

NEW ZEALAND BOTANICAL SOCIETY
NEWSLETTER

NUMBER 10

DECEMBER 1987



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SUBSCRIPTIONS

An invoice for your 1988 Newsletter subscription is enclosed. Please return it, with your remittance, promptly. Once again we are setting the subscription level at \$10 (\$5 for students). Printing and postage costs are rising steeply, but due to the generosity of our printers we hope to end 1987 with a modest surplus. A balance sheet for 1987 finances will be published in the March 1988 issue of the Newsletter.

It is essential that we increase the circulation of the Newsletter to keep within the budget funded by \$10 subs. The more copies of the Newsletter printed the lower the unit cost. Since the inception of the Newsletter no subs drive has been made, and we are sure that there are many people who would be interested but simply don't know of our existence. Your help in spreading the word will be greatly appreciated and keep subs down.

The Newsletter is published quarterly (March, June, September, December) and back issues from November 1 (August 1985) to Number 9 (September 1987) are available at \$2.50 each. They can be ordered on your subs invoice.

New subscriptions are always welcome and should be sent to the New Zealand Botanical Society, c/- Auckland Institute and Museum, Private Bag, Auckland 1.

INVITATION TO CONTRIBUTE

Contributions from all sources are most 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 March 1988 issue (Number 11) is 24 February 1988. Please forward contributions to:

Anthony Wright, Editor
 NZ Botanical Society Newsletter
 c/- Auckland Institute and Museum
 Private Bag
 Auckland 1
 NEW ZEALAND

Cover illustration: Umbrella mosses - a distinctive feature of New Zealand forests. Here are illustrated six species of the genus *Hypnodendron*: a *Hypnodendron comosum*, b *H. marginatum*, c *H. colensoi*, d *H. menziesii*, e *H. arcuatum*, f *H. kerrii* (all x0.9 life size). For a key to the genus see page 10 (Jessica Beever).

NEWS

■ Nancy Adams - Botanical Artist

A retrospective exhibition, Nancy Adams - Botanical Artist, opened at the National Museum on 31 October, and ran through to 6 December, 1987.

Nancy Adams is one of New Zealand's foremost botanical artists and is well known for her beautiful and accurate scientific illustrations. She was Assistant Curator of Botany at the National Museum of New Zealand, where she worked from 1959 - 1987.

The National Museum presented this special exhibition as a tribute to her work as a botanist and an artist, and in recognition of her many general publications such as her popular handbooks of native trees.

Over 60 works were shown - water colours, pencil and ink drawings. Many were the original art work for her publications. Others resulted from her numerous field trips throughout New Zealand, including visits to isolated National Park areas. She has always worked from living material, either out in the field or from specimens collected on these trips.

Regional Bot Socs

■ Auckland Botanical Society

The Society's Golden Jubilee was celebrated on 3 October 1987 with a Symposium and Dinner. As Marjory Seddon wrote in the ABS Newsheet "Saturday, October 3rd - a grey, bleakly windy morning for shoppers and sports people, but inside the Conference Centre at the School of Architecture all was warmth, enthusiasm and excitement. For this was the 50th Anniversary of the founding of the Auckland Botanical Society and some 180 or so past and present members and interested non-members were gathered there. And what a superb day was in store for them!"

"A dedicated committee under its capable and unassuming president, Dr Ross Beever, must have worked exceedingly hard to prepare all the delights: the name tags (200 of them) with the hand-printing by Jack Mackinder which made them into works of art; the displays with so much interesting detail; the posters with photos of outstanding botanists and details of their life and works; beautiful paintings of various plant species by such informed artists as Audrey Eagle, Marie Taylor, Bruce Irwin, Fanny Osborne and others; snapshots of Botanical Society outings and explorations; and racks of the many publications put out by Auckland Botanical Society."

"And then there were the lecturers with their beautifully illustrative slides on a wide variety of subjects - something for everyone and much to learn. At suitable intervals there were the welcome breaks for food and drink. An outstanding and memorable day!"

From Maureen Young "The Jubilee dinner, held in the pleasant surroundings of Old Government House, was a relaxed and friendly affair. After an absorbing

day of listening, concentrating and learning, there was now time to enjoy renewing old friendships and meeting new people. The ample supplies of food met the fate which they deserved, and at last the guests, replete and contented, could turn their attention to the final formalities of the day.

First came the cutting of the cake by two respected members of long standing - Joan Dingley and Katie Reynolds. The cake, baked by Jessica Beever and iced by Mark Large, was a magnificent replica, in miniature, of the Palm House at Kew Gardens. Just visible through the lacy domes were iced pictures of kauri with schizaea, rata flower and tanekaha sprigs, thus adding a touch of New Zealand botanical interest."

"Audrey Eagle declared that her speech was not going to be a serious one, and the light entertaining note which she struck exactly suited the mood of her listeners. She led us on a fascinating jaunt, mentioning people, plants and places of interest. I wonder if there are others like myself, who, while not knowing her husband, have been left with an enduring mental picture of Harold watching TV, with a blackbird perched on his head!"

During the evening, a Special General Meeting of the Society was held, and Jim Beever and Jack Rattenbury were unanimously elected to Life Membership. Both have given long and distinguished service to the Auckland Bot Soc over many years.

September 1987 saw the publication of Vol.42 no.2 of the Society's Newsletter. The contents included:

Obituary - Lucy Beatrice Moore, 1906-1987	R.E. Beever
Fifty Years On	Jim Beever
Reminiscences	Katie Reynolds
Early Reminiscences	R. Afford
From Betty Allen	
Farthest North - botanical notes on the North Cape area	R.E. Beever
Some mosses from the Mokaikai Scenic Reserve, North Cape	Jessica E. Beever
Pukitu - Woodhill	E.K. Cameron
The indigenous vascular flora of a large gully system bordering the south eastern suburbs of Hamilton city	P.J. de Lange
The Orini kahikatea forest, Tauhei - Whitikahu Road	P.J. de Lange
Cascade Stream	J. Mackinder et al.
Species lists additions	E.K. Cameron
Roof grafting in puriri	R.E. Beever
Notes on rewarewa (<u>Knightia excelsa</u>)	R.O. Gardner
Some Auckland eucalypts	R.O. Gardner
"Tuberous, Cormous and Bulbous Plants"	
by J.S. Pate and K.W. Dixon	Reviewed by R.O. Gardner

The next field trip is to Kaitarikihi Summit, Thames, on 20 February 1988. The next evening meeting will be held on 2 March 1988, and will include the Annual General Meeting and Ewen Cameron speaking on the Natural History of Tonga. The March field trip, to the Hunua Ranges, will take place on Saturday 19th. For further details, contact:

Sandra Jones, Secretary, 14 Park Rd, Titirangi, Auckland 7 (phone 817-6102 evenings).

■ Rotorua Botanical Society

Newsletter no.11 was published in August 1987. Contents include:

Lucy B. Moore (1906-87): Personal Reflections	J. Bruce Irwin
Whangamarino Swamp Trip	Betty Seddon and Stella Rowe
Tawarau State Forest Trip	Paula Broekhuizen and Cornelia Regnier
Te Hunga Ridge Trip	Mark Smale
Whangamata Stream, Lake Taupo: Ten Years After	
Riparian Fencing	Clive Howard-Williams
Hinehopu Mire: A Regionally Significant Wetland In	
The Rotorua Lakes District	Bruce Clarkson
An Account Of Some Sand Dune Communities Of The	
Eastern Bay of Plenty	Sarah Beadel

The Secretary (S.M. Beadel), Rotorua Botanical Society, Okere Rd, RD 4, Rotorua

■ Wanganui Museum Botanical Group

We have been fortunate to have had Dr. V. Neall of Massey University to talk to us on recent work on fossil pollens and past vegetation covers in the Egmont/Taranaki region. It was a fascinating talk.

One of our day trips has been to Sutherland's Bush in the Turakina River valley. New tracks had been cut and we were better able to appreciate the size and botanical diversity of the area.

We also paid one of our regular visits to "Junction Road", a short side road with interesting seepage communities along the road side. Unfortunately the road - to a single farm property - had been "improved" by bulldozer and grader, and many fine seepages had been cleared away. It is a shame that many areas are being lost by such "improvements".

A.E. King, Chairman, No 2 Line, RD 2, Wanganui

■ Wellington Botanical Society

The New Year trip (Sunday 27 December 1987 - Wednesday 6 January 1988) is to Western Nelson, north of the Buller River. Anniversary Weekend trip (Thursday 21 - Tuesday 26 January 1988) is to Egmont National Park.

Friday 5 - Sunday 7 February 1988: Mt Matthew from the Mukamuka Stream.

Monday 15 February: a practical evening on identification of grasses.

Saturday 5 March: Grasses in the field - Otari Native Plant Museum and surrounds.

Monday 21 March: European orchids talk.

Easter Weekend (Thursday 31 March - Tuesday 5 April): Kaikoura District, S. Marlborough.

For further information about any of these trips please phone the Secretary, Carol West, 897-953 (home) or write to:

The Treasurer, 40 Whau St, Brooklyn, Wellington 1

■ Canterbury Botanical Society

The Canterbury Botanical Society has not yet finalised the programme for the first half of 1988.

We have two camps scheduled: 11 - 13 December at Hanmer Forest Camp. We have been to Hanmer at this time for the last two years, and have found it a good time to see some of our alpine plants flowering. Our summer camp this year is to be held from 28th December to 3rd January at the University of Canterbury Field Station, Cass.

Recent activities include a weekend camp to Raincliff in South Canterbury where we were able to see a wide range of plants from petrified wood, to a commercial enterprise growing paeonies, to alpine plants. Unfortunately the weather was not the best, but it did not deter us!

Recently several members assisted with an open day to the Mt Cavendish Scenic Reserve. This reserve, on the Port Hills, close to Christchurch is threatened with commercial development in the area. Our members acted as guides to the area, with particular emphasis on the vegetation.

Our Society meets on the first Friday of each month at 8 p.m in room A6 of the University of Canterbury. A field trip is held the day after the meeting (i.e. usually the first Saturday of the month). We welcome visitors to our monthly meetings, field trips and camps. Enquiries should be made either by phone to P. Horn, 252-811 ext 8124, or to:

The Secretary, P O Box 8212, Riccarton, Christchurch.

■ Botanical Society of Otago

Newsletter No 4, October 1987, outlined the "CREDA" (Conspicuous Roadside Exotic Distribution Assessment) Scheme - a cooperative project to determine the distribution of about 25 conspicuous exotic roadside weeds in the South Island. About 10 botanists from around the South Island have been involved in this scheme for the past three years. The scheme is designed so recording can be done during travel for other purposes. The species are chosen so they can be recognised whilst travelling at normal speeds. (Of course, there is occasional need to stop at first to check, to build up familiarity with some species, or check a doubtful plant).

Newsletter No5, November 1987, is dominated by eight pages of "New names in New Zealand Scrophulariaceae" by M.J. Heads. As the introduction to the paper states "New names are published here in accordance with the International Code of Botanical Nomenclature so that they can be used by those who wish in advance of the publication of the revision".

The next meeting listed in the Newsletter is a Grass Workshop at 7.30pm on Wednesday 10 February 1988. Led by Professor Alan Mark, the emphasis will be on native grasses. There will be some introduction to the basics of grass identification, so the workshop should be suitable for the novice as well as the more experienced.

Further information on the Botanical Society of Otago from:

Dr J. Bastow Wilson, Botany Department, University of Otago, PO Box 56, Dunedin

Herbarium Reports

■ Herbarium of Botany Department, University of Auckland (AKU) 1986 Report

At the end of 1986 the herbarium held:

Vascular plants	19580
Bryophytes	10691
Lichens	1503
Algae	15300*
TOTAL	47074

*estimated as all the algae have not been accessioned.

Some 1500 new accessions, mainly from the northern half of the North Island, were added during 1986. These were fairly evenly spread over the four plant groupings above. Excellent moss specimens from J.E. Beever were once again the major contribution from outside the Department. We received 989 specimens on loan and lent out 893.

With the cessation of the Labour Department PEP Schemes, assistance in the Herbarium has been down compared to previous years.

E.K. Cameron, Herbarium Curator, Botany Department, University of Auckland, Private Bag, Auckland 1

■ Lincoln College Herbarium (LINC) Report

Work in the Lincoln College Herbarium progresses slowly, due mostly to a shortage of time available to devote to it.

The shelving has assisted in allowing a more efficient arrangement of boxes of specimens. Two cabinets which will be used to house our grass collections arrived this year.

A computer catalogue of all specimens is (still) being compiled. This catalogue (started using Visor) has been converted to MassII. List processing with this programme is more flexible, available on both P.C. and the main College computer, and takes less storage. (Fortunately the conversion to MassII was facilitated easily!).

The major use of the herbarium is by agricultural and horticultural undergraduates using it to confirm identifications of plants in their own plant collections.

Philippa Horn, Herbarium Keeper, Department of Plant Science, Lincoln College, Canterbury.

■ Herbarium of the Forest Research Institute, Ministry of Forestry, Rotorua (NZFRI)

Government department restructuring has resulted in major changes to the New Zealand Forest Service and its replacement by the Forestry Corporation, the Ministry of Forestry and part of the Department of Conservation. The Forest Research Institute has survived largely intact as part of the Ministry of Forestry, but with some reduction in staff mainly due to non-replacement of those taking early retirement.

Government department commercialisation has resulted in many changes within the Institute. However charges for identification of individual plant specimens have not been introduced, being considered counterproductive to the acquisition of new specimens and records. Collections of Norfolk Island pine cones at various stages of development for Weyerhaeuser and a consignment of wineberry plants to France are examples of the herbarium's tentative forays into the new world of commercialism.

Work has been continuing on a bulletin series on the role, recognition, and seed sources of exotic forest tree species in New Zealand. Those on Pinus nigra, and Pinus contorta have been published and are available from Technical Publications, Forest Research Institute, Private Bag, Rotorua. Bulletins on Pinus mugo, Pinus uncinata and Larix are close to publication and others are in preparation. The Eucalyptus identification card key (see Newsletter no. 9, p.12) is proving popular.

Just under a thousand specimens are added to the herbarium each year. The only major collecting trip this year was a trip to the South Island in October to gather information for the Bulletin series. Dunedin Botanic Garden and the Momona Airport conifer collection proved particularly worthwhile collecting sites for the less common conifers.

Willie Shaw and Sarah Beadel have deposited several hundred specimens from the Ureweras in the last few years, including a plant which has defied efforts of identification, even to family, samples having been sent as far afield as Kew and Sydney. It is now in cultivation and it is hoped that flowering will help solve the mystery. A note will be prepared on this plant for a future newsletter.

In October a burst water-main caused flooding in the basement area housing the Herbarium, Computing Section, Photography, and various storerooms. The herbarium was under several centimetres of water but fortunately the kickboards of most of the cabinets were high enough off the floor for the specimens to be protected and damage was restricted to two or three specimens. Water trapped in the recesses in the base of the cabinets had to be drained and the cabinets which showed rapid signs of rust were raised on blocks till thoroughly dry. Botany Division staff will be pleased to know that the cabinets built by Metric Metals passed the flood test very well. Damage to other equipment in the herbarium was restricted to a few maps which were actually touching the floor. The advisability of storing valuable records and specimens well above floor level was strongly emphasised by this experience.

C.E. Ecroyd, Forest Research Institute, Private Bag, Rotorua

■ Otago University Herbarium (OTA) - Curator's Report

During the year more than 1000 specimens of vascular plants have been accessioned, mostly voucher specimens from the Protected Natural Areas Programme Surveys of the Umbrella and Nokomai Ecological Districts, Waikaiti Ecological Region, conducted by Dr Katharine Dickinson. There were many notable range extensions recorded from these previously poorly documented districts. Also incorporated, were vouchers from a P.N.A.P.-type survey of the Eyre Ecological District which included a distinctive pink flower form of the endemic (and "rare" - Given 1981) Celmisia thomsonii (see Forest and Bird 18 (2) pp. 10-12; 1987 and note by A.F. Mark in this issue), plus range extensions for other endemic species. The

Holotype of the recently described Eyre Mountain scree buttercup, Ranunculus scrithalis Garnock-Jones, is in the OTA collection, as is that for Hebe crawii Heads, sp. nov., which is among the "New Names in New Zealand Scrophulariaceae" recently published by Michael Heads in the Botanical Society of Otago Newsletter (No.5, November 1987).

A locked cupboard has been added to the herbarium to secure these two plus the several other type specimens (Holotypes) housed in OTA.

P. Bannister, Chairman, Botany Department, Otago University, PO Box 56, Dunedin

■ Plant Diseases Division, DSIR, Herbarium (PDD) - Annual Report 1986

Approximately 2,500 specimens were added to the collection. This included plant disease specimens from Federated States of Micronesia and Palau; and a large collection entitled "Fungi of Illinois", consisting mainly of rust fungi, from herbarium LEV. There is now a total of 53,500 named, catalogued specimens in the herbarium. There were 20 outgoing loans, involving 377 specimens. Specimen exchange programmes continued, and 50 smut fungi from "Ustilaginales Exsiccata" were received. Type specimens have been separated from the general herbarium collection, and details on approximately 350 of these have been indexed.

E.H.C. McKenzie, Plant Diseases Division, DSIR, Private Bag, Auckland 1

■ Waikato University Herbarium (WAIK) 1986 Report

Waikato University Herbarium has had a busy year with 2,500 new accessions, mostly from the Waikato area, but also including over 200 ampelographed grapes by D. Zuur, 100 British and European lichens collected by K. Thompson, and a few exchanges with other herbaria.

Our herbaria now has the acronym WAIK, as the previously used WAI had already been assigned to Waimea Arboretum in Hawaii. The breakdown of accessions is as follows:

	Accessions	Total
Angiosperms	1810	5870
Gymnosperms	40	360
Pteridophytes	450	1450
Mosses	80	420
Liverworts	70	200
Algae	10	60
Lichens	240	340
Total	2500	8500

More cabinets have been added to the herbarium to accommodate the increase in number of sheets.

Paul Champion, Department of Biological Sciences, University of Waikato, Private Bag, Hamilton

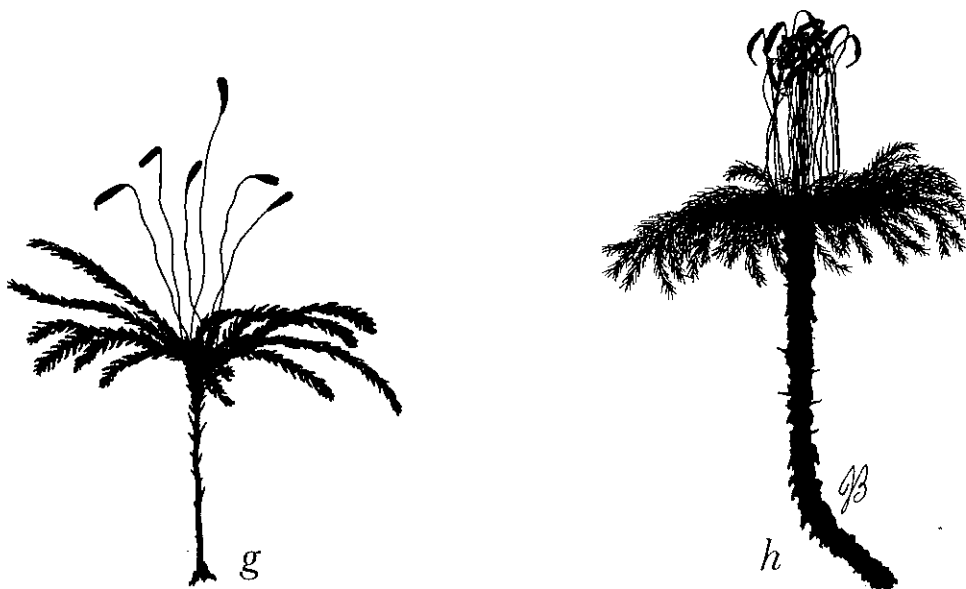
NOTES AND REPORTS

Current Research

■ A key to the New Zealand species of Hypnodendron

Amongst our most spectacular bryophytes are the umbrella mosses of the genus Hypnodendron. Sainsbury in his 'Handbook of New Zealand Mosses' (Sainsbury 1955) regarded New Zealand as having 5 species in 3 separate genera. An excellent monograph by Touw (1971) increased our number of species to 8, plus one variety, but placed them all in the single genus, Hypnodendron. (Completely unrelated umbrella mosses are found in the genus Hypopterygium, but these can be distinguished from Hypnodendron by having the leaves clearly in three rows: two rows of lateral leaves and a third row of smaller under leaves).

With the aid of the following key the New Zealand Hypnodendron species can all be identified in the field, if they are bearing capsules. In the absence of capsules mature specimens of all species can be distinguished with the additional help of some microscopic characters. A summary of names, a glossary of bryological terms used in the key, and silhouettes of all species, are provided. Figures a to f (front cover of this issue) are 0.9x life size, figure g (H. spininervium) and figure h (H. comatum) are life size.



- | | | |
|----|---|---|
| 1. | Apices of branch leaves finely tapering, giving a fluffy appearance to the plant. | |
| | Stipe usually densely covered with tomentum..... | 2 |
| 1. | Apices of branch leaves widely acute, although they may have the nerve excurrent. | |
| | Stipe usually not tomentose or sparsely so | 5 |

2. Setae few (about 3) and long (3.5-4.5 cm). Nerve of branch leaves containing numerous square crystals (visible when a whole leaf is examined at high power with a compound microscope)..... **Hypnodendron colensoi** (Fig. c)
2. Setae many (5-25) and short (2-3 cm). Crystals absent from nerve of branch leaves ...3
3. Branches simple or with 1 or 2 lateral branchlets. So far known only from south of Cook Strait 4
3. Branches with many lateral branchlets. Found throughout New Zealand **Hypnodendron comatum** (Fig. h)
4. Mature plants usually with several tiers of branches, often orange-brown. Nerve of branch leaves 50-70 μ m wide near its base **Hypnodendron comosum** var. **comosum** (Fig. a)
4. Plants usually with a single tier of branches, dark sordid-green. Nerve of branch leaves 80-120 μ m wide near its base **Hypnodendron comosum** var. **sieberi** (not illustrated)
5. Stipe leaves erect when moist. Branch leaves with a distinct border of longer cells **Hypnodendron marginatum** (Fig. b)
5. Stipe leaves obliquely or widely spreading when moist. Branch leaves unbordered 6
6. Frond pinnate, or palmate in a single tier. Branch leaves arranged approximately in three rows, with the dorsal leaves smaller than the lateral leaves. Capsule grooved, calyptra 1-2 mm long 7
6. Frond palmate to umbellate in 1-8 tiers. Branch leaves not in three rows, all alike. Capsule smooth, calyptra 4-7 mm long 8
7. Stipe leaves with the nerve excurrent from the leaf lamina to form a hair. Setae arcuate **Hypnodendron arcuatum** (Fig. e)
7. Stipe leaves with the nerve failing at the leaf apex, or very shortly excurrent. Setae straight or flexuose **Hypnodendron spininervium** (Fig. g)
8. Capsules 4.5-7.5 mm long, setae long (5-7.5 cm) and few (usually 3 or fewer). Base of stipe leaves slightly reflexed at their margin and decurrent down the stem to form a minute wing (visible with high power of a dissecting microscope) **Hypnodendron menziesii** (Fig. d)
8. Capsules 1.5-3 mm long, setae short (1.5-4 cm) and many (often more than 4). Base of stipe leaves neither reflexed nor decurrent..... **Hypnodendron kerrii** (Fig. f)

Summary of names

Sainsbury, 1955
Sciadocladus menziesii (Hook.) Lindb.
Sciadocladus kerrii (Mitt.) Jaeg.

Hypnodendron arcuatum (Hedw.) Mitt.

Hypnodendron marginatum (Hook.f. & Wills.) Jaeg.

Mniodendron comosum (La Bill.) Lindb.

Touw, 1971

Hypnodendron menziesii (Hook.) Par.

Hypnodendron kerrii (Mitt.) Par.

Hypnodendron arcuatum (Hedw.)

Lindb. ex Mitt.

Hypnodendron spininervium

(Hook.) Jaeg.

Hypnodendron marginatum (Wils.)

Lindb. ex Jaeg.

Hypnodendron colensoi (Hook.f. & Wills.) Mitt

Hypnodendron comatum (C. Muell.)

Mitt. ex Touw

Hypnodendron comosum (Labill.) Mitt.

var. comosum

var. sieberi (C.Muell.) Touw

Glossary

capsule	the spore case, held above the leaves by the seta
nerve	mid-rib of a leaf
seta (pl. setae)	the stalk which carries the capsule
stipe	the main, erect stem of the 'umbrella'
tomentum	a felt of rhizoids

References

- Sainsbury, G.O.K. 1955: A Handbook of New Zealand Mosses. Royal Society of New Zealand Bulletin No.5.
- Touw, A. 1971. A taxonomic revision of the Hypnodendraceae (Musci). Blumea 19(2): 211-354.

Acknowledgements

It is a pleasure to acknowledge my debt to Dries Touw in the preparation of this key, and to thank Pat Brownsey and Barbara Polly for assistance with its gestation. Any comments from users will be gratefully received.

Jessica E. Beever, C/o Botany Division, DSIR, Private Bag, Auckland 1

■ Research on kowhai-ngutukaka

Clianthus puniceus (kowhai-ngutukaka or kakabeak) is a species well known to New Zealand botanists and the public alike. It is an endemic shrub with abundant showy scarlet flowers and is widely planted in public and private gardens. Its flowers belong to that group of images (e.g., sheep, fantails, kowhai blossoms, and Maori designs) used to endow souvenirs with a distinctive New Zealand character.

In the wild, kowhai-ngutukaka is considered endangered and past records have never described it as abundant. In 1769, Banks and Solander were the first Europeans to collect kowhai-ngutukaka (Illustrated by Sidney Parkinson, Plate 432, Banks' Florilegium). William Colenso in 1868 noted that it was a plant well known to the Maori and actively cultivated close to their dwellings, but seldom seen in the wild. Early distribution records describe it as exceedingly rare and local in the wild occurring in a number of scattered localities from the Bay of Islands to Poverty Bay and inland Hawkes Bay, Great Barrier Island, Thames and near Lake Waikaremoana. Today, we know of only fifteen wild populations recorded in recent times, twelve of these within Urewera National Park. Many of these populations are represented by less than ten individuals. Over the last eight months we have been studying the wild populations near Lake Waikaremoana to investigate the current status and ecology of this species. One aim of the project is to be able to provide managers with information that will enable wild populations of kowhai-ngutukaka to be maintained. Partial support for the work is being provided by the New Zealand Lottery Board.

Kowhai-ngutukaka occurs on partially vegetated rock bluffs or recently disturbed sites with northerly aspects. Disturbed sites include shrubland or shrub-flaxland that has developed following fire, a roadside verge, the edge of a landslide and lake margin exposed when Lake Waikaremoana was artificially lowered in 1946. Observation of its growth form suggests it is extremely shade-intolerant.

An intriguing facet of our investigations has been the discovery that C. puniceus readily layers in the wild. Branches root up to 4 m from the parent plant, eventually separating to form a new individual. Increase in those populations studied seems to have resulted mostly through clonal propagation rather than through recruitment of seedlings. In one case a population of 26 'plants' (some are still connected) was found to have probably derived from just two original individuals; with one parent responsible for 25 of the population.

One implication of this finding is that the genetic complement of these wild populations may be much smaller than at first thought. Variability in kowhai-ngutukaka is well known, particularly in flower colour, shape and size. A white-flowered form exists in cultivation which Cheeseman states is true from seed and probably once grew on the Tiniroro Cliffs. Colenso ascribed specific status (C. maximus) to a form that is reported to have smaller flowers and larger leaflets than the common form.

We are eager to learn more about this intriguing plant especially the location of any further wild populations, and also welcome any information or observations on kowhai-ngutukaka, including the anecdotal. Readers can write to us at the address below. All information will be treated with confidence due to the perilous status of the species.

Bruce Burns and W.B. Shaw, Forest Research Institute, Private Bag, Rotorua

■ Polymorphism in Adiantum diaphanum - help wanted

Almost exactly 100 years ago, William Colenso (Trans. N.Z. Inst. 20:215, 1888) described Adiantum polymorphum, a species which he considered to be very close to A. diaphanum but one that differed in lacking hairs on the indusia and on the underside of the lamina segments. Subsequent botanists have tended to regard it as just another of Colenso's spurious names; Cheeseman (Man. N.Z. Fl. 961, 1906) reduced it to a variety of A. diaphanum, Allan (Fl. N.Z. 1:98, 1960) mentioned it only as a footnote to A. diaphanum, and Brownsey, Given & Lovis (N.Z. J. Bot. 23:451, 1985) listed it in synonymy. However, recent observations suggest that its status may warrant reappraisal.

Adiantum diaphanum is the smallest of our native maidenhair ferns characterised by a pinnate or trifid frond, a generous covering of hairs on the indusia and underside of the lamina segments (Fig.1) and small tubers on the rootlets. The species is common from North Cape to the Waikato, rare in the central North Island and scattered throughout the southern North Island, extending to northern coastal districts of the South Island and to Banks Peninsula.

Recently, typically hairy plants of A. diaphanum were found growing together with glabrous forms in Carter's Scenic Reserve, near Carterton, southern Wairarapa (NZMS 260 S26 29-68-). The reserve is a remnant

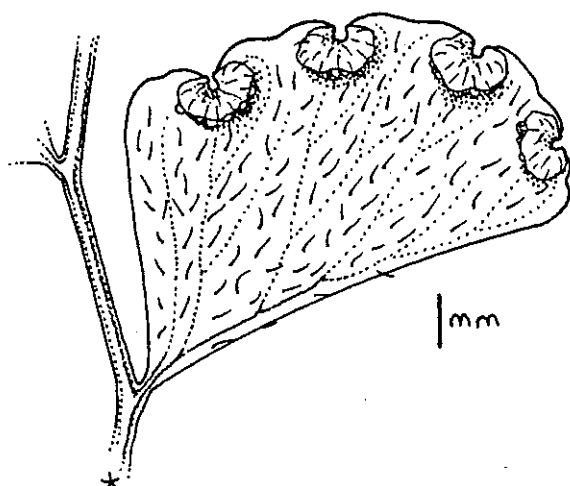


Fig. 1. Lamina segment of typical A. diaphanum showing the hairs on the indusium and lower lamina surface. The glabrous forms lack such hairs and could be mistaken for A. cunninghamii. However, the latter species is larger and typically 3-pinnate at the base, whereas A. diaphanum is 1-2-pinnate at the base and rarely produces more than one pair of primary pinnae.

piece of kahikatea swamp forest surrounded by well-drained terraced slopes of matai/titoki forest. Adiantum diaphanum grows in a 200 m long strip of open titoki forest along the northern boundary of the swamp. It occurs as very discrete populations varying in size from just a few individuals to some about 2-3 m in diameter. The glabrous plants were first found by casual observation, but more careful examination showed that each population consisted only of either hairy or glabrous individuals, but that adjacent populations, often no more than 1-2 m apart, were frequently different. Single fronds from every discrete population were subsequently collected by Rodney Lewington and myself. Examination in the herbarium revealed 30 completely glabrous populations, 11 typically hairy populations, and fronds from two populations which had very occasional hairs.

In order to determine whether glabrous plants are a regular feature of A. diaphanum populations, herbarium material in WELT was examined. No mixed collections were detected, although this is perhaps not surprising as herbarium collections are usually gathered from a limited number of plants in any one population. However, regional differences were apparent. The following table shows the number of separate collections in WELT of hairy and glabrous plants in different areas:

	No. of collections	
	hairy plants	glabrous plants
Kermadec Islands	2	0
Northland-Waikato	19	1
Southern N. Island	5	4
South Island	2	4

Clearly, the proportion of glabrous plants increases southwards. Random herbarium collections are scarcely a good basis for statistical analysis, but the figures suggest that further investigation would be extremely interesting.

The glabrous plants were compared with Colenso's type specimens of A. polymorphum collected near Dannevirke, and found to be identical. Moreover, the glabrous plants appear to be indistinguishable from A. diaphanum sens. str. except for the absence of hairs on the indusia and lamina segments. The occurrence of the two forms in discrete populations in Carter's Bush could therefore be the result of a single gene difference between them. (However, very recent information from Mark Large

indicates that the glabrous populations have a very high proportion of aborted spores, suggesting that it may be apomictic in contrast to the normal hairy forms).

The regional differences require confirmation, but if they prove correct, they may be the result of different selection pressures in different areas. The scarcity of the glabrous forms in the north is consistent with the absence of such forms in an admittedly small number of examined collections from Australia and New Caledonia.

It is highly desirable that further populations of A. diaphanum are examined, and I appeal to readers of the Newsletter for assistance. The information that needs to be determined is: (i) whether mixed populations of hairy and glabrous plants occur in other places or whether, in most areas, only one or the other is normally found; and (ii) whether there really are geographical differences in the frequency of hairy and glabrous populations.

If anyone would like to help with this project, the following data is required:

- Locality (including grid reference or lat./long.).
- Brief habitat details including main forest type.
- Approximate area of site in which A. diaphanum occurs.
- No. of discrete populations sampled.
- No. of populations of hairy plants.
- No. of populations of glabrous plants.
- No. of populations of intermediate plants (if any) -
if in doubt, collect a frond.

Taking a single frond from each discrete population is the simplest way of sampling over a large area. The fronds can be separated later into hairy or glabrous forms and counted. The fronds can also be pressed, if necessary, as a permanent record for subsequent confirmation.

I would like information from as many different sites in as many different geographical areas as possible. Even the basic information that only glabrous or only hairy plants were seen in a particular locality would be helpful. Please send all information to the address below. Every contribution will be acknowledged.

Dr P.J. Brownsey, National Museum, Private Bag, Wellington

New Plant Records

■ Mainland New Zealand's first pink flowered Celmisia?

The claim in a recent Forest and Bird article (Vol.18(2):10-12; May 1987) by Alan Mark and Gerry McSweeney for New Zealand's first recorded pink flowered mountain daisy, Celmisia thomsonii, a locally endemic and "rare" (Given 1981) plant of the Eyre Ecological District, caused a minor flutter among botanists. We estimated that about five per cent of the plants had pink rays that generally were uniform within a single head but a few had a curious mixture of pink and white ray florets. Even though the species has been collected only very infrequently in flower in the past, it is odd that no-one has noted it and commented on it before.

While such colour has been recorded for the underside of ray florets in two species of Celmisia, C. viscosa and C. hectorii (and on the underside of petals in a few other alpine) (Mark and Adams "N.Z. Alpine Plants") and I have seen pink florets in a single small cushion of C. sessiliflora on the Old Man Range, Central Otago, full colouration apparently has been recorded only in the high-altitude Australian species, C. "costineana" according to David Given (pers. comm.).

Other records of this phenomenon would be appreciated. For those who would question our decision to publicise this find I can only say the alternative was foregoing this "trump card" in the political battle to retrieve a large slice of valuable nature conservation land on Eyre Creek and Cainard Crown Land blocks (that contain almost all of the populations of C. thomsonii), for the Department of Conservation from Landcorp, where initially it had been allocated.

A.F. Mark, Botany Department, University of Otago, PO Box 56, Dunedin

Fieldwork

■ A Reserve experiment on Banks Peninsula

Several years ago Maurice White, a Canterbury accountant and conservationist, set up a fund so that eventually land could be purchased for botanical and wildlife values on Banks Peninsula. In the middle of my botanical survey of the Peninsula he approached me to see if I could look out for properties up for sale that held high conservation values. Obviously the prospect delighted me immensely. We looked at several properties. In some cases too little of the original vegetation remained, at least for the first undertaking. Early this year, however, a 106 hectare block over the hill from Akaroa above Otanerito Bay came on the market.

It had never been an easy farming proposition. Falling from just over 600 m down to 240 m through steep gullies, much of the area is under tall red beech, kanuka, second-growth mixed hardwoods, and gorse. Rainfall is high by eastern Canterbury standards, cloud levels often low, and the maintenance of pasture has involved a constant and often losing battle against the encroachment of gorse and native scrub.

It seemed an ideal prospect for our intentions however. The existing forest, though battered by grazing, is highly recoverable. Native regeneration, both directly and under gorse, is strong. The flora is still rich and diverse, ranging from snow tussock and Celmisia mackaui, through 2 beech and 3 podocarp species, a wealth of tree ferns, ground ferns and epiphytes, to "southern limit" species such as Macropiper. Close by are such Canterbury rarities as nikau palm and Cyathea medullaris. Bird populations include bellbird, brown creeper, rifleman, tomtit, woodpigeon, greywarbler, shining cuckoo, fantail, swallow and harrier. Adjacent farmers seem at least sympathetic, and some have conservation plans already underway. There are exciting possibilities for expanding eventually both up and down valley, if we cope with what we have already taken on.

At the end of September 1987 land ownership passed to the Trust, and I threw my involvement whole-heartedly behind the project which I find immensely exciting. I still have another summer's worth of fieldwork to complete my Banks Peninsula survey, but I am hopeful that both the fieldwork and work on the ensuing publication will work in well with getting the "Hinewai Reserve" underway. I am hopeful too that sufficient minimal funding for living costs will enable me to spend increasing and substantial time and effort on the project.

The plan is to close the whole block off from grazing, and to assist the revegetation of pasture as rapidly as possible through gorse and kanuka into forest as near as we can hope to the "original" vegetation cover. This will involve an understanding with the Noxious Plants authority, careful management along boundaries, propagation, planting, and seeding in where necessary (using material only from the property and from adjacent land within the catchment at the same altitudes), and constant vigilance against mammals. As I write, in the house at Hinewai with southerly rain sluicing against the windows (otherwise I would be out in a gully mapping and recording the existing vegetation!), some 40 feral goats are out there in the rain giving the plants hell and me botanical nightmares. Plans are now organised though for their removal as soon as the weather clears, with the help of neighbouring landowners. I am currently writing a "management plan". Joe Cartman, of the Waimairi County Council nurseries, is assisting us with propagation of seed collected during the winter and the establishment of a propagation area near the house.

We plan to record climate data, (at least rainfall starting immediately), and to set up permanent quadrats to record vegetational change. A detailed record will be kept of all aspects of the project. Basic accommodation will be available for scientists, students, and workparties by arrangement. The fund will also stretch to employing labour if some necessary tasks get out of hand.

Besides removal of goats, a high priority is the establishment of a track network, utilising existing farm tracks in many cases. Eventually we hope to provide access for interested public. The existence of a grassy legal "road" from Akaroa, over an attractive saddle in to the reserve, and the proximity of D.O.C. reserves such as Ellangowan and Armstrong, make recreational possibilities interesting. A sealed road comes to the gate, accessible direct from Akaroa or via the Summit Road from Hilltop. Planting round the house will have "educational" elements in mind.

The beech stands here have attracted some scientific attention in the past. The largest stand on the Hinewai block is on gently sloping ground with shallowly incised small streams, giving spacious forest vistas unique on the Peninsula so far as I know. Nothofagus fusca is overwhelmingly dominant, but there is also some N. solandri and scattered hybrids. Close by, the discovery by Margaret Bulfin a few years ago of Caladenia lyallii confirmed the presence of this orchid on Banks Peninsula 100 years after it was reported by Armstrong. [Incidentally, J.F. and J.B. Armstrong reported some very dubious records from Banks Peninsula; while some of these have been confirmed, such as the Caladenia, Hymenophyllum dilatatum, Raoulia tenuicaulis, and Gentiana spp., many others remain highly suspect!]

Hugh Wilson, 160 Salisbury St, Christchurch 1

Phenology

■ Black maire (Nestegis cunninghamii)

In Tongariro National Park behind Erua on 28 October 1987 (750-950m asl) the ground was littered with inflorescences of black maire. The forest on these lower slopes of Hauhungatahi is dominated by podocarp, kamahi and black maire. At this locality it has been a prolific season for black maire flowering. I wonder if this has occurred throughout its range?

E.K. Cameron, Botany Department, University of Auckland, Private Bag, Auckland

ANNOUNCEMENTS

Auckland Botanical Society Bulletin No. 16

"A Dictionary of Maori Plant Names"

by James Beever

74 pages of A5 format listing more than 500 botanical names of native and introduced plants with their Maori names and well over 1000 Maori plant names with their botanical equivalents. The lists were compiled from 15 published works and over a dozen manuscripts held by the Botany Section of the Auckland Institute and Museum. The book is published in an edition limited to 300 copies, obtainable from the Secretary, Mrs S Jones, 14 Park Road, Titirangi, Auckland, 7: price \$3.80 incl. p&p.

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A. L. Poole MSc, FRSNZ, CBE

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■ Flora of New Zealand Name Changes

FLORA of NEW ZEALAND NAME CHANGES



H. E. Connor
Centre for Resource Management
University of Canterbury

E. Edgar
Botany Division
DSIR

During the quarter century that has elapsed since the publication of *Flora of New Zealand Volume I*, there have been considerable changes to the names of New Zealand plants. Some of our native plants have been placed in different families and genera, and many new species have been described and old species revived.

All these names have been collected together in "*Flora of New Zealand Name Changes*" where they are listed with commentaries on the taxonomic background underlying the name changes. The booklet is based on the "*Nomina Nova*" series which appeared earlier in the *New Zealand Journal of Botany*. It includes as well, descriptions of some new species, and many combinations which are necessary because of generic realignments.

"*Flora of New Zealand Name Changes*" is reprinted from *New Zealand Journal of Botany* Volume 25, number 1, 1987, pp. 115-170. Copies are available for \$11.00 (includes GST) from:

Botany Division, DSIR, Private Bag, Christchurch

DESIDERATA

■ Oxalis

Mark F. Watson, a Ph.D. student at the University of Reading requires seeds with voucher specimens of Oxalis species from New Zealand (and other countries). His thesis is especially directed towards sect. Corniculatae (O. corniculata, O. stricta, O. europea, O. exilis etc.) concentrating on taxonomy, reproductive biology, biogeography etc. He is interested in leaf colour polymorphisms (purple/green), and notes on shading vs. exposure of collections would be appreciated. Send seed and specimens to:

Mark F. Watson, Botany Dept., University of Reading, P O Box 221, Whiteknights, Reading RG6 2AS, England

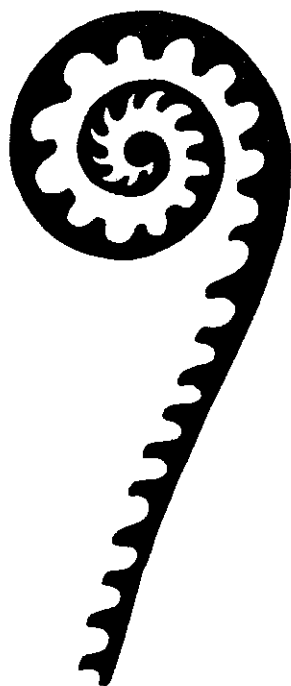
■ Hydrilla verticillata

We are interested in any live or herbarium specimens of this plant, and any information on its habitat or distribution in New Zealand. Please contact:

Dr Leslaw Przywara, Grasslands Division, DSIR, Private Bag, Palmerston North.

FORTHCOMING MEETINGS/CONFERENCES

■ Nga Mahi Maori o te Wao Nui a Tane - A workshop on Ethnobotany



A place has been reserved at the Rehua Marae, Christchurch, New Zealand from 22 to 26 February 1988 to hold an International Workshop on traditional uses of plants. The Workshop will aim to bring together knowledge of plants both from traditional sources and from scientific research.

The workshop is being promoted by the Commonwealth Science Council as part of an International Scientific Programme on Biological Diversity and Genetic Resources. This programme aims to gather together and share knowledge about the many different plants and animals of the world and to use this knowledge for the benefit of all people.

Although this is an International Workshop, part of a series so far held in England, India and Africa, the location will place the focus on New Zealand and the near Pacific region. The Workshop title 'Nga Mahi Maori o te Wao Nui a Tane' - (The Human Dimension in the Great Forest of Tane) emphasises the place and will make most reference to plants used by Maori and Pacific Island people living in New Zealand. But it will also include in its scope plants used traditionally in other parts of the world, which have been introduced, and now grow wild in New Zealand.

In order to have balance in scientific and traditional content of the Workshop it is necessary to have equal participation by scientists and by Maori

and Pacific Island people who have knowledge of the traditional use of plants. So that while the Commonwealth Science Council and DSIR are promoting the Workshop it is very necessary that in developing the Workshop and running it, scientists and those who use and value traditional plants share equally in the organisations. For further information, write to:

Warwick Harris, Botany Division, DSIR, Private Bag, Christchurch

■ 8th Conference of the NZ Branch, Intern. Assoc. Plant Tissue Culture/
34th Conference of the NZ Genetical Society

Combined programme at Lincoln, Canterbury, August 29th to September 2nd 1988.

General theme: Genetic manipulation of plants via cellular and molecular approaches.

Anyone interested in receiving further information when it becomes available in March 1988 should write to:

Tony Connor, Crop Research Division, DSIR, Private Bag, Christchurch

MEETING REVIEW

■ John Child Bryophyte Workshop - Nelson Lakes National Park

The 5th of these informal workshops for bryologists was held at Nelson Lakes National Park, from 12-17 November, and attracted 28 participants, three of them from Sydney. From further afield, but temporarily working in New Zealand, were bryologists from Canada and West Germany. Based at St Arnaud on the shore of Lake Rotoiti, the party was accommodated in the Red Deer Lodge, owned by the NZ Deerstalkers Association, with excellent laboratory facilities a short walk away at Rotoiti Lodge, an Education Camp.

Four main field sites, providing a diversity of habitats, were visited during the workshop. Of these only one, Braeburn track at the NW corner of Lake Rotoroa, was inside the Park boundary. Here Allan Fife was able to show us Pohlia camptotrachela, growing with Pleuroidium subulatum on compacted soil. This species of Pohlia was first recorded in New Zealand, by Allan, in 1984, and this is probably only the third known site. The moss can be recognised in the field by the spherical gemmae produced in the leaf axils. Along the track, through beech forest, two small epiphytes proved of considerable interest: firstly Ephemeropsis trentepohlioides in abundance, revealed only by the presence of its minute capsaules held above a fuzz of orange filaments which would otherwise be mistaken for the alga Trentepohlia, and secondly, Tetraphidopsis pusilla, producing both gemmae and capsules in abundance. Red Hill, an area of ultramafic bed-rock, was visited on our only really wet day. The rather open manuka/kanuka scrubland was not rich in bryophytes, but many of the party made up for that by spending time in the beech forest below the ultramafic zone, where the bryophytes were more abundant and the rain less penetrating. Porika Stream, north of Lake Rotoroa, was an even richer site, and the party managed to move only about 30 yards along the stream in the several hours at the site. Liverworts here were particularly fine, eliciting admiring comments from even the most hardened moss-lovers. Tylimanthus saccatus, Tetracymbaliella sp, and Telaranea centipes were noteworthy, as was the abundance of leaf epiphylls on Pseudowintera colorata. Among the mosses Mittenia plumula, in swards on the soil of the undercut stream

banks, and Hampeella alaris and Ephemeropsis trentepohlioides on the Psuedo-wintera, attracted interest. Field characters for distinguishing species of Dicranoloma were put to rigorous test, and a new one for distinguishing D. platycaulon from D. plurisetum discovered: a difference in the colour of the seta, red versus green, but with the reservation that it may only be useful in November! A long drive along the east side of the St Arnaud Range, and then up to the Rainbow skifield brought us without exertion (except for clearing rocks off the road and changing a tyre) to 1500 m, where a splendid day was spent in the alpine zone. Bryological highlights included Allisonia cockayniana, Blindia martinii, Aulacomnium palustre, Distichophyllum kraussei, Fissidens adianthoides and Climacium dendroides. Highlights of another kind were provided by the antics of a fearless kea, and the magnificence of the view when we reached the ridge top - Lake Rotoiti 1000 m below with St Arnaud at its northern end, away in the distance.

After gourmet meals each evening we were educated and entertained: a talk by the Chief Ranger gave us a good introduction to the Park on the first evening; John Braggins made us all much more knowledgeable about the morphology and development of liverworts, with two sessions of his excellent slides; John Spence described some of his field work in East Africa; photographic studies of mosses were presented by Chris Spragg and Ron Oldfield; Ella Campbell showed us something of her recent work on Fossombronina, and a new genus of liverwort she recently described in honour of Dr Bill Steere, Steereomitrium; while reminiscences of previous forays were provided by Chris Spragg and Alison Downing - with a taste of what's to come, in Tasmania, from Alison.

The success of the foray was due to the survey work beforehand by Allan Fife, the skills of our chef, Gerry Rushton, and his assistant Kathy Robinson, and most of all to the hard work and efficiency of the local organisers, Gail Franko and Jean Espie.

Next year we move further afield, to Tasmania. Anyone interested in joining us, whether bryological novice or expert, contact Dr Rod Seppelt, Antarctic Division, Department of Science and Technology, Channel Highway, Kingston 7150, Tasmania, Australia.

Jessica Beever, c/- Botany Division, DSIR, Private Bag, Auckland 1

THESES IN BOTANICAL SCIENCE

■ University of Auckland, Department of Botany

- Booth, W.E. 1985: Productivity of diatoms and bacteria epiphytic on marine algae. Ph.D.
- Harrison, G.L. 1986: Leaf spot disease of strawberry caused by Mycosphaerella fragariae (Tul.) Lindau. M.Sc.
- Horner, M.B. 1986: Investigations and elimination of "mottle" virus from Polianthes tuberosa L. M.Sc.
- Lemon, C.W. 1986: The root system of Actinidia deliciosa (A. Chev.) C.F. Liang et A.R. Ferguson var. deliciosa (kiwifruit vine). M.Sc.
- Webb, C.M. 1986: Regulation of shoot morphology and wax secretion in juvenile adventitious shoots of Pinus radiata D. Don. M.Sc.
- West, C.J. 1986: Population ecology of Beilschmiedia tawa at Pureora Forest. Ph.D.
- Whiting, D.C. 1986: Vegetation colonisation of Rangitoto Island: the role of crevice microclimate. M.Sc.

■ University of Waikato, Department of Biological Sciences

- Barker, M. 1986: The description and modification of children's views of plant nutrition. D.Phil.
- McLay, D. 1986: The management of organic substrates for agriculture: an investigation of peat hydrology and chemistry at Torehape, Hauraki Plains. MSc.
- Parsons, R. 1986: Frankia and its actinorrhizal symbiosis with plants in New Zealand. MSc.
- Stock, P. 1986: Nitrogen fixation and translocation in the Gunnera - Nostoc symbiosis. MSc.
- Watt, V. 1986: Pine invasion on Maungakakaramaea (Rainbow Mountain). MSc.

■ University of Canterbury, Department of Plant & Microbial Sciences

- Stevens, P.J. 1986: Aspects of the biology of some thermophilic actinomycetes isolated from thermal sites in New Zealand and Antarctica. M.Sc.
- van Gardingen, J.R. 1986: The physiological ecology of Clematis vitalba L. M.Sc.

■ Lincoln College, Plant Science Department

- Hernandez, L. 1986: Study of the agronomy of chickpea (Cicer arietinum L.) in Canterbury. Ph.D.
- Voon, C.C. 1986: Establishment of tagasaste (Chaemaecytis palmeris (Christ.)). M.Agr.Sc.
- Sherrell, C.P.A. 1986: The growth, yield and water use responses of lentils (Lens culinaris Medic.) to irrigation. M.Appl.Sc.
- Sowden, J.R. 1986: Plant succession and soil development, Wanganui River Catchment, South Westland, New Zealand. M.Appl.Sc.
- Buick, R.D. 1986: Absciscic acid-induced protection against diclofop-methyl injury in cultivated oat (Avena sativa L.). B.Agr.Sc. Hons.
- Cameron, H.G. 1986: Seedling emergence and growth of winter barley as affected by sowing date and sowing depth. B.Agr.Sc. Hons.
- Moot, D.J. 1986: Sociability of red clover and lucerne grown with six grasses after three years in a dryland environment. B.Agr.Sc. Hons.
- Barrowclough, P.B. 1986: The effect of cool storage and silver ions on subsequent ethylene production and vase life of cut carnations. B.Hort.Sc. Hons.

■ University of Otago, Department of Botany

- Kalmakoff, S. 1986: The effect of disease on the cytokinin content of wheat grains. B.Sc. Hons.
- Brookes, C.K. 1986: Aspects of Erica lusitanica invasion in the Silverpeaks area. B.Sc. Hons.
- Tangney, R.S. 1986: The bryophyte island biogeography of Lake Manapouri, New Zealand. B.Sc. Hons.
- Byars, R.A. 1986: A study on the carbohydrate physiology of ectomycorrhiza. B.Sc. Hons.
- Sykes, M.T. 1986: The native sand dune vegetation of Southern New Zealand. Ph.D.

LETTER TO THE EDITOR

Dear Editor,

There are not many outlets for botanical publication in New Zealand. For the most part they consist of specialist journals and second tier magazines such as newsletters. The only truly botanical journal is the New Zealand Journal of Botany.

It is disturbing that at the time of writing not one number of the current volume for 1987 has yet appeared. Such a slow rate of publication implies frustrated authors who will eventually be discouraged from submitting their manuscripts (they may cancel their subscriptions as well). A reduced offering of papers will certainly lessen the effectiveness of our journal at both the national and international level.

If we value the journal it is time we made our concern known to the publisher. Perhaps the problem could be an early and urgent matter of discussion by a national botanical society. At the very least we need to emphasise the value of our national journal as a means of communication among botanists here and overseas in particular and the wider community in general.

Neville Moar, 8 Maurice Street, Lincoln.

■ Exam howlers

Q. Define the following terms:

- A. Holotype: a plant adapted to saline conditions.
 the phenotypic description of the homozygous recessive.
 the environmental requirements of a species.
- Ancestor: the plant whoses characteristics these plants may exhibit.
- Binom: two monoms.
 2 names for the 1 plant.
 bisexual flower.
 1 member of a symbiotic relationship.
 a classification system which branches in 2 like a fork.

Q. What is a "phylogenetic classification"?

- A. When plants don't look similar but are in fact very closely related.

Jill Rapson, Department of Botany and Zoology. Massey University, Palmerston North.

