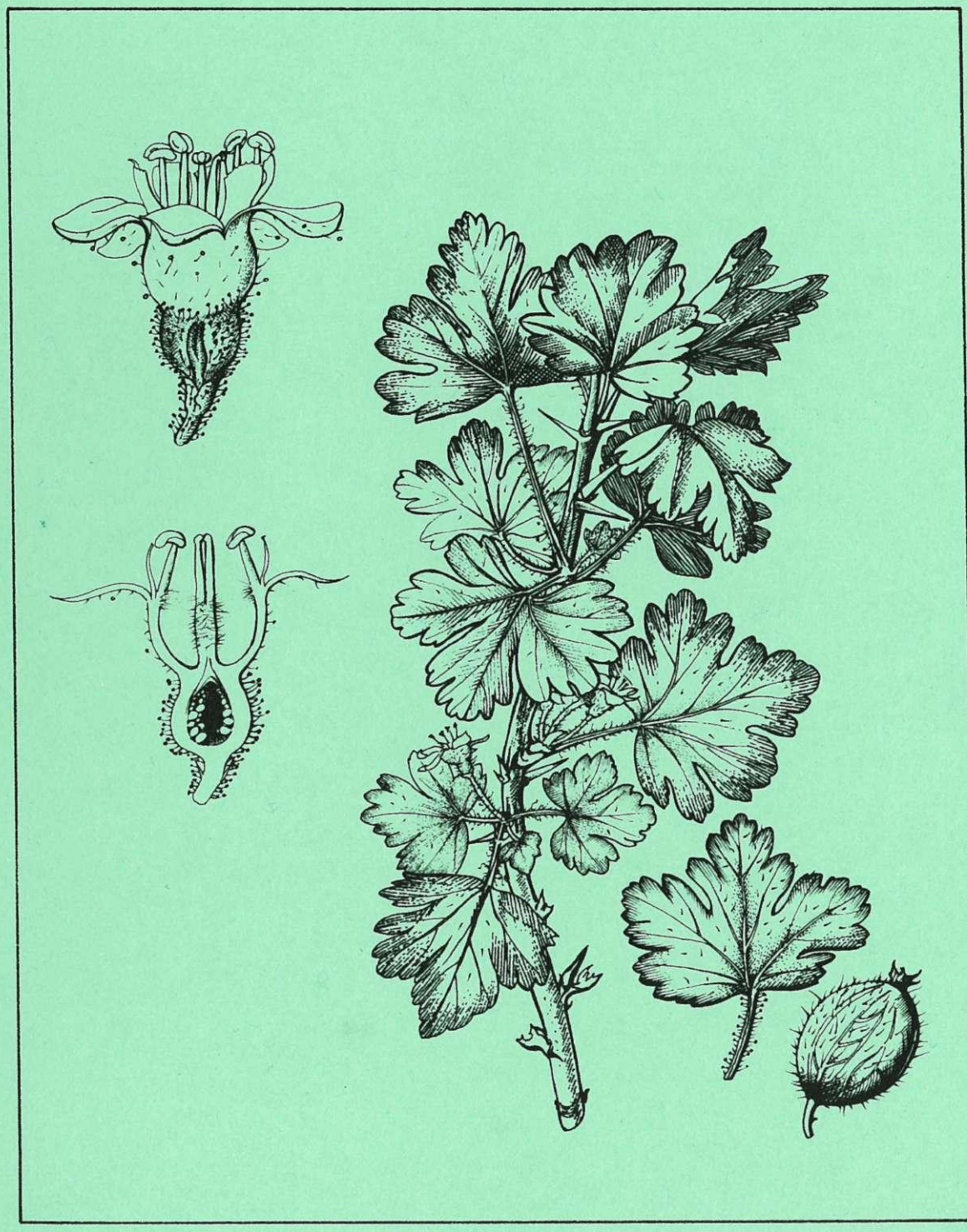
NEW ZEALAND BOTANICAL SOCIETY

NEWSLETTER

NUMBER 1 AUGUST 1985



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EDITORIAL

This Newsletter is the first substantial step towards the formation of a New Zealand Botanical Society. It is rather slender, but hopefully gives an idea of the scope of communications available to botanists and plant-lovers, amateur and professional, in the future.

In discussions with many people on the formation of a New Zealand Botanical Society, the need for better communication amongst botanists was repeated over and again. A very genuine and widespread interest in what colleagues around the country are doing does exist, and this Newsletter offers a good opportunity to "spread the word".

Over the page you will find an invitation to contribute to future issues of the Newsletter, and an outline of column headings under which contributions are sought. Please feel free to suggest additional headings (and some content for them!).

The publication of the Newsletter has been made possible by the generosity of a few individuals and institutions who have advanced funds until the New Zealand Botanical Society comes into being and sets its own subscription. It would be a great help if you would make a small donation towards the costs of the two 1985 issues of the Newsletter. Cheques should be made payable to the "New Zealand Botanical Society" and forwarded to the Editor.

Interim Editor: Anthony Wright
Assistant: Andrew Thomson

Cover illustration: *Ribes uva-crispa* L. (Grossulariaceae)

The gooseberry was introduced to New Zealand from Europe and soon escaped from cultivation to establish as a wild plant. It is now fully naturalised in parts of Wellington Province, inland Marlborough and Canterbury, and in Otago. This illustration was prepared by Pat Brooke for the Flora of New Zealand, Volume IV, Naturalised Dicotyledons, Gymnosperms and Ferns. This Flora will be more fully illustrated than previous volumes, but most illustrations will be of diagnostic features rather than whole plants (Colin Webb).

INVITATION TO CONTRIBUTE

It is hoped that the Newsletter will carry items under the following headings:

News
People
Appointments
Events
Regional Botanical Societies
University Departments
Other botanical research establishments
Notes and Reports
Current Research
New Plant Records
Fieldwork
Phenology
Short articles ("mini-papers")
Announcements
Desiderata
Forthcoming meetings/conferences
Meeting/conference reviews
Theses in botanical science
Book Reviews
Crossword/Competitions
Letters to the Editor

It is our intention to maintain a high standard of presentation. Preference will be given to brief and informative contributions which can be submitted hand-written. Short articles ("mini-papers") should tend towards the extended abstract end of the size range, and should preferably be typed. This section of the Newsletter should offer an attractive, relatively quick method of publishing brief reports on research. In general, articles will not be refereed, though the editors reserve the right to seek modifications to, or reject, submitted material.
In addition to written contributions, cartoons, photographs, maps and line drawings will be considered.

CIRCULATION

This Newsletter is being circulated to all those who replied to questionnaires during 1984 indicating that they were interested in joining a New Zealand Botanical Society or receiving its Newsletter. Additions to the mailing list are welcome and should be sent to the Editor (address below).

DEADLINE FOR NEXT ISSUE

The deadline for the December 1985 issue (Number 2) is 10 November 1985. Please forward contributions to:

Anthony Wright
Auckland Institute & Museum
Private Bag
AUCKLAND 1

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NEWS

Events

■ Matai planting

4 July 1985 was the tenth anniversary of the launching of the Maruia Declaration. The Declaration sought to protect our country's remaining native forests and was signed by over a third of a million New Zealanders. To mark this memorable event, seven 2 to 3-year-old matai were planted in the Auckland Domain by the Auckland Native Forests Action Council, assisted by Dr Ian Shearer and Professor John Morton. The Domain staff had spent several days preparing the site by removing privet and wild ginger. Once milled for its timber, matai forest is now uncommon and this planting appears to be the first matai in an Auckland park.

Ewen Cameron, Chairperson, Auckland Branch of Native Forests Action Council

Regional Bot Socs

■ Auckland Botanical Society

The Auckland Botanical Society was founded in October 1937, largely through the enthusiasm of the Museum Botanist of the time, Dr Lucy M. Cranwell, who, although now living at Tucson, Arizona, continues to take an active interest in the Society. She is also the Society's Patron.
In 1962, ABS described itself as "a Society of plant lovers formed for the promotion of the study of botany and especially for the appreciation and love of our native flora". More recently, its description of itself is as "A group of amateur and professional botanists with an interest in New Zealand botany, especially of the Auckland region, whose main preoccupation is with the study of native plants in their natural environment, as well as of introduced plants from other countries which have established here". For this purpose, the Society holds monthly evening meetings and field trips. The programme for the remainder of 1985 and early 1986 is:

	Evening meetings		Field trips
7 Aug.	"NW Nelson: contrasting flora and vegetation on granite, schist, limestone and marble". - Mr Tony Druce.	17 Aug.	Lichens - the New volume of "The Flora of N.Z." Field trip in morning; workshop in afternoon.
4 Sept.	The Lucy M. Cranwell Lecture to be given by Dr Lucy B. Moore.	21 Sept.	Kaukapakapa Scientific Reserve.
		19 Oct.	Kopuatai Peat Dome and

2 Oct. "Wildflowers in Europe". Professor Frank Newhook.

6 Nov. "Lichens of northern N.Z.". Dr Bruce Hayward.

kahikatea forest, Hauraki Plains (bog vegetation).

16 Nov. Wairere Falls, Kaimai Ranges.

20-24 Jan. 1986 Mt Ruapehu.

Publications: (1) A monthly News-Sheet, the main purpose of which is to advise details of the following month's evening meeting and field trip. Also included are botanical snippets, new plant records, notes on particular plants, a regular summary of items of interest in botanical journals for those who don't regularly subscribe, records of flowering and fruiting times observed by members in their wanderings.
(2) A biannual Newsletter containing more lengthy and substantial articles, generally of a non-scientific nature, and including occasional reports of field trips.
(3) Occasional small booklets ("Bulletins") on specific subjects, e.g. "Mosses of the Waitakere Range, Auckland", "Flora of Great Barrier Island".
Membership: Subscription for 1985 is $6.00. (The Society also has a "country" membership category for those members who live too far away to participate in the Society's regular activities, and who therefore are satisfied with a quarterly rather than monthly mail-out. The subscription for members in this category is $4.00 in 1985.) Current officers are Dr Ross Beever (President), Sandra Jones (Secretary) and Miss Vida Ramsay (Treasurer).

Sandra Jones, Secretary, 14 Park Road, Titirangi, Auckland 7 (telephone (09) 817-6102 evenings)

■ Rotorua Botanical Society

The Rotorua Botanical Society was formed in February 1984 with the aim of furthering knowledge of field botany in the Central North Island. It is hoped that by providing a framework within which the interest and efforts of both amateur and professional botanists can be integrated, this will be achieved. Our scope of interest is as broad as that of our potential membership, from the marine algae of the sublittoral zone to the alpine plants of the central volcanoes, and all the plant life, native and naturalised, that grows between.
We hold monthly trips to places of botanical interest and hope to test the viability of evening meetings in the near future. A newsletter is produced three times a year and contains articles on flora and vegetation, especially of the Central North Island, field trip reports and the field trip programme.
Financial members number 65 and the current office holders are:
Bruce Clarkson (President), Beverley Clarkson (Secretary), Chris Ecroyd (Treasurer) and Mark Smale (Editor). The subscription is $7.50 a year payable to the Treasurer, 33 Raniera Place, Rotorua. Other inquiries should be made to The Secretary, c/o Mourea Post Office, Rotorua.
Coming field trips are:
Sunday 18 August: Otanewainuku State Forest, inland from Te Puke. Meet at Rotorua Civic Theatre at 8.45 a.m. or at the start of mountain track on Mountain Road at the shelter at 10.00 a.m. Leader - Stewart Wallace (Rot 23-533).
Saturday 14 September: Orokawa Scenic Reserve, north of Waihi. Meet at Rotorua Civic Theatre at 8.00 a.m. or at carpark at north end of Waihi Beach at 10.00 a.m. Leader - Nick Miller (Rot 24-747).
Sunday 13 October: Mount Kakepuku, near Otorohanga. Meet at Rotorua Civic Theatre at 8.15 a.m. or at Te Awamutu Post Office at 10.00 a.m. Leader -

Murray Boase (Ham 67-798).
Intending members and members of other botanical societies are welcome to join us on our field trips.

Bruce Clarkson, President

University Departments

■ Botany news from the University of Waikato

Our small band of botanists (4) has suffered a 25% drop recently:
Alan Edmonds has recently left us to take up the position of manager of the Queen Elizabeth II National Trust. Alan was the first botanist appointed at Waikato 14 years ago and over the past few years his interests have developed in the conservation area. We will miss his quiet efficiency and wide grasp of matters botanical, but wish him well in his new post. A replacement, at lecturer level, will be advertised probably before this Newsletter is published. Please make this new position widely known.
Keith Thompson with his basic interest in wetland ecology, has been in the thick of all sorts of local and nationwide wetland problems. This has ranged from peat on the Chathams to local development issues in the extensive, but diminishing, Waikato wetlands. He also maintains an interest in African wetlands. Current research areas include autecology of aquatic and wetland plants, e.g. *Egeria, Sporodanthus, Empodisma* and kahikatea. Keith is also interested in Antarctic ecology with projects on endolithic algae, fumarole botany and stream chemistry.
Allan Green still retains his primary interest in lower plant ecophysiology (esp. lichens and bryophytes). However he is also developing a strong interest in kiwifruit physiology. An excellent collaborative arrangement is working with the Ruakura Horticulture group with a number of shared facilities. Allan still retains an interest in native forest ecophysiology and in Antarctic botany.
Warwick Silvester works on nitrogen fixation and nitrogen metabolism generally in plants and communities. Current investigations centre on non-legume nitrogen fixation - especially nodulation in *Casuarina* and N metabolism in *Gunnera/Nostoc* symbiosis.
The Department of Biological Sciences currently has fourteen graduate and post-graduate students working on botanical theses.
Miles Barker, while a junior lecturer with a zoological background is doing a D.Phil. in the area of science education. His research is centred on children's views of photosynthesis and how these may be modified.
Robyn Aimer is working on the ecology of aquatic hyphomycetes in litter breakdown in streams and her D.Phil. should be completed in the next year.
Willie Shaw, also D.Phil. has been bush in the Ureweras for several years, both working on a contract vegetation survey for the National Park and working on his thesis topic of cyclone damage on forest structure.
Three M.Sc. students are currently working on kiwifruit problems:
Albert van Oostrom has just completed his work on water relations and irrigation problems. **Joy Dick** is working on photosynthesis rates in kiwifruit especially in relation to trellis arrangement, while **Fraser McRobie** is about to start work on further aspects of photosynthesis.
Both **Elizabeth Hall** and **Paul Champion** are looking at relic stands of kahikatea in the Waikato, characterising their structure and dynamics.
Studies on peat structure, development and nutrient status are being conducted by **Chris McLay** at Torehape. Nitrogen fixation in a diverse range

of plants is the subject of three M.Sc. studies. **Richard Parsons** is studying artificial nodulation of *Casuarina* in New Zealand, using imported strains of *Frankia*. **David Owens** is completing a study on the effects of lucerne flea on nitrogen fixation in clover and **Paul Stock** is finding that recently fixed nitrogen in *Gunnera* is transported in the phloem.
The ever present problem of pine invasion of indigenous forest is the subject of **Vicky Watt's** M.Sc., which is being conducted largely at Rotorua. **Raewyn Howie** is combining her interest in cricket and hockey with a survey of *Cynodon* cultivars and their usefulness as turf grasses on playing fields.

Professor Warwick B. Silvester, Department of Biological Sciences, University of Waikato, Private Bag, Hamilton

Other Botanical Research Establishments

■ **Forest Research Institute Herbarium (NZFRI)**

The Forest Research Institute herbarium is located in Sala Street, Whakarewarewa, Rotorua. It is primarily a reference collection catering for Forest Service requirements for plant identification, and providing a repository for display and research material.
The vascular plants and bryophyte collection comprising about 20 000 specimens is housed in the basement of the new building complex and consists mainly of native, adventive and cultivated plants of forestry interest. The flora of the Bay of Plenty and Central North Island is strongly represented. Eucalypts, including an extensive collection from Australia, and gymnosperms with an interesting collection of pines from Mexico; are also well represented.
Collections of fungi (*c.* 2 000 specimens) and wood samples (*c.* 7 000 specimens) are located and curated separately at FRI. The wood collection includes samples from over 70 countries.
Curator of the main herbarium is Chris Ecroyd, of the wood sample collection Graeme D. Young, and of the fungi Margaret Dick.

Chris Ecroyd, Herbarium Curator, Forest Research Institute, Private Bag, Rotorua

NOTES AND REPORTS

Current Research

■ **Flora of New Zealand, Volume IV, Naturalised Dicotyledons**

Volume IV of the Flora of New Zealand series will be the result of the collaboration of four authors, P.J. Garnock-Jones, D.R. Given, W.R. Sykes,

and C.J. Webb, as well as smaller contributions from others, for example, P.J. Brownsey and B.H. Macmillan. It will deal with naturalised dicotyledons, gymnosperms and ferns, those groups covered by Volume I for indigenous plants, and its approach will be similar to that of Volume III, which covered the naturalised monocotyledons except grasses.
As in Volume III, solely native genera will be keyed out for each family but treated no further, and genera with both native and naturalised species will be both keyed and described but with the emphasis given to the naturalised species. The aim is to include all introduced plants growing wild whether they are weeds or escapes from cultivation. Most species covered are fully established as wild plants in New Zealand, but others which have only been collected occasionally or occur only as casuals will also be included, often as only a brief entry. Treatment of native species will follow Volume I, or more recent revisions when these are available, or in some genera will incorporate recent unpublished work on their taxonomy. Illustrations of critical characters to aid identification will be more numerous than in previous floras.
Checklists of naturalised species for nearly all families in the flora have been published in the *New Zealand Journal of Botany*, and responses to these have increased our knowledge of distributions and provided new records.
As at mid-1985, the text for all families except the Compositae has been written, and more than half the text has been edited. The completed text should be with the publishers in 1986.

Colin Webb, Botany Division, DSIR, Private Bag, Christchurch

■ Clematis vitalba - "Old Man's Beard"

This deciduous vine, introduced from Europe, is considered to pose the greatest single threat to the lowland (<800 m) forests of New Zealand. Evidence suggests that *C. vitalba* is a light-demanding species. Although it can be seen growing in relatively low-light conditions, it requires high light levels for vigorous growth. It is for this reason that *C. vitalba* is currently a problem in: (1) reserves and other remnants of forest with well-lit forest margins and wide tracks, waterways or clearings; (2) riparian vegetation, either native or exotic (mainly willows).
However, although the current extent of *Clematis vitalba* infestations is known reasonably well (MAF distribution survey), the range of this species is continually increasing, bringing it in closer contact with the extensive forested areas remaining in National Parks, Forest Parks and State Forests. The threat to these forest tracts is not immediately apparent in view of the generally continuous canopy cover and, therefore, low-light levels on the forest floor. The real danger lies in the seed which is most likely being dispersed into these forests in ever-increasing quantities. It is most probable that *C. vitalba* seed is incorporated into the seed bank, beneath a continuous forest canopy. When a light gap is created through natural windfall, seed within the seed bank may germinate, following the stimulation provided by high-light levels. *C. vitalba* could then colonize the gap and extend over the canopy around the periphery of the gap, producing large quantities of seed and killing the trees it festoons (How long the seeds may remain viable in the seed bank is not yet known).
The mature fruit consists of an achene (dry-walled fruit) and a feathery awn which is the primary dispersal vector. Seed (or fruit) dispersal mechanisms are four-fold:

(1) wind dispersal - long-distance, random seed dispersal. It is estimated that seeds can travel several kilometres and this allows dispersal from one catchment to another.
(2) water dispersal - promotes infestations along water courses. Rivers that cross their banks when in flood deposit *C. vitalba* seeds in riparian vegetation.

(3) bird dispersal - small-range, random dispersal. The awns are incorporated into bird's nests. The seeds may also lodge in bird's plumage.
(4) mammal dispersal - potentially very long-range, random? dispersal. Dispersal by quadruped mammals of seed lodged in their fur or mud on their feet and fur, may be long-range and random. Dispersal by humans of seed attached to clothing or encased in mud on footwear could be very long-range but not necessarily random. For example, two mature plants of *C. vitalba* recorded at Ohinetonga Scenic Reserve, Owhango (south of Taumarunui) were growing on native vegetation at the road edge. The nearest infestations are south of Mt Ruapehu (e.g. Raetihi, Taihape); at the southern end of Lake Taupo (minor), and to the north near Otorohanga (minor). It seems most likely that humans, those who enjoy and appreciate native vegetation and bird-life, were inadvertently responsible for this occurrence of *C. vitalba*. Similarly the isolated outbreak of *C. vitalba* on a track-edge at Lake Waikaremoana is probably due to inadvertent seed dispersal by humans.

Therefore, it is essential that care should be taken, when spending time in areas infested with *C. vitalba*, to ensure that seeds are not transported out of the area on clothing and footwear.

Clematis vitalba has been in New Zealand, probably, since the turn of the century. It was brought in, like many plants and animals, for nostalgic reasons, and was sold through plant nurseries. It has been recorded as a garden plant since 1922 (herbarium specimens) and first recorded as an adventive plant in 1935 at Urenui (Taranaki) and in 1936 at Picton (herbarium specimens). *C. vitalba* began to assume prominence as an adventive plant from the 1930s to 1950s in different parts of the country (N.M. Adams, A.J. Healy, pers. comm.), usually near towns and cities e.g. 1941 Wellington; 1943 Wanganui; 1943 Nelson; 1945 Akaroa; 1945 Masterton; 1952 Blenheim; 1954 Christchurch; 1957 Alexandra (herbarium specimens). Control of *C. vitalba* in L & S reserves throughout the country has been undertaken since the early 1970s.

This article has been written to provide some general information for those who are concerned about the spread of *C. vitalba*. If anyone has any information - historic, distributional etc. that they could contribute, could they please write and tell me about it. All information is most welcome.

Carol West, Botany Division, C/- Soil Bureau, DSIR, Private Bag, Lower Hutt

New Plant Records

■ New *Davallia* in Puketi State Forest

Over the past two years, Peter Bellingham has been forwarding voucher specimens for all vascular plants he has recorded during fieldwork in Puketi State Forest (Northland) to Auckland Museum herbarium (see p.10). A fern sent in as "the most peculiar form of *Rumohra adiantiformis* I've ever seen - please confirm this" caused a wonderful botanical tingle of the spine! Additional notes with the specimen were "rare terrestrial fern under sparse 1.5 m canopy; no fertility". Six fronds were seen.

Having visited the Three Kings Islands in 1982 and 1983, my instant reaction was *Davallia tasmanii*, thought to be endemic to the Three Kings. Despite the superficial similarities between the Puketi and Three Kings

plants, and their almost identical habitat, the Puketi fern appears to be an undescribed species of *Davallia*.
Two subsequent visits to the site of the discovery in January and April 1985 have slightly extended the range of the plant, though the known population is still extremely small. Strangely enough, no fertile specimens have been found, despite intensive searching. The fern has been photographed in the wild and brought into cultivation in the hope that sporulation can be induced.

Anthony Wright, Auckland Institute & Museum, Private Bag, Auckland 1

Fieldwork

■ Forest ecology studies in Puketi Forest, Northland

The "discovery" of a large population of North Island kokako in Puketi Forest near Kerikeri in 1979 brought about a suspension of logging of kauri in the forest, pending the results of a study into the ecology of kokako and of the forest in which it lives. For the last 2½ years I have been employed by the N.Z. Forest Service in a co-operative study into the habitat requirements of kokako in the forest, with Hugh Best of the N.Z. Wildlife Service.
The study presented an opportunity to study forest ecology in a northern New Zealand forest. With the notable exception of Cockayne's report on Waipoua Forest (1908), these forests have receive scant attention. More recently work into kauri ecology has been conducted by students and staff at the University of Auckland, and the N.Z. Forest Service has conducted ecological surveys of ten ecological areas and Forest Sanctuaries in Northland over the last two years.
The results of our co-operative study into kokako ecology and habitat are being written up currently, and will appear as an inter-departmental report in the near future. My work has documented the floristic composition and forest structure of selected parts of Puketi Forest which are kokako territories. These areas of forest covered a range of the forest communities to be found there, including the sharply dissected sedimentary ridge and gully systems which are the outstanding topographic feature of the forest. It is these ridge systems which support most of the mature kauri communities for which the forest is best known. In all cases, the fairly small areas which constitute kokako territories are extraordinarily diverse, both in terms of species composition and in their range of communities. The very low level of browsing mammals in the forest is manifest in the large flora of the forest. In addition, a study of leaf production, flowering and fruiting cycles was carried out. 53 species of trees, shrubs and lianes common in the forest were examined at monthly intervals for 20 months. To the best of my knowledge, this is the first forest phenology study conducted in a northern New Zealand forest.
I explored most of the *c*. 7500 ha forest in the time I worked there, and compiled a species list of the vascular flora, which will also appear in the report. The indigenous vascular flora has been vouchered exhaustively - specimens are lodged in the herbarium of the Auckland Institute & Museum.
Puketi Forest, along with 16 other former indigenous State Forests in Northland, is part of the recently gazetted Northland State Forest Park, which extends from Tangihua Forest near Dargaville to Herekino Forest near Kaitaia. It includes such notable forests as Waipoua, Warawara, Omahuta

and Russell Forests. I have explored all 17 forests over the last two years and have collected extensively from them. I am currently collating lists of their indigenous vascular flora, which I intend to make available to those interested.

Peter Bellingham, Kauri Management Unit, N.Z. Forest Service, P.O. Box 39, Auckland 1 (after 31 August 1985: C/- 8 Awarua Cres., Orakei, Auckland 5)

Phenology

■ **Miro (*Prumnopitys ferriginea*)**

On a trip (16 October 1982) to Waihaha Forest, Pureora State Forest Park, Alan Edmonds, John Ogden and myself found a recently wind-blown miro by the Waihora lagoon (NZMS 1, Sheet N93/*c*.158520, *c*. 630 m a.s.l.). The unusual feature of this forest tree was that it had, on separate branches, both copious fruit and male cones. Mature and young fruit were present, as is usual at that time of the year. Most texts describe miro as dioecious but I wonder how commonly it is monoecious? Voucher specimen AKU 14557.

Ewen K. Cameron, Department of Botany, University of Auckland, Private Bag, Auckland 1

ANNOUNCEMENTS

■ **Lucy M. Cranwell Lecture**

The Auckland Botanical Society recently decided to fund an annual lecture by a notable botanist to recognise Dr Lucy M. Cranwell's instrumental role in the founding of the society in 1937, her continued support and generous gifts since then, and to honour her many contributions to botanical knowledge.
Dr L.B. Moore has kindly agreed to deliver the inaugural Lucy M. Cranwell Lecture which will be held on Wednesday 4 September at 8.00 p.m. in the Zoology Lecture Theatre, University of Auckland (entrance at 5 Symonds Street). All welcome - friends and visitors are also cordially invited.

■ **Lichen Workshop**

Following on from the very successful workshop held in Christchurch in March 1985 to launch Dr David Galloway's Lichen Flora of New Zealand, planning is underway for a further workshop to be held in Auckland.
The workshop will be held from 1-4 November 1985 inclusive, and will be based in the Department of Botany, University of Auckland. At this stage, the programme is envisaged to include: a day of introductory talks, seminars and discussion on the basics of lichen biology, terminology, and how to use the Flora; an evening dinner for participants to get to know each other; a half-day collecting trip concentrating on the "weedy" flora

of Auckland City followed by a half-day back in the laboratory using the Flora to identify collections; a full-day field trip to mature forest for discussion of lichen ecology and specimen collection; and the final day again spent in the laboratory working through the previous days collections.
The workshop is aimed at those with little or no knowledge of lichens and will be as informal and co-operative as possible. Co-organisers are John Braggins and Anthony Wright. To register interest in the workshop and ensure that you receive further information, please write to:

Anthony Wright, Auckland Institute & Museum, Private Bag, Auckland 1

DESIDERATA

■ ***Hoheria* seed**

Seed of any species of *Hoheria* is required for study of affinities in the *Plagianthus* section of the Malvaceae. Professor Bates has seedlings of representative species of all other Australian and New Zealand genera in this section growing at Ithaca, and is anxious to add an example from *Hoheria*. Seed can be sent to Anthony Wright, Auckland Museum, Private Bag, Auckland 1 for forwarding, or direct to:

Professor David M. Bates, L.H. Bailey Hortorium, 467 Mann Library, Cornell University, Ithaca, New York 14853-0271, U.S.A.

FORTHCOMING MEETINGS/CONFERENCES

■ **New Zealand Herbarium Curators Meeting**

The fourth annual meeting of New Zealand herbarium Curators will be held in the Department of Botany, Victoria University of Wellington on Tuesday 27 August 1985.
The organiser is:
Dr Barry Sneddon Department of Botany, Victoria University of Wellington, Private Bag, Wellington

■ **Systematics Association of New Zealand Conference**

Victoria University of Wellington, 28-30 August 1985. Symposia include "Influence of geological history in the evolution of New Zealand biota" and "Biogeographic patterns of New Zealand". Contact:

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

■ **N.Z. Marine Sciences Society Conference**

University of Canterbury, 26-28 August 1985. Contact:
Dr I. Marsden Department of Zoology, University of Canterbury, Private Bag, Christchurch

■ **Ecological Society Conference and A.G.M.**

The 1985 New Zealand Ecological Society Conference will be held at Massey University, Palmerston North from Tuesday 20 August - Friday 23 August inclusive. Conference organiser:
John Skipworth, Department of Botany & Zoology, Massey University, Palmerston North

■ **Bryophyte Foray**

The third John Child Bryophyte Foray will be held at Cass Field Station, Canterbury, from 31 January - 3 February 1986. Beginners welcome. Further details from:
Dr Allan Fife, Botany Division, DSIR, Private Bag, Christchurch

■ **N.Z. Genetical Society Conference**

The 31st Meeting will be held at Lincoln College on 3-5 September 1985. A special theme topic of interest to botanists is The Conservation of Genetic Resources.
Dr A.D. Thomson, Botany Division, DSIR, Private Bag, Christchurch

THESES IN BOTANICAL SCIENCE

Departments of Botany and Plant Science at all New Zealand universities have been asked to provide lists of botanical theses presented during 1984. It is hoped that these can all be published in the two 1985 issues of this Newsletter. Theses presented during 1985 will be listed in 1986 issues of the Newsletter.
If sufficient interest is shown, an attempt will be made to provide a full listing of theses in botanical science presented in New Zealand universities, as has been published in the Newsletter of the Geological Society of New Zealand for earth science theses.

■ **University of Auckland, Department of Botany**

Ahmed, Moinuddin 1984: Ecological and dendrochronological studies on *Agathis australis* Salisb. (kauri). Ph.D.

Austin, Paul M. 1984: Reserve utilization of two legume species during germination. M.Sc.

Broekhuizen, Paula 1984: Studies on the Huriwai Group flora, Port Waikato, *Taeniopteris* Brongniart and *Cladophlebis* Brongniart. M.Sc.

Budd, Jennifer, G. 1984: The involvement of weeds as symptomless carriers of *Fusarium oxysporum* f. sp. *lycopersici*. M.Sc.

Downs, Christopher G. 1984: The role of ethylene in the postharvest senescence of carnations. M.Sc.

Horner, Ian J. 1984: The role of *Phytophthora cinnamomi* and other fungal pathogens in the establishment of kauri and kahikatea. M.Sc.

Large, Mark F. 1984: Studies on *Adiantum hispidulum* Swartz and *A. pubescens* Schkuhr. M.Sc.

Macdonald, Colin 1984: The ecology of *Nothofagus truncata* in northern New Zealand. M.Sc.

Matthews, Peter J. 1984: *Colocasia esculenta* in New Zealand. M.Sc.

Myers, Shona 1984: Studies in the ecology of *Beilschmiedia tarairi*. M.Sc.

Thomas, Glenda M. 1984: Observations on the structure and dynamics of kauri (*Agathis australis*) forest. M.Sc.
Uka, Devi 1984: The growth and form of *Muehlenbeckia astonii*. M.Sc.

■ Victoria University of Wellington, Department of Botany

Cairney, H. 1984: Floral morphology, vascularisation and embryology of an undescribed species of *Belliolum* (Winteraceae) from New Zealand. B.Sc. Hons.
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