many interesting plant species from throughout New Zealand. Meet at Rotorua Civic Theatre at 8.00 am or Opotiki Post Office at 9.30 am. Leaders - Beverley Clarkson (ROT 24 677) and Marc Heginbotham (Opotiki 610:S).

Saturday 9 August. ORUATEWEHI ECOLOGICAL AREA, KAINGAROA. A small remnant of mixed podocarp forest surrounded by secondary hardwood forest and tall scrub with some regenerating podocarps. Meet at Rotorua Civic Theatre at 9.00 am. Leader - John Nicholls (ROT 59 946).

Sunday 7 September. MT HIKURANGI, UREWERA NATIONAL PARK, Galatea foothills. Altitudinal sequence from conifer/tawa forest to red beech forest (summit at 929 m a.s.l.). Meet at Rotorua Civic Theatre at 8.30 am or Kopuriki Store at 9.45 am. Leader - Sarah Beadel (ROT 87208).

The Secretary, Rotorua Botanical Society, c/- Mourea Post Office, Rotorua.

■ Wanganui Museum Botanical Group

As its name suggests this group is affiliated to the Wanganui Regional Museum. Evening meetings are held in the museum classroom at 8 pm on the first Tuesday in the month (except January). Field trips are taken usually during the preceding weekend.

The group was founded in 1968 by Neill Simpson, who became interested in the native flora which he photographed when tramping with the Wanganui Tramping Club. He also joined the Wellington Botanical Society, was encouraged by Tony Druce and others, and joined them on their field trips. Neill collected ten enthusiasts on 10 September 1968 to form the group whose aims were (a) to set up and maintain a herbarium of New Zealand flora at the museum (this has lapsed recently); (b) to collect, record, and study native plants, particularly those from the Wanganui area; (c) to arrange botanical displays at the museum; and (d) to instruct members in plant identification. To this can be added the maintenance of the native plant gardens around the museum.

As well as the monthly indoor meetings the group takes part in expeditions to local areas of botanical interest.

There are 35 members of various age groups, occupations and interests. New members are welcomed and could contact Alf King - Chairman (Phone 27751), Joan Liddell - Secretary (Phone 57160), or Betty Andrews - Treasurer (Phone 45480). A newsletter is produced three times a year giving the programme arrangements. Members of other groups would be very welcome.

Field Trips	Evening Meetings
Sunday 29 June Farley's Bush, Parapara (Leader: Betty Andrews).	Tuesday 1 July AGM and a film programme of an Australian Natural History subject.
Sunday 3 August Jean D'Arcy Reserve (beyond Junction Road). Field trips leave from carpark outside Museum classroom at 9 am.	Tuesday 5 August Dr Elsie Gibbons of Wellington will talk about Low Arctic - Taiga excursion to Churchill, and the Taiga - Arctic Tundra excursion to Bathurst.

The Secretary, Wanganui Museum Botanical Group, 15 Moore Avenue, Wanganui

■ Wellington Botanical Society

The Society's Bulletin No.42 was published late in 1985. The list of Contents is reproduced below to alert readers to items of possible interest. Tony Druce's list of recent publications is very useful.

Mr C.C. Ogle, Editor, 8 Donlin Road, Pukerua Bay

■ Canterbury Botanical Society

The Canterbury Botanical Society meets the first Friday of every month at 8 pm in Lecture Room A6 of the University of Canterbury. A field trip is usually held on the second Saturday of the month. Visitors to the region are most welcome to attend the meetings and field trips. The programme for June - October is:

6 June - AGM with John Lovis speaking on 'Plans of New Zealand's past';
14 June - a workshop on algal taxonomy and ecology - Instructor: Paul Broady;
10 July - Alan Mark will speak on 'Is our Reserve System adequate?' This meeting will be followed by dinner;
12 July - trip to Riccarton Bush to discuss reserve management;
August - to be confirmed;
5 September - David Norton will give an 'Introduction to the botany and ecology of South Westland';
13 September - field trip to Mt Oxford;
3 October - Matt McGlone will speak on the 'Biogeography of New Zealand plants';
11 October - field trip to Mt Somers Walkway.

This years summer camp will be held at Harihari, South Westland.

For further information please contact Philippa Horn, Plant Science Dept., Lincoln College (Phone 252-811); David Norton, School of Forestry, Canterbury University (Phone 482-009); Nigel Taylor, Botany Division DSIR (Phone 252-511).

The Secretary, Canterbury Botanical Society, P.O. Box 8212, Riccarton, Christchurch

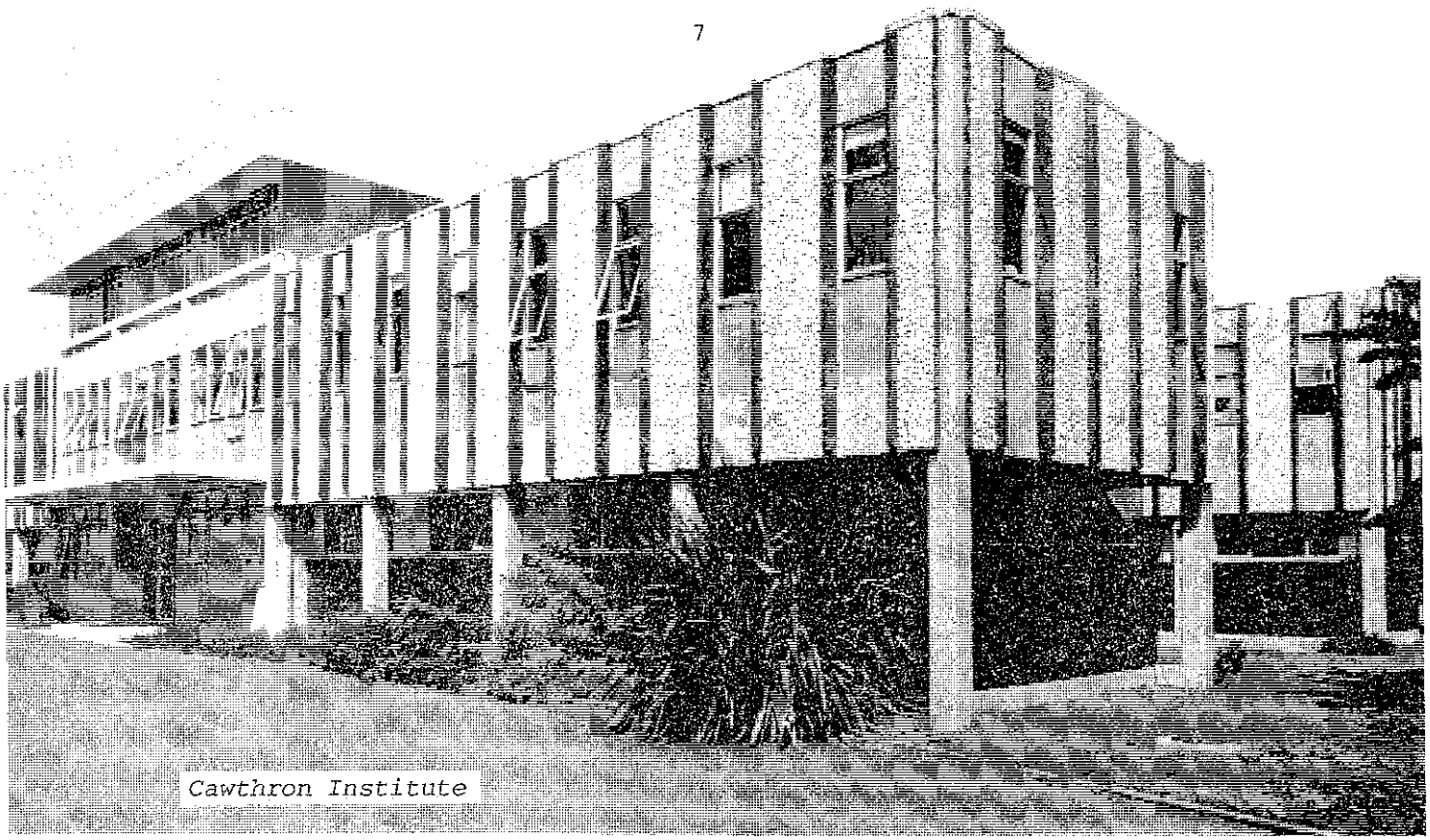
Other Botanical Research Establishments

■ Cawthron Institute, Nelson

Cawthron Institute was established in 1920 as an independent industrial and technical institute, by bequest of Thomas Cawthron, a businessman of Nelson. For the first 50 years, the Institute was involved in applied scientific research associated with agriculture and horticulture which was supported by bequest funds and a government grant-in-aid. Sections of the Institute were later "budded off" to become the growing centres for research divisions within DSIR, eg Fruit Research Division, Entomology Divison, and Soil Bureau.

Since 1970 the Cawthron Institute's main emphasis has been in basic and applied research into microbes and in providing, for the private and public business sectors, industrial and technical testing and consultancy services. However, the Marine Microbiology Section continues its basic environmental research into coastal marine and intertidal systems, including such botanically-oriented studies as saltmarsh macrophyte productivity, intertidal vegetation mapping, and the response of intertidal vegetation to herbicide sprays used for estuarine weed control. Many studies conducted by the Institute's recently established Marine and Freshwater Consulting Groups also include a botanical element A small reference herbarium is currently being established, and will concentrate primarily on aquatic species.

Gail Franko, Cawthron Institute, 98 Halifax St, P.O. Box 175, Nelson



Cawthron Institute

NOTES AND REPORTS

Current Research

■ **Dynamics of podocarp/kamahi forest, south-west Tongariro National Park**

Debates concerning regeneration and stability of podocarp forests have been a recurring theme in New Zealand plant ecology. However, most previous work in this field has been based on inadequate age data. There has often been a reliance on tree diameter data, which is unfortunately an unreliable indicator of population age structure.

The setting of my research is rather ironic: the best opportunity for clarification of podocarp forest dynamics has arisen from a development project that involves destruction of virgin forest in a supposedly sacrosanct National Park. The study is an examination of regeneration patterns in podocarp/kamahi forest, based mainly on intensive samples of age data obtained from cross-sections of trees felled for the Main Trunk Railway realignment. Stands lying on the proposed new alignment were thoroughly mapped, and during the clearing operations, hundreds of cross-sections were cut from individually numbered stems.

The study sites are near Horopito, at c.700 m altitude. The dominant tree species are rimu, miro and kamahi; with fewer matai, maire, hinau, mahoe, and toro. The main aims of my project are:

1. To describe the population structures of the common tree species;
2. To determine the circumstances under which the various species establish and develop e.g. size and gap required.

I hope that the project will provide models that are applicable to the dynamics of other forests, and contribute to the understanding of podocarp/angiosperm forests in general. I may also try to model current replacement trends to predict future forest composition.

The project is being supervised by Dr John Ogden, with help from Dr Neil Mitchell during the former's absence on sabbatical. Funding has been provided by a DSIR contract, and by grants from NZ Lotteries Board and the Department of Lands and Survey. The cooperation of NZ Railways and their contractors is also much appreciated.

Chris Lusk, PhD student, Department of Botany, University of Auckland, Private Bag, Auckland 1.

New Plant Records

■ More on Gunnera hamiltonii

Until recently this distinctive native Gunnera was thought to survive in the wild only in one population at Mason Bay, Stewart Island, since the only other population known, at Oreti River mouth near Invercargill, succumbed to weeds and habitat disturbance in the late 1960s. In the New Zealand Botanical Society Newsletter Number 2 (December 1985, pp.19-20) I described another population discovered by Tim Te Aika some 3 km inland at Mason Bay, and a new patch established by the Te Aikas in the Mason Bay dunes within 1 km of the older-known site through transplanting 3-4 rosettes.

Now comes another heartening discovery which should foster some optimism for the survival of this species in the wild. Lon Johnson, working for the Department of Lands and Survey on Stewart Island, was searching for an old campsite near the well-known cave at Doughboy Bay, late in the summer of 1985-86 in the company of two Lincoln College students, David Morgan and Anne Relling. (Doughboy Bay is some 14 km south of the Mason Bay populations). Lon came across an extensive patch of Gunnera hamiltonii along the top of the dunes between the marram-covered foredune and the bush edge. It forms a triangle 90 m long by 15 m wide at the south end, tapering to 1 m at the north end. Lon listed the associated plants as Cassinia, Phormium tenax and Coprosma acerosa; these overtop the Gunnera except along the front edge where the Gunnera is dominant and apparently expanding.

Rosettes from this population are now in cultivation at Botany Division, Lincoln, and we should know before too long whether any of the plants are female. All plants I observed flowering at Mason Bay in September 1985 were male, although Colin Webb tells me there is a herbarium specimen at CHR of female material collected by Eileen Willa from Mason Bay in February 1960. Female plants from the now extinct Oreti River population are in cultivation in several places.

The Doughboy Bay population is the largest of the four known colonies (including the transplant trial which had increased to about 3 square metres by September 1985). Even a patch as big as the Doughboy one, however, could be all of one sex, resulting from the vegetative spread of a single plant. During my botanical survey of Stewart Island I had

walked within metres of this patch without seeing it. Rather than feeling embarrassed at missing it, I like to think it suggests that other species at risk may be hiding good populations in unexpected places!

Hugh Wilson, 160 Salisbury Street, Christchurch 1

Caladenia iridescens - the long way round

When Bob Cooper went to St Louis in 1951 to complete his PhD thesis on Pittosporum, he took with him from Auckland a selection of botanical material to exchange for specimens of the northern hemisphere's vegetation.

In 1983, Mark Clements found in the herbarium of the Missouri Botanical Garden (MO) two New Zealand specimens of Caladenia iridescens R.S. Rogers (Trans.R.S.Sth.Austr. 44:328, 1920). The first was collected by H.B. Matthews from Kaitaia, x 1920, and the second by K. Wood from Huia, Waitakere Ranges, 13 x 1951.

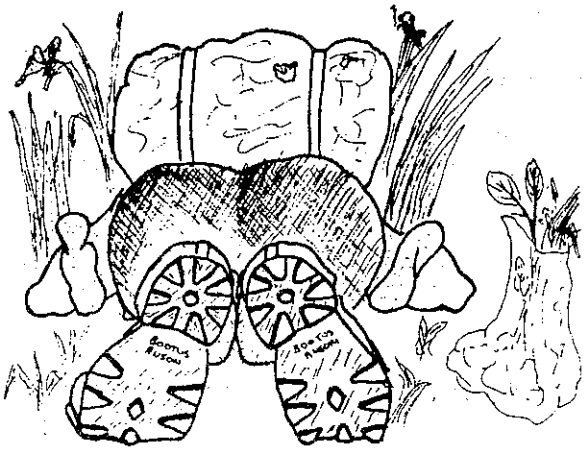
Back in Canberra in 1985, Mark wrote and asked me what I knew of this species since it had never been recorded from New Zealand. We exchanged notes and photographs, and decided that the plant I had described in 1963 as Caladenia carnea forma calliniger (Trans.R.S.N.Z.Bot. 2:187) was in fact C. iridescens.

The New Zealand range of this Australian species has since been found to extend from Lake Taupo northwards to Kaitaia, mainly in upland areas.

If there is a moral here at all, it is firstly the value of herbarium specimens as such, and secondly of international collaboration in matters of taxonomy.

Dan Hatch, 25 Tane Road, Laingholm, Auckland 7.

Genus trampus



TRAMPUS BOTANICANS: This species is usually seen only from a rear view as it fossicks among the roots, shoots and leaves of the indigenous flora. It is accompanied by an inevitable plastic bag full of assorted "veg". It s only call seems to consist of a number of incoherent grunts.

(from Helen Rainforth, Wellington)

■ The distribution of some rare and uncommon vascular plants in the Western Waikato - Part 3: Dicots

The western Waikato comprises the area where the Tainui Maori tribes first settled. This area, which starts from Port Waikato and ends at the mouth of the Mokau River, has a flora which has received little attention from botanists and field workers over the years. This is the final part of a series of articles intended to make known some of the older (but unpublished) and some of the more recently discovered plant distribution patterns within the area. Voucher specimens for these records are held in one or more of the following herbaria: AK, CHR, WAI, WELT and the private herbarium of the Hamilton Junior Naturalists' Club at Te Kauri Lodge (T.K.L.).

Beilschmiedia tarairi — taraire

This tree is known to occur naturally as far south as East Cape on the East Coast and Port Waikato on the West Coast (Wright, N.Z.J.Bot. 20: 259-266, 1984). However, a specimen in T.K.L. collected by Pat Devlin in the 1960's (since transferred to AK) extends its West Coast distribution to near Makomako on the Aotea Harbour. This record is confirmed by another specimen (AK 170294) collected by the author from cut-over scrub near the Kawhia-Raglan Road. It has since been collected from a peninsula in the Raglan Harbour and as far inland as Lake Whangape, though it is not abundant anywhere in the western Waikato except near Limestone Downs, Port Waikato. It would appear that taraire was a very local species occuring in isolated groves in puriri/tawa/kohekohe forest and manuka scrub near Aotea Harbour. Much of this forest has been cleared in the last five years, to the point where all material examined by the author in this area had been recently felled.

Dracophyllum lessonianum — grass tree

Eagle's Trees and Shrubs gives the southernmost distribution of this species as the Hauraki Plains, although Salmon's Native Trees of New Zealand mentions 'near Kawhia'. There is a specimen in T.K.L. collected from what is now the Kawhia rubbish tip. Although extinct at this locality, the grass tree may still turn up in other scrub habitats in the region.

Dracophyllum sinclairii — grass tree

This species was collected from Te Wharu Bay, Kawhia (AK 165484) but can no longer be found there. Eagle's Trees and Shrubs gave Mercer as the southernmost locality. I have now located a colony on the southern side of Kawhia Harbour near Te Maika Peninsula (WAI 1633), thus further extending the species' distribution. An unpublished record for the Te Kauri Scenic Reserve remains unconfirmed.

Toronia toru — toru

Two records of this species in the western Waikato exist. One is based on a specimen in T.K.L. collected by the author from scrub (since cleared) adjoining Whenuapo Peak, Taumatatotara State Forest. The second locality was discovered during January 1985 in the Muturangi Valley, part of the Te Kauri Scenic Reserve. The single tree is near the fenceline of the reserve and was recovering from gorse spraying carried out by the adjoining farmer (WAI 1442, 1443).

Pomaderris rugosa wrinkly-leaved pomaderris
Two records have been recently made in the western Waikato. The first is from Puti Point Scenic Reserve (AK 165485) where two trees occur in secondary regrowth near the main Kawhia Road. The other locality may be near the one mentioned in Allan's 1961 Flora as the southernmost in New Zealand. This consists of six small shrubs growing on a road cutting on the northern edge of the Aotea Harbour. The Puti Point locality is further south.

Hebe obtusata
Two small populations of this Hebe were discovered at Te Rarangi and Tiritirimatangi Peninsula in 1980 and 1983. Sadly, neither has fared well, due to stock browsing and scrub clearing. Material from both sites is in cultivation. These localities extend the species' distribution south from the Waitakere coastline west of Auckland to Kawhia - a considerable extension. It is therefore possible that they may represent relic Maori 'gardens', as both localities are on old pa sites, and koromiko species were cultivated by the Maori (pers. comm. Tainui elders from Te Auaukiterangi Marae, Maketu). The hybrid H. obtusata x H. stricta var. stricta is still present at the site of the Tiritirimatangi colony (WAI 1818).

Gratiola sexdentata
Recent searching of swamps for Myriophyllum robustum has turned up several new localities for this species in the western Waikato. The species has also been located in two Scenic Reserves at Hangatiki and Te Umuroa (AK). Both reserves contain good-sized colonies. Elsewhere it has been collected from Makaka Road (WAI 1493) and Rukuhia Peat Dome (WAI 1494), and seen at Ruapuke Swamp, Raglan, and Te Kauri Scenic Reserve.

Gratiola nana
A large colony of this species was located in low turf dominated by Baumea rubiginosa at Hangatiki Scenic Reserve, Waitomo (WAI 1495). Because it is rather small and inconspicuous unless in flower, it is likely to turn up elsewhere in the western Waikato. Both G. nana and G. sexdentata have been rarely collected in recent years and are poorly represented in AK and CHR.

Myriophyllum robustum
Two recent localities for this endangered species were located during a four year search of the Waikato lowlands (WAI 1490, 1491, 1308). Both sites occur within the western Waikato area.

Brachyglottis eleagnifolia x B. repanda
This hybrid is very rare in the wild. The colony at Mokau is said to have perished (pers. comm. D.R. Given). During 1981 I discovered three plants growing on a rocky ledge at Arataura Point, Te Maika (WAI 1713). Its presence on the coast here is of great interest as B. eleagnifolia is not known from the general vicinity.

Euphorbia glauca New Zealand milkweed
Two localities in the western Waikato are known for this species. The first at Te Motu Island contains but one specimen, and this status has not changed since its discovery in 1979. The second contains a small unassessed colony growing on a talus slope near Arataura Point,

Te Maika. A brief search of the coastline from Albatross Point to Raglan in 1984-85 did not locate any further colonies.

Utricularia australis bladderwort
A small population was found on a slow-flowing coastal drain/creek at Tiritirimatangi Peninsula. The colony has since vanished, probably as a consequence of browsing, cattle 'pugging', and drainage works.

Ileostylus micranthus mistletoe
Known from 3 localities: Otuatakahi (not collected), Pirongia (WAI), and Te Wharu Bay, Kawhia (AK 170977). This is no longer an abundant species, being confined to boggy ground on Plagianthus divaricatus at Te Wharu Bay and steep inaccessible outcrops at Otuatakahi. On Pirongia, it is only known from a tall rimu. Plants reported from Te Kauri Scenic Reserve have since succumbed to opossum browsing.

Acknowledgements
I would like to thank Mr Paul Champion of the Waikato University Herbarium for permitting access to the university records and herbarium files; the Hamilton Junior Naturalists' Club for access to historical files; and Dr David Given, Mr Anthony Wright, Professor John Lovis and Dr P.J. Brownsey for helpful comments and advice.

Peter J. de Lange, 19 Cranwell Place, Hillcrest, Hamilton

ANNOUNCEMENT

■ **Flora of New Zealand Desmids**

Further to the item in Newsletter No.2:14-15, 1985, Elizabeth Edgar reports that the Government Printer has set 23 May 1986 as the publication date for Volume 1 of Flora of New Zealand Desmids by Hannah Croasdale and Elizabeth Flint.

DESIDERATA

■ **Acacia and Albizia Survey**

This survey is being conducted by the Plant Materials Centre of the Water and Soil Directorate, Ministry of Works and Development. Acacia and Albizia species are being evaluated for their suitability for use in erosion control plantings, especially in drought-prone areas, and as a component in windbreaks. Secondary uses for these species can include timber, fuel and landscaping values.

In erosion control, species of Acacia and Albizia have several valuable attributes including tolerance to drought (for many species) and infertile soils as well as an ability to fix their own nitrogen. Both genera contain species which have a fast growth rate. A wide genetic diversity should allow for selection of seed-lines which show good growth rates and form, maximum tolerance of poor growing conditions, disease and pest resistance, and rapid and reliable establishment.

Trials to date have indicated several species or provenances which show promise, including some which are widely naturalised in New Zealand. Ecological requirements for these are still being determined. Provenance evaluation is still in progress.

These trials are being supplemented by a nationwide survey in which groups, organisations and individuals who may have some knowledge of the distribution and ecology of Acacia species in their respective areas are asked to contribute. The objectives of this survey are to:

1 Locate superior trees or stands of species present in New Zealand.
2 To identify any unusual or rare species which may have a potential for soil conservation purposes.
3 To determine the distribution of the differing species of Acacia and Albizia in New Zealand.
4 To obtain an indication of the ecological requirements of the species present and thereby reduce the range of field testing which may be needed.

Phenological observations, observations of disease and pests, and the uses made of wattles would all be valuable supplementary information.

Early results of the survey have helped locate some superior stands of A. dealbata and locate stands or individuals of A. falciformis, A. filicifolia and A. retinoides.

I would be most grateful if members of the New Zealand Botanical Society could assist with contributions to this survey. The inclusion of photographs of particularly good trees, or specimens of unusual species would be particularly appreciated. Any contributions members can make, or requests for additional information about the survey, can be sent to the undersigned. Your assistance with this work will be greatly appreciated.

John S Sheppard, Soil Conservation Group, Ministry of Works and Development, P O Box 1479, Christchurch

FORTHCOMING MEETINGS/CONFERENCES

■ **New Zealand Genetical Society**

The 23rd meeting of the Society will be held at the University of Auckland Conference Centre on 26, 27 and 28 August 1986. The organising committee, Brian Murray (Chairman), Ross Beever, Robin Shaw and Martin Kennedy invite genetically-inclined botanists to attend what promises to be an interesting, useful and convivial conference in the "City of Sails". This year we meet at the same time and place as SYSTANZ and a joint session has been arranged for 28 August with the theme "What has genetics contributed to systematics?". It is hoped to have a guest speaker from Australia. There will be a joint conference dinner on 27 August. An innovation this year will be a session for shorter oral papers (15 mins) on thesis topics etc. In this session we especially look forward to being brought up-to-date on developments in molecular genetics. Another theme which will be of interest to botanists is "Breeding systems in plants" which will be introduced by Eric Godley, a pioneer New Zealand researcher in this field.

A.D. Thomson, Botany Division, DSIR, Private Bag, Christchurch (Secretary, N.Z. Genetical Society)

■ **Fourth John Child Bryophyte Workshop**

This will be held at the University of Auckland's Leigh Marine Station from 30 October to 4 November 1986. The workshop will concentrate on identification of mosses. Beginners welcome. For further information, contact:

Dr John Braggins or Dr Jessica Beever, Department of Botany, University of Auckland, Private Bag, Auckland 1

MEETING REVIEW

■ **Third Annual John Child Bryophyte Workshop**

31 participants from New Zealand, Australia, The Netherlands, and England joined the workshop held at the University of Canterbury Field Station, Cass, Arthur's Pass, from Thursday 30 January to Monday 3 February 1986.

Passersby in Arthur's Pass National Park, New Zealand, would have been more than a little perplexed and bemused at the sight of thirty adults crouched on hands and knees, noses to the ground, apparently oblivious to their surroundings of snow-topped mountains, sparkling streams and virgin New Zealand forest. Had they stopped to inquire, the truth would be told: the search had begun for the elusive Buxbaumia aphylla, discovered on these very rocks only months before. This moss, virtually invisible but for its tiny brown capsule, was not to be found. But many other bryological surprises awaited the group during this 4 day foray into the alpine and subalpine habitats of Arthur's Pass.

The field workshop began as thirty one participants - ranging from professional bryologists and botanists to keen amateurs - converged on the field laboratory at Cass. Having climbed the road to Arthur's Pass by car, bus, train and even bicycle, all received an official welcome at the gate by the rail station's billygoat. Before long, the group had settled into the dormitories and more importantly, into the microscopes of the laboratory complex.

The plan for Day One was to walk high into the alpine of Temple Basin (c. 1450 m a.s.l.). Striking upwards through subalpine Senecio bennettii - Celmisia semicordata shrubland, it was only minutes before all had slowed to a 'bryologist's pace'. The liverwort Xenothallus vulcanolis attracted attention amidst abundant Racocarpus purpurescens, Racomitrium spp., Psilopilum australe, and Campylopus clavatus.

However a "forced march" (advised by Allan Fife) up to the Lockwood shelter brought everyone into vistas of the valleys below and alpine herbfields ahead. Deeply cut by stream gorges, the herbfields and associated Chinochloa flavescens - C. crassiuscula tussock grassland supported colourful mats of Isotachis montana, Drepanocladus revolvens and the striking Dicranoloma obesifolium, with Entosthodon laxus, Calliergon sarmentosum, Campylium stellatum, and Phyllothallia nivicola arousing interest

Higher yet, in a deep greywacke gorge, Pachyschistochila childii, Andreaea nitida, and Grimmia pulvinata - the latter intriguingly rare in Arthur's Pass National Park - were spotted amongst the more common Dicranoweissia

antarctica and Conostomum pentasticum. Bartramia patens var. robusta, a subantarctic taxon poorly known in 'mainland N.Z.' was tentatively identified, but warrants further comparison to robust material of B. papillata. Microscope lights burned late into the night elucidating many of the day's discoveries.

Pegleg Creek (c. 850 m a.s.l.) was the destination on Day Two. Several participants unintentionally shared the aqueous habitat of Tridontium tasmanicum and Schistidium alpicola while attempting leaps between Andreaea acuminata covered boulders, or examining streamside Blindia martinii. Others searched the epiphytes of mountain ribbonwood (Hoheria glabrata) and found, with the common Leptostomum inclinans, Orthotrichum graphiomitrium close to its type locality. A highlight of the day was the discovery of Bryodixonia perichaetialis, endemic to New Zealand, with Ulota lutea on branches of Coprosma rugosa. By late afternoon microscopes again were revealing the beauty of such liverworts as Lepidolaena hodgsoniae and Schistochila ciliata.

After dinner, rumours circulated of a disjunctively-distributed moss which occurs primarily in the N. Hemisphere and S. Africa, but only in a few localities in New Zealand. One of those localities was just above our station, reached by a small twilight expedition (on David Glenny's inspiration) through matagouri scrub (Discaria toumatou). The blue-green turf of Saelania glaucescens was indeed found, complete with capsules, in rock crevices. A show of excellent bryological slides by John Braggins completed a full day.

In black beech forest (Nothofagus solandri) overlooking Broad Creek (c. 70 m a.s.l.) our annual discussion on Dicranoloma taxonomy continued, witnessed by their co-habitants Leptotheca gaudichaudii, Bartramia halleriana, and Rhizogonium mnoides. The hornworts Anthoceros sp., Phaeoceros laevis, and Megaceros arachnoideus were pointed out by Ella Campbell and rock-dwelling Trichostomum tenuirostre and Mielichhoferia byroides brought some excitement. But Encalypta vulgaris, its conspicuous capsules seen on these rock faces just last year, was barely to be found.

After four warm, clear days of making and renewing friendships - both human and bryological - the participants of the workshop parted, with more "bryologising" in store for the homeward journey. At Broken River (c. 620 m a.s.l.), the Christchurch-bound party examined the distinctive calcifilic flora of the area, including Bryum pseudotriquetrum, Gymnostomum calcareum, and Hyophila nova-seelandiae. The day was crowned with a wonderful find of Tortella fragilis, known in New Zealand only from Campbell Island and a few localities in the marble mountains of NW Nelson.

Our sincere thanks are extended to Philippa Horn for her efficient organisation, to Allan Fife, Bryony Macmillan and Max Visch for bryological 'scouting' in Arthur's Pass, and to all participants for unending enthusiasm.

Gail Franko, Cawthron Institute, P.O. Box 175, Nelson

LETTER TO THE EDITOR

Dear Sir,

Newsletter 3 caused me considerable distress, not to say waste of time. For the life of me I couldn't find the "naughty bits" referred to in the title to the cover illustration. I tried "lateral thinking" but to no avail. Finally I threw the Newsletter across my desk in frustation. Parahebe x cheesemanii landed with its roots in the air, and suddenly there it was - a naughty bit I mean. (How stupid of me - all along I should have used "rotational thinking", not "lateral thinking".) Shame on you, sir! This is definitely a case for the Indecent Publications Tribunal.

Yours in disgust
Ynot Ecurd
Bottomly* Derision
Tighter Research

* I hope you don't think this is "naughty" too - its just that our hut is at the bottom of the island.

QUOTES

■ **Volcanological observations**

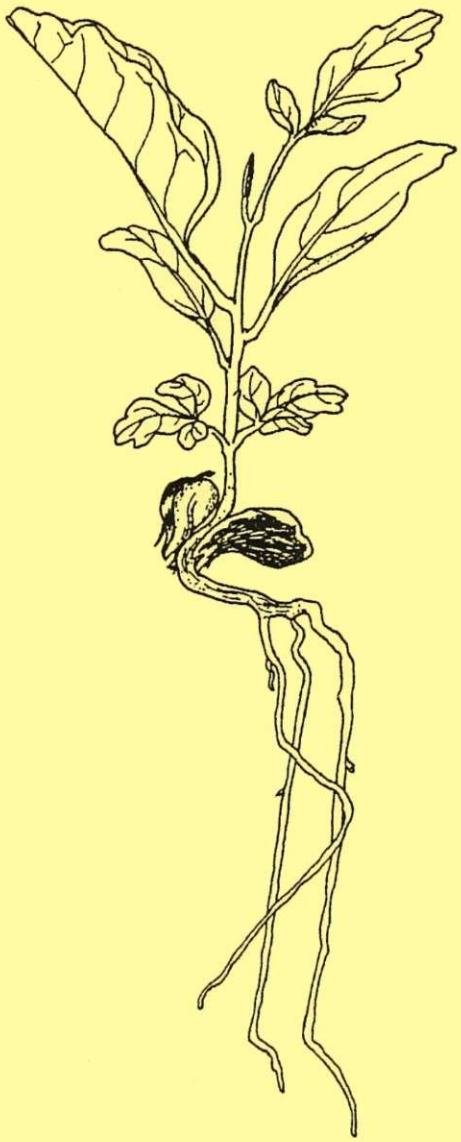
"It has frequently occurred to me in this connection that in ancient times, when the volcanoes of the mid-Pacific were in full activity, their light at night-time would have often given a direction to the migrating bird, and that they might have sometimes determined the line of migration across the Pacific."

H.B. Guppy, "Observations of a Naturalist in the Pacific"

"As may be imagined from the night view ... the glare of the lava stream, already 2 kilometres in length, lighted up the entire mountain side. Innumerable birds, attracted by the glare, fell asphyxiated in the lava and continued to burn like so many torches, carried down upon the swiftly moving surface. Those falling on the farther bank were found to be as perfectly preserved by the sulphur fumes (sulphur dioxide) as though embalmed. In fact, one of these placed in an overcoat pocket and forgotten was found the following winter in perfect condition."

F.A. Perret, "Volcanological Observations" (contributed by **Rhys Gardner**)

Acknowledgement: This Newsletter was typed by Mrs Mary Best



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