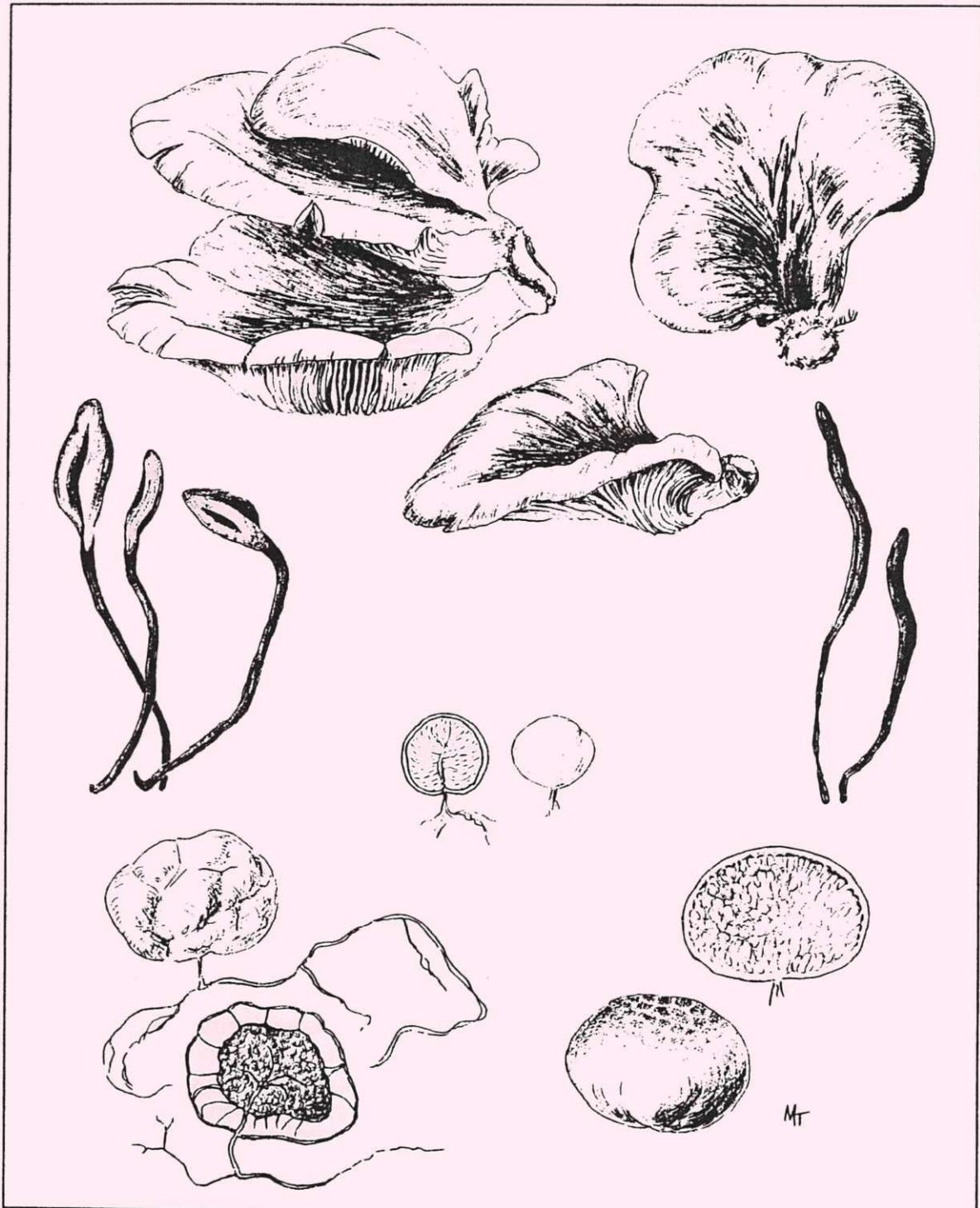


NEW ZEALAND BOTANICAL SOCIETY
NEWSLETTER
NUMBER 19 MARCH 1990



NEW ZEALAND BOTANICAL SOCIETY
N E W S L E T T E R
NUMBER 19 MARCH 1990

New Zealand Botanical Society

President: Dr Eric Godley
Secretary/Treasurer: Anthony Wright
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Address: New Zealand Botanical Society
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AUCKLAND 1

Subscriptions

The 1990 ordinary and institutional subs are \$12. The 1990 student sub, available to full-time students, is \$6.

Back issues of the *Newsletter* are available at \$2.50 each - from Number 1 (August 1985) to Number 18 (December 1989). Since 1986 the *Newsletter* has appeared quarterly in March, June, September and December.

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

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

Deadline for next issue

The deadline for the June 1990 issue (Number 20) is 25 May 1990.

Please forward contributions to: Dr Wendy Nelson, Editor
NZ Botanical Society Newsletter
C/- National Museum
PO Box 467
WELLINGTON

Cover Illustration

Fungi from Tongariro National Park, May 1989

Pleurotus rattenburyi is a dark grey "oyster" mushroom with white gills growing on fallen trunks of *Nothofagus* near the Chateau. The two black earth tongues (*Trichoglossum hirsutum*, centre left, and *T. wateri*, centre right) came from Ketetahi track as did the small pinkish-white gelatinous *Hysterangium* (centre).

The white, brainlike *Protuberata* (lower left) was found on the Nature Walk at Ohakune Ranger Station, and *Octaviania* is common in *Nothofagus* forest throughout the Park. *Octaviania ? tasmanica* (lower right) has a pale fawn "cellular" interior and red-staining rind. Its exposed cut surface gradually blackens with time. Drawings four-fifths natural size. See article on p. 13 (Marie Taylor)

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NEWS

Regional Bot Soc News

■ Auckland Botanical Society

The ABS Journal Vol. 45, No. 1 was published in January 1990. Contents include:

Canna A lowland site for <i>Libertia pulchella</i> Moturemu Island - Kaipara Harbour	R.O. Gardner Maureen Young E.K. Cameron & C.M. Beard Wendy Patterson
Further news from Mt Wellington Flora and vegetation of Motumanawa (Pollen) Island - Waitemata Harbour, Auckland	E.K. Cameron
<i>Pterostylis cardiostigma</i> D. Cooper - a new record for the Waitakeres	E.D. Hatch E.D. Hatch
More extracts from the Matthews correspondence Additions and confirmations to the Flora of Great Barrier Donald McLean Track - notes 30 June 1989 Plant additions for Huia Ridge and Huia Dam Tracks Oases in the desert: not a tour of "Pubs of the Outback" but waterhole vegetation in Australia	P.J. de Lange Sandra Jones E.K. Cameron
Stipules and Ligules The pneumatophore puzzle Totara and Hall's totara Field trip - Mt Te Aroha - 15 July 1989	Geoff Davidson R.O. Gardner Maureen Young R.O. Gardner Helen Preston-Jones

Programme to mid-April

Field trip: Saturday 17th March to Hamilton to visit the Dinsdale Fernery and botanise in urban gullies with bush remnants.

Evening meeting: Tuesday 3 April. A special "opening" of an Exhibition of botanical watercolours painted in the 1880's by Caroline E. Lush. Venue: Ewelme Cottage, Parnell.

The programme for the remainder of the year will be organised by the incoming committee following the AGM in early March.

Although we live in one of the best botanised areas of the country there are still the occasional finds to be made and species to be added to the list. For example, during the Society's November 1989 field trip, we unexpectedly came upon *Pterostylis cardiostigma* for the first time in the Waitakeres, and on another field trip, to Moturemu Island in the Kaipara Harbour, we located progeny of the *Clianthus puniceus* which was thought to have disappeared from the island by about the 1960's, overgrown by bracken or shaded out by bush regenerating after fire (pers. comm. M. Dill).

Sandra Jones, Secretary, Auckland Botanical Society, 14 Park Rd, Titirangi, Auckland 7 (ph: 817-6102, evenings)

■ Waikato Botanical Society

The Waikato Botanical Society will be holding the following activities over the period mid-March to the end of May 1990:

Tuesday 20 March: Evening speaker - Anthony Wright - "Vegetation of the Three Kings Islands".

Friday 23 to Sunday 25 March: Field trip to Whenuakite, Coromandel.

Friday 13 to Monday 16 April (Easter): Marokopa field trip with the Rotorua Botanical Society.

Saturday 28 April: Field trip to Arthur Cowan's property, Rangitoto Range, King Country.

Tuesday 15 May: AGM, pot-luck dinner. Speaker - Murray Boase - "A visit to Cairns, tropical far-north Queensland".

Sunday 27 May: Field trip to Bridal Veil Falls.

Further information available from:

Murray Boase, Secretary, Waikato Botanical Society C/- Biological Sciences Department, Waikato University, Private Bag, Hamilton

■ Rotorua Botanical Society

Work is well advanced on the Society's major project for 1990, a book on the botany of the Rotorua Lakes Ecological District. A wide range of topics will be covered with chapters on thermal algae, rare and endangered plants, native forests, exotic plantations, fungi and many more. All of the contributors have now submitted manuscripts and the hard grind of editing, assembling photographs and glossaries is in progress. There are no predictions yet on a publication date.

The field trip programme for 1990 is published in newsletter No. 18 and forthcoming trips are:

Sunday 18 March: Matakana Island, Leader: Sarah Beadel (073) 24 546.
Easter Weekend 13-16 April: Marokopa, Western Waikato, Leader: Bruce Clarkson (073) 479 067.
Sunday 13 May: Te Kopia Thermal Area, Leader: Chris Ecroyd (073) 479 067.
Sunday 10 June: Mokoia Island, Leader: Sarah Beadel (073) 24 546.

The A.G.M. and pot luck dinner will be held on Saturday, 9 June, at Paul Barton and Corry Regnier's house. Contact: Corry Regnier (073) 403 879.

An index for newsletters 1-15 (up to December, 1988) has been compiled by John Nicholls and is presently at the printers. A further special issue of the newsletter planned for this year is an annotated species list for the Rotorua Lakes District by Chris Ecroyd, Bruce Clarkson and Mike Wilcox.

For further information contact:

Sarah Beadel, Okere Road, R.D.4, Rotorua (073) 24 546

■ Manawatu Botanical Group

The Manawatu Botanical Group continues to thrive, with around 70 current members. Meetings and trips are well patronised, and an interesting programme has been organised for the first part of 1990.

A newsletter was recently sent to members, featuring a drawing of hangehange (*Geniostoma ligustrifolium*) on the cover. Contents included trip reports (Castlepoint, Rangiwhia), meeting reports (including a record of the alpine workshop, and the talk on American flora by Dr Dorothy Chappell, Fulbright Fellow), an article on Giardia, a collection of items and events of concern to botanists, and a biography of one of our members, Bob Creswell.

Trips and meetings are open to any interested people. Trips leave from the Museum car park; meetings are held in the Department of Botany and Zoology, Massey University, starting at 7.30pm.

Programme:

Sunday February 18, 1990 - All day excursion to Cape Palliser; 8.00am departure.
Thursday March 1, 1990 - Meeting; talk by Prof. John Flenley on "Krakatau - 1883-1990 - progress in revegetation".
Saturday March 3, 1990 - Excursion to Round Bush; 9.00am departure.
Sunday March 11, 1990 - Norsewood Reserves excursion; 10am departure bring lunch.
Monday March 19, 1990 - Wellington Botanical Gardens; the Otari Native Plant Museum; the Wellington Botanical Society meeting at 7.30pm at Victoria University to hear Bill Sykes of Botany division talk on his recent visit to China. Departure at 8.30am or at choice.
Sunday March 25, 1990 - Manawatu Coastal Lakes trip; departure 9.00am.
Thursday April 5, 1990 - Meeting; Dr David Fountain will talk on "The physiology of seeds of New Zealand plants".
Saturday April 7, 1990 - Kumeti Hut joint excursion with Forest and Bird; departure 8.00am.
Wednesday April 25, 1990 - ANZAC Day trip to Kapiti Island with Massey Conservation Club; departure 8.00am.
Thursday May 3rd, 1990 - Meeting; Workshop on fern allies.
Saturday May 5, 1990 - Papaitonga Scenic Reserve excursion - joint with Wellington Botanical Society; departure 8.30am.

Further information from:

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

■ Wellington Botanical Society

The programme for the next 3 months will be:

Monday 19 March: "A botanist in South China" - Bill Sykes, Botany Division.

Thursday 12 - Tuesday 17 April: Easter trip - Pelorus Scenic Reserve, Red Hill (Whangamoa V.) mineral belt above Whangamoa Saddle, Dun Mountain. Organiser - Rodney Lewington.

Monday 24 April: Buffet dinner and members' slide evening

Saturday 6 May: Papaitonga Scenic Reserve

Monday 21 May: "Peat Domes at the extremes of N.Z. - similarities and differences" Jill Rapson, Massey University.

Carol West, Secretary, Wellington Botanical Society, c/- 4 Highbury Crescent, Wellington 5

■ Nelson Botanical Society

The Labour weekend field camp at Puponga Farm Park was a real mixed bag but the 9 botsoccers had a good weekend. Saturday was a superb calm fine day and Geoff Rennison took us half way up the Spit to view several communities of rare plants including the sand spurge, sand daphne and pingao. These plants have increased in number remarkably in the last decade since the removal of wild cattle from the area. Sunday was showery but a valiant group battled out to see the manuka carpets on the moorlands overlooking the spectacular rocky coast south of Wharariki Beach. Later we visited the old coal mines and saw extensive areas of pukatea forest in the valley bounded by swamp containing bittern. On Monday morning a brief visit to Wharariki Beach saw the area in a typical south westerly gale and again many unusual plants were seen. In the afternoon a stop was made at Póuklowski's Bush, a really interesting lowland podocarp forest remnant containing many species common in the North Island but near their southern limits here. The area is protected by a QEII covenant.

The pre-Christmas trip to Mt Arthur was a disappointment in that low cloud and strong cold winds (it snowed later) prevented the large party of 24 reaching the upper karst areas and the glory of the early flowering alpiners. The lowermost grasslands though, yielded several interesting orchids including a couple of additions to the species list. A good diversity of herbs and shrubs characteristic of the two substrate types - the marble and the shales - were seen. Plants of special interest were the abundant well-shaped *Hebe topiaria*, *Hebe pauciramosa* var *masoniae* with its dense packed square ranked leaves and the soft wooded *Traversia baccharoides*, a genus endemic to the northern South Island.

The highlight of the summer period has been the Anniversary Weekend camp at the Cobb Valley. The area is a microcosm of North-west Nelson containing about 60% of the flora of the park and a wide diversity of substrates from sandstones and shale to limestones and marbles, volcanics, ironstone, and ultramafics. The area contains several endemics and many rare plants often within easy reach of the valley bottom tracks.

The trip was well attended with 15 people enjoying the warm overcast days. Saturday was a long but well worthwhile day up to Lake Sylvester and on to look down on Iron Lake and Trilobite Hut. On the large red soil patch near the top of the slope nothing whatsoever grew, perhaps because the soil is too toxic for any plant. Near the ridge two daisy shrubs provided interest, one with bright yellow flowers (*Brachyglottis adamsii*) and the other creamy buff inconspicuous flowers without ray florets (*B. bidwillii* var *viridis*).

On Sunday the upward journey through the forest to Lake Peel was broken by many stops to examine the plants. Perhaps the most interesting sight of the day was the parasitic orchid *Gastrodia cunninghamii* which was especially abundant yet difficult to see because its camouflage colouring.

Once into the grassland many plants from the day before were seen but with more prolific flowering. As the track sidled into Lake Peel the bluffs and scree provided a great diversity of plants. Once again *Brachyglottis adamsii* and *B. bidwillii* were common shrubs with some ribbonwood (*Hoheria lyallii* var *glabrata*) on the stony gullies. Other interesting plants were the black flowered *Myosotis macrantha*, and the fern *Cystopteris tasmanica* hiding in the cracks of the rocks. On the driest rocks *Celmisia gibbsii*, *Notothlaspi australe*, and *Cheesemania latisiliqua* added to the interest. The orange whipcord hebe, *Hebe ochracea* was quite common at the lake.

Next field trips:

March 18: Ben Nevis

April 13 - 16: Easter camp at Pelorus Bridge with Wellington Botanical Society

May 12-13: Know your plants course, for new recruits.
May 20: Harwoods Hole
June 17: Motueka Valley covenants.

Graeme Jane, 136 Cleveland Terrace, Nelson

■ Canterbury Botanical Society

Friday March 2: 8.00pm - Warwick Harris and Margaret Bulfin "Early Botanists of Akaroa"
Saturday March 3: Field trip to Hinewai and environs

The Society's programme for 1990 is not finalised as we go to press but the meetings are held on the first Friday of each month and a field trip is organised for the next day. The AGM will be held in June. For further information please contact:

Philippa Horn, Plant Science Department, Lincoln College (Phone: 252-811 work)

Herbarium Reports

■ Botany Department, University of Auckland (AKU)

At the end of 1989 the herbarium held:

Vascular plants	21,854
Algae	*15,368
Bryophytes	12,145
Lichens	1,647
Seeds	174
Wood samples	<u>115</u>
Total No. of specimens	51,303

* estimated as only 10% have been accessioned

One thousand specimens were added during 1989. As usual the majority of these came from the northern half of the North Island, including many from offshore islands. The majority of these accessions were vascular plants (mainly collected by E K Cameron from greater Auckland & Great Barrier Island) and bryophytes (mainly collected by E A Brown from throughout New Zealand). Since the end of July the herbarium has benefited from the regular voluntary assistance of Vic May & Wendy Patterson.

Loans:		
out - 33 (512 specimens),	in - 3 (7 specimens)	
Exchange:		
out - 1 (9 specimens),	in - 1 (24 specimens)	
Gifts:		
out - 4 (80 specimens)		

Ewen Cameron, Herbarium Curator, Botany Department, University of Auckland, Private Bag, Auckland 1

■ Auckland Institute & Museum Herbarium (AK) 1988-89 Annual Report

A large part of each working week is taken up with routine enquiries, correspondence and herbarium management. For example, in the month of April 113 plant specimens were identified for staff of the Department of Conservation, BASF Chemicals, the Auckland Acclimatisation Society, the Forest Research Institute, the nursery trade, a landscape architect, Noxious Plants Officers, as well as members of the general public and Museum staff. With the advent and spread of charging policies by government departments, there has been a steady increase in approaches from commercial organisations requiring plant identifications. Where this work takes appreciable time or does not result in any advantage to the herbarium (e.g. the donation of specimens or extension of distribution ranges) a charge is made. Charging, however, remains an uncommon occurrence as most identifications result in a useful extension of scientific knowledge.

A \$25,000 grant was received from the Science Research Committee of the NZ Lottery Board towards two ongoing projects: the curation of the J K Bartlett lichen and moss herbarium, and the preparation of a Fern

Atlas for New Zealand. Good progress has been made on both, with some 13,500 moss and lichen specimens properly labelled and packetted, and collation of distribution records of fern specimens in all but 3 of the country's 11 major herbaria completed.

The Botany Department underwent major upheaval to allow installation of a further bank of mobile steel shelving in the herbarium. In order that the maximum possible number of specimens can be fitted onto the available shelving, the decision was made to abandon our standard herbarium boxes (based on the historic T F Cheeseman collection) for the foreign and adventive section of the herbarium. A combination of smaller new boxes and shallower shelves has allowed a doubling of the capacity of the new bank of mobile shelving. It is hoped that this measure will leave room for expansion for at least a few years. A start has been made on the large task of re-establishing the adventive and foreign section of the herbarium in new boxes on the new shelving. A more modern classification of the ferns in widespread use in major herbaria elsewhere has been introduced.

Jack Mackinder has been heavily involved in planning and devising a computerised database and management system for the herbarium. Hardware and software funded by a Lottery Board grant arrived in early December 1988, and since then Mr Mackinder has made pleasing progress with the development and implementation of the system. A laser printer has been purchased for the production of permanent specimen labels. As well as providing labels for incoming specimens, the system is used to record all outgoing loans of specimens, including the detailed documentation accompanying loans.

The substantial progress in curation of the Bartlett Herbarium during the year has already been noted. In addition, four other private collections, each numbering around 1000 specimens, have been curated and incorporated: the D J Court general herbarium, the D L Knowlton Asplenium collection, the G Painter herb collection, and the I B Wormald moss herbarium. The generous donation of specimens by the following is acknowledged: D P McCrae, L J Forester, B W & G C Hayward, P J de Lange, P D Champion, J E & R E Beever, J Smith Dodsworth and R O Gardner.

The achievements of the Department are only possible through the hard work of the staff. Jack Mackinder, half-time technician, is the only other permanent staff member. Temporary staff have included Marcel Smits (Bartlett Herbarium curation), Elizabeth Brown (Fern Atlas project) and Anne Hume and Darren Reedy (student assistants). Mr E B Bangerter continued to catalogue the reprint collection. Voluntary staff undertook much of the basic herbarium work: Joan Dow and Meryl Wright mounting specimens, and Rhys Gardner incorporating them into the collections.

Accessions of numbered herbarium sheets						(1987-88)
	31 March 1989		182929			
	31 March 1988		178902			
			<u>4027</u>			(2269)
Exchange specimens						
	Outwards	37 specimens	to	2 herbaria		(508 to 5)
	Inwards	332 specimens	from	5 herbaria		(247 from 5)
Loans						
	Outwards	37 [1005 sheets]	to	12 herbaria		(22[538] to 12)
	Inwards	2 [56 sheets]	from	2 herbaria		(2[15] from 2)

Anthony Wright, Curator of Botany, Auckland Institute & Museum, Private Bag, Auckland 1

■ **Waikato University Herbarium (WAIK)**

Over the past 12 months, the collection held by WAIK has increased by some 1673 specimens. The breakdown of accessions is as follows:

	accessions	totals
angiosperms	1,310	8,437
gymnosperms	14	382
pteridophytes	196	1,803
mosses	9	431
liverworts	11	226
algae	110	176
lichens	23	409
totals	1,673	11,684

Included in these totals are several items worth mention. Part of a private collection made by the late R K Ward in the 1930's numbering in excess of 100 specimens, was donated to the University by G Ward. It includes specimens from all over New Zealand. In addition, WAIK has incorporated into its holdings the herbarium from MAF Ruakura. This consists mainly of aquatic plants, and is currently held at Ruakura. Specimens collected during the course of the Coromandel PNA Survey have also been lodged in the herbarium. Also during the course of the year, representation of the adventive flora of the Waikato region was increased due to the incorporation of specimens from student herbarium projects. Most of these specimens are awaiting final numbering. WAIK has received some excellent specimens as a result of exchanges with other herbaria, and in return has sent out approximately 300 specimens.

The herbarium has benefited greatly this year from time to time given on a voluntary basis by several people. A great deal has been done towards reducing the backlog of specimens to a workable number, and assisting in keeping the herbarium up to date and running.

The herbarium continues to grow in size and usage. For undergraduate and research students from this and other universities, for organisations such as the Waikato Botanical Society and Fern Club, it proves to be a useful database. It also continues to provide useful teaching material for university courses.

Catherine Beard, Botanical Sciences Department, University of Waikato, Private Bag, Hamilton

■ National Museum of New Zealand (WELT)

This year has seen limited progress within the herbarium because of administrative changes going on around us. Patrick Brownsey has been heavily involved with numerous sub-committees planning various aspects of the new Museum of New Zealand. The Board of this new institution has presented a detailed brief to Cabinet early this year outlining the proposed functions, staffing, space requirements, display concepts, architectural brief and costings for future development. Approval has been given for the project to proceed.

Meanwhile the Museum is planning some major exhibitions for the sesquicentenary year of 1990. All departments, including Botany, are contributing to two of these exhibitions - one a display of "Treasures" (refer to Announcements section) and the other an historical review.

Patrick Brownsey participated in a major Review of Biosystematics and Ecology within DSIR. In particular this touched on the activities of Botany Division (CHR), Ecology Division, Entomology Division and the Division of Water Sciences. The Review has now been published and circulated to all those who made submissions. Sadly, of course, many of the recommendations have been overtaken by more recent events, and it is ironic that redundancies within DSIR have occurred in some areas that the Review felt should be strengthened. Whether the other recommendations, for example on herbarium collection management, will be implemented, remains to be seen.

The only change to staff this year has been the employment of a contract technician for six months, using a combination of a Lottery Board grant and a subsidy from the New Zealand Employment Service. We were fortunate to acquire the services of Jeff Fox, who moved to Wellington from the Australian National Herbarium, Canberra. We have now been able to retain him for a further two year period as part of the Museum of New Zealand training programme and he is keen to initiate some ethnobotanical projects.

A new development has been the establishment of an internship programme funded by the Museum of New Zealand to train young people in all aspects of the museum profession. The programme for 1990 has been set up rather hurriedly but one of the selected categories is for science technicians. We have chosen Michael Dickson from Christchurch as our trainee in this area and he started a 10 month programme on 12 February.

The major project in the herbarium this year has been the on-going databasing of the GOK Sainsbury collection of mosses. Two part-time students, together with Jeff Fox, have been working steadily on this project since mid-1989. Data from all 18,000 collections have now been entered, although the task of finding map references continues. Later in 1990, with the aid of another Lottery Board grant, we will begin the task of printing labels and physically re-packeting the collection. In the longer term we will be working towards databasing the rest of the mosses, the ferns and the marine algae.

Over 2,000 accessions were registered, the majority comprising ferns, mosses or marine algae which are the major areas of interest at the present time.

Forty four new loans totalling 2,297 specimens were sent to other institutions. Almost 5,000 specimens in total are now out on loan.

Two major books have been published this year. Winsome Shepherd and Walter Cook's account of the Wellington Botanic Garden was launched early in the year, with Patrick Brownsey and John Smith-Dodsworth's *New Zealand ferns and allied plants* appearing just before Christmas.

On-going research includes an account of the fern families Dennstaedtiaceae and Aspleniaceae for the *Flora of Australia* (Patrick Brownsey), a checklist of the seaweeds of the Chatham Islands, a revision of the red algal genus, *Porphyra*, and a Handbook of the New Zealand Seaweeds (Wendy Nelson, Nancy Adams).

Patrick Brownsey, National Museum, P.O. Box 467, Wellington

■ Botany Division DSIR, Christchurch (CHR)

Identification Service

The net result of the "User Pays" policy has been that the numbers of plants identified dropped dramatically and we were losing valuable scientific specimens and information as a consequence. It has been decided to drop the charging policy except for forensic purposes and where clients profit commercially from the determination. Generally plant identifications are now free and we hope that important weedy specimens and the information on their distributions will increase as a result.

Fees

If visitors, particularly environmental consultants, using the herbarium gain commercially from the information obtained from the collections then they are now charged \$20 for each half day.

General

A display of plant specimens and crafts using plant materials from the South Pacific Islands and New Zealand, held in conjunction with the International Workshop on Ethnobotany (Nga Mahi Maori O Te Wao Nui A Tane) at Rehua Marae, Christchurch, 22-26 February, 1988 has been an attraction for school and interested adult groups visiting the herbarium. During the Floral Festival held 21-27 November, 1988 to formally open the extensions and the launch the *Flora of New Zealand* volume IV, a large collection of weedy species was also displayed. Thirty two new herbarium cabinets have allowed some of the dicotyledons to be moved into their new space and we are updating the classification. The old system based on Hutchinson, J. 1926-1934, *The Families of Flowering Plants*. Oxford, is being replaced by one modified from Dahlgren, R. 1983, *Nordic journal of botany* 3: 119-149; and Dahlgren, R.; Clifford, H.T.; Yeo, P.F. 1985. *The families of the monocotyledons*, Springer-Verlag, Berlin.

Herbarium Electronic Data Processing (CHIRP)

Herbarium labels continue to be printed by computer using the Christchurch Herbarium Information storage and Retrieval Project (CHIRP). All new accessions are added to the database which now holds about 30,000 records. The backlog of 497,000 specimens (25,000 of which are already prepared by temporary workers) will only be processed as time and money permit.

Annotated Checklists of New Zealand Plants

Following a June 1987 decision to proceed with a series of Checklists of New Zealand Plants for all groups except the fungi, considerable progress has been made on the most important Dicotyledon checklist. Using the electronic manuscript of *Flora of New Zealand Volume IV* (1988), 85 families have been placed on to the Dicotyledon checklist manuscript. The updating of the families in *Flora of New Zealand Volume I* (1961) will take some time as the original references of the changes will need to be inspected and only a portion of staff time can be spent on this task. It is believed that these checklists will be an appropriate way of communicating accepted name changes to the botanical public of New Zealand. These checklists, which will include synonyms, will be maintained by the Herbarium staff according to the current practice used in our Herbarium where changes come about under the direction of the various taxonomic specialists in New Zealand. In some cases the checklists will be maintained by the taxonomists involved in their special groups. These checklists will provide a statement on current botanical taxonomic knowledge and will serve to emphasize priorities and encourage other botanists, especially students at University, to participate in revising genera. At present many of the checklists are being compiled to the first draft stage. Information from these drafts is available on request but it is likely to be some time before many of the lists are able to be published. Although the series of checklists from the Herbarium are not yet available, there is a short list of checklists recently published elsewhere that is available from the Herbarium.

Anyone wishing to be kept informed on the availability of all or any particular checklist might like to send their name and address to:

Murray J. Parsons, Herbarium Keeper, DSIR Botany, Private Bag, Christchurch

Other Institution News

■ New Zealand Oceanographic Institute, Division of Water Sciences, DSIR

Current phycological research mainly involves taxonomic studies of *Lessonia* and *Durvillaea*; a biological study of the adventive Asian kelp *Undaria pinnatifida* mainly centred on a population inside Wellington Harbour; contribution to a marine algal floral list of the Chatham Islands; and a general ecological description of the nearshore flora and fauna of northeastern Stewart Island (for the Department of Conservation). A paper on the New Zealand (mainly) distribution of *Macrocystis pyrifera* in relation to sea surface temperatures and its usefulness as a biological indicator for siting salmon sea pens has been submitted for publication to the *N.Z. Journal of Botany*.

A new species of *Lessonia*, *L. tholiformis*, has been described from the Chatham Islands (*N.Z. J. Bot* 27: 461-469). A revision of the genus *Lessonia* in the southwest Pacific region continues as time allows (in conjunction with Eduardo Villouta). A description of a new, solid-bladed, subtidal species of *Durvillaea* from Antipodes Island is nearing completion. This work has involved a comparative study of the internal anatomy of all *Durvillaea* species.

Populations of *Undaria* have been sampled quarterly for two years within Wellington Harbour and an experiment conducted to determine the period of a year that *Undaria* "propagules" are in the water column. This involved suspending ropes next to mature *Undaria* growing inside Lambton Harbour for about 6-8 weeks, and transplanting these ropes (and controls) to another site where *Undaria* has not yet become established. Preliminary results indicate that settlement of spores and germination of sporophytes on new substrata occurs throughout the year. The dispersal of *Undaria* sporophytes on the hulls of ships has been studied and a paper on this topic recently accepted for publication in the *British Phycological Journal*. There is clear evidence that fully grown sporophytes are easily transported between New Zealand ports. Sporophytes growing on the hull of the NZ Oceanographic research vessel *Rapuhia* have survived 4 weeks and 4,000 km in the open ocean in NZ waters.

Cameron Hay, N Z Oceanographic Institute, Private Bag, Kilbirnie, Wellington

ANNOUNCEMENTS

■ Te Wao Nui A Taane - A National Ethnobotanical Garden

Toi tu te Marae o Taane
Toi tu te Marae o Tangaroa
Toi tu te iwi

If the forest survives
If the ocean survives
The people live on

The Minister of Science, the Hon Peter Tapsell, announced on 21st January at the Science and Natural Heritage Conference, Massey University, Palmerston North that the Pu Hao Rangi Maori Trust of Auckland and Botany Division, DSIR are developing in partnership the Concept Plan For Te Wao Nui A Taane - a National Ethnobotanic Garden in Auckland.

Acting on a recommendation made at the Ethnobotanical Workshop, Nga Mahi Maori o Te Wao nui a Tane, held in February 1988, at Rehua Marae in Christchurch, Pu Hao Rangi and DSIR applied to the 1990 Commission and were granted \$45000 towards the development of this Concept Plan.

DSIR Botany became involved in ethnobotany through the Commonwealth Science Council Programme on Biological Diversity and Genetic Resources, when DSIR funded a study by Geoff Walls on the traditional uses of plants in New Zealand and the Pacific. In recent years DSIR Botany staff have attended several hui convened by Maori and Pacific Island groups. As a result of requests arising from these meetings,

DSIR Botany Division imported cold-tolerant varieties of Aute (paper mulberry or *Broussonetia papyrifera*) used for making Tapa cloth. Also Botany Division has assumed responsibility for maintenance of the National collection of Harakeke (species of *Phormium*) developed by Mrs Rene Orchiston of Gisborne.

DSIR assisted Pu Hao Rangi to get back the New Zealand kumara (*Ipomoea batatas*) particularly the traditional varieties, held for some twenty years in the Sweet Potato Collection at Tsukuba, Japan. Now the 9 kumara varieties, 5 red-skinned and yellow-fleshed and the 4 traditional pre-European varieties, which are white-skinned and white-fleshed, are in quarantine at DSIR Lincoln where they are undergoing heat treatment to remove the virus diseases that they are carrying. When this is accomplished the varieties will be returned to Pu Hao Rangi.

DSIR Botany and Plant Protection Divisions have helped Pu Hao Rangi to develop a trial garden on land provided by the Auckland Regional Council (ARC). This garden has the goals of maintaining traditional Maori plants for the use of tribes and as taonga (treasures) for all the people of New Zealand. It includes kumara, old varieties of maize and potatoes, flax, gourds, cabbage tree, and several Maori medicinal plants. As such it forms a nucleus for the planned National Ethnobotanic Garden.

Our proposal to establish a National Ethnobotanical Garden in partnership between the Maori people and organisations with specific interests in native plants and their uses, has the strong support of the Maori community and DSIR as well as informal support from the Auckland Regional Council (ARC) Parks and Reserves Department.

The garden will become an important centre for education about plants and their uses both before and after the arrival of Europeans in New Zealand. As such, it will promote understanding and enjoyment of the different cultures present in New Zealand, beginning with Maori and Pakeha, and with opportunities to include all other groups.

During 1990 the Concept Plan will be prepared by Mrs Dell Wihongi, Pu Hao Rangi and Murray Parsons, DSIR Botany.

In preparing this plan we need to identify and gain the support of agencies that would provide land and the plants for the garden as well as seek out appropriate funding agencies. We will consult with these groups as well as Iwi Authorities, tribal runanga, Universities, other botanical gardens, and museums.

It is hoped that people who have the knowledge of uses of plants will be willing to share their wisdom so that educational programmes can be carried out in the garden.

We will plan for the physical development of the garden which will include building plans for a nursery, herbarium, library, research, cultural, educational and tourism facilities.

An Initial Steering Committee will be responsible for executing the Development Plan and a Board of Management or Trust or other suitable body to administer the day to day running of the garden. This Steering Committee should comprise representatives from participating organisations or institutions with the membership being divided equally between the several Maori organisations on the one hand and the DSIR and other government and local bodies on the other, to be consistent with the 1990 Commission Mission Statement which recognises the partnership of Maori and Pakeha under the Treaty of Waitangi.

If you have any ideas or comments that will help us develop the Concept Plan of Te Wao Nui A Taane - A National Ethnobotanic Garden or just wish to be kept informed please contact:

Murray Parsons, DSIR Botany, Private Bag, Christchurch

■ Wellington Botanical Society Inc. Jubilee Award

A Fund has been set up to commemorate the fiftieth anniversary of the Wellington Botanical Society Inc. The Fund provides for annual Awards to encourage the study of the New Zealand indigenous flora and vegetation. It is hoped that the first Awards will be made in 1990.

The Fund will be built up from subscriptions from members of the Society, from the public, from grants and bequests and from other endeavours. When sufficient funds are available, two types of Award may be made:

1. The Wellington Botanical Society Jubilee Science Fair Award: A sum of \$100 awarded annually

for the best Wellington Science Fair exhibit on the indigenous flora or vegetation of New Zealand. Its purpose is to encourage secondary school students to further their New Zealand botanical studies. The Award is to be given for the best exhibit on the taxonomy, ecology or other scientific aspect of New Zealand indigenous flora or vegetation, or on its interaction with introduced plants.

2. The Wellington Botanical Society Jubilee Award: Up to \$1,000 awarded annually for a project or projects which promote a better understanding of the New Zealand indigenous flora and vegetation, to persons who have demonstrated their commitment to this endeavour. Such projects may be field work, artistic endeavour, research publication, the propagation or cultivation of NZ native plants for educational purposes, or other activities which promote a better understanding of the intrinsic value of the New Zealand indigenous flora.

Much botanical research work is now under threat because of redirection of government funding, and predominantly amateur groups like ours will have to ensure that the New Zealand indigenous flora continues to receive the scientific attention it deserves.

You are invited to contribute the award by pledging or donating a sum of money or contributing on a regular basis. The Treasurer of the Wellington BotSoc is Rodney Lewington, 4 Highbury Cres, Wgtn 5.

Further details may be obtained from:

Carol West, Secretary, Wellington Botanical Society, c/- 4 Highbury Crescent, Wellington 5

■ **Treasures and Landmarks from the National Collections - Nga Taonga Me Nga Tohuwhenua, 25 February - 19 August 1990, National Museum and National Art Gallery**

Treasures and Landmarks is the most extensive display of works from the National Collections ever presented, and the first time that the National Art Gallery and National Museum have collaborated to present a single exhibition encompassing the rich diversity of their collections.

Amongst the botanical treasures on display is a writing-bureau which was made by Anton Seuffert in Auckland and presented to Sir Joseph Hooker in England. The cabinet bears a gold plaque with the legend "From grateful colonists in New Zealand to the Eminent Botanist the describer of their Flora to Joseph Dalton Hooker, F.R.S., 1867." The "Hooker" cabinet was offered for sale in London in 1987 and purchased by the National Museum. After its return to New Zealand it was placed in the hands of a conservator who carried out extensive restoration work. This is the first time the writing bureau has been on display in New Zealand.

There are specimens on display from the first European collections of New Zealand plants, made by Joseph Banks and Daniel Solander, naturalists on James Cook's first voyage of exploration (1769-1771). Alongside these are pulls from the copper engravings based on the sketches of Sydney Parkinson, which were prepared for an intended Flora but eventually never published, as well as the matching colour illustrations from the recently produced Banks' Florilegium using the same original copper engravings.

The first colour illustration of a New Zealand plant is on display in the "Treasures" show. Seeds collected by Banks and Solander were grown in England. Kowhai was one of the first to flower and was illustrated in 1791 in Curtis's *Botanical Magazine*.

There are many other botanical treasures on display as well as material from throughout the natural history departments. An exhibition entitled "Our Forgotten Fauna" on N.Z. herpetology is an exciting additional attraction. Anyone passing through Wellington in the next 6 months should make sure they visit the "Treasures and Landmarks" show.

Wendy Nelson, National Museum, P.O. Box 467, Wellington

■ **Association for Women in the Sciences**

The Association for Women in the Sciences (AWIS) was formed in 1986 to encourage women to use and develop their scientific abilities and to achieve their full potential. AWIS has over 80 members throughout New Zealand; although most live in Wellington, members may be contacted in many of the larger centres. The Association aims to provide a network for women interested or working in the sciences to share scientific information, experience and skills; to explore and speak on issues relating to women and to science; to provide social interaction with others who have similar interests; to assist girls and women in

their role in the sciences and to increase self-knowledge.

AWIS invites membership from women in paid or unpaid employment who may be students, women wanting to get back into the workforce, or women in full-time or part-time jobs. They can be interested or working in any of the sciences including biological science, physical science, engineering, mathematics, social science, health science, computer science and technology.

The women in AWIS keep in contact through a bi-monthly newsletter and meetings of a variety of topics. The annual subscription is \$15 for Wellington members and \$10 for out-of-town members. If you wish to join, or want more information please write to:

Treasurer, Association for Women in the Sciences, P.O. Box 184, Wellington

DESIDERATA

■ Mistletoes

I am interested to hear from anyone who has experience with seed viability and germination of New Zealand Loranthaceae mistletoes. In particular, I would like to know how long seed remains viable for and under what conditions it can be germinated and grown on.

Dr David A. Norton, School of Forestry, University of Canterbury, Private Bag, Christchurch

FORTHCOMING MEETINGS/CONFERENCES

■ Modular Course on larger Fungi

A "hands-on" course, suitable for British and overseas-based workers, on the classification and identification of larger fungi, especially agarics, will be offered at the Royal Botanic Garden, Edinburgh. The course will consist of 5 x one week modules and will cover forensic, medical, as well as chemical and experimental approaches. Further details from

Dr Roy Watling, Senior Principal Scientific Officer, Royal Botanic Garden, Edinburgh, EH3 5LR, SCOTLAND

■ Resource Management Development

In 1990 the Centre for Resource Management and the NZ College of Management will present a comprehensive programme of workshop seminars on the Resource Management Law Reform. The programme has been designed for groups that will be affected by the reorganisation of local government and the Resource Management Act including elected officials and senior staff of local authorities, and members of organisations concerned with environmental issues and special interest groups.

It will prepare participants for those changes in management practice and organisational structure and function that are consistent with the new Act. The courses will be held in Wellington and Christchurch and consist of a series of six three-day modules in workshop - seminar format.

For further information contact:

Client Services Manager, NZ College of Management, P.O. Box 11-146, Wellington

CONFERENCE/MEETING REVIEWS

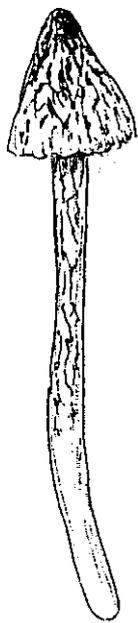
■ Tongariro National Park Fungal Foray - May 18-21, 1989

Ruapehu Ski Club chalet near the Chateau was the location for the fourth annual Fungal Foray. On the evening of 18 May the 25 forayers arrived and settled in, the youngest participant being just three years of age. The large upstairs room was transformed into a working laboratory with a microscope table, anglepoise lamps and dryers, leaving the downstairs community room for dining, socialising and display of interesting finds. The big window upstairs gave good light to work by during the day and also gave a

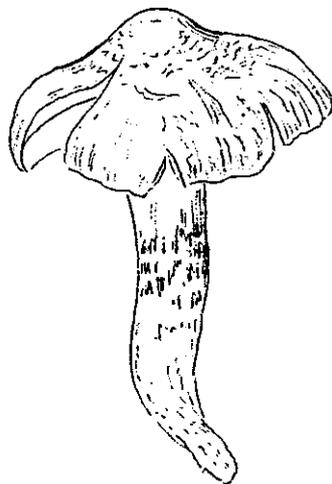
magnificently inspirational view of the summit of the mountain.

When Friday dawned cold and clear the party set off at 9am for Kaimanawa Forest Park following the advice of Don and Gwen Horne. They had made a preliminary reconnaissance the day before and reported that the forest there was very damp with good collecting. In the mixed red and black beech forest at Tree Trunk Gorge we found fruitings of many types of *Cortinarius*, together with *Laccaria*, *Inocybe*, *Phellodon* and *Thaxterogaster*; the typical mycorrhizal associates of *Nothofagus*. We had lunch in sunshine in the little valley where the Rangipo headrace is piped accross from one tunnel exit to enter another tunnel portal, taking Moawhango waters towards the underground powerhouse. On the way back to Ruapehu in the afternoon we stopped at the Ketetahi track for about an hour. Fewer species and fewer individual fruiting bodies of macrofungi were seen here in the kamahi-totara forest and manuka scrubland but there were some interesting gasteromycete "potatoes" associated with the *Leptospermum*.

The next day the party divided its forces. Some went to Ohakune to the Mangawhero Forest walk, Waipuna Falls track and Rotokuru Lake on the south side of the mountains. Others explored near the Chateau and visited Silica Rapids track, Whakapapaiti track and Taranaki Falls track as well as scouting in the vicinity of the RSC chalet. Mahuia campsite was also visited. Further *Nothofagus* associates like *Paxillus*, *Lactarius*, *Rozites* and more *Cortinarius* of different kinds were discovered. Rimu-rata-hinau forest at Mangawhero yielded *Protuberata*, a gasteromycete which superficially looks like the young "egg" of the basket fungus, *Ileodictyon*. After sectioning, the cut surface shows the presence of an outer elastic skin, then a gelatinous coat crossed by white streaks, and in the centre an olive-brown spore-bearing gleba; but there is no folded lattice (= receptacle). There were several large finds of *Pleurotus rattenburyi* fruiting on rotting trunks near the RSC Chalet (its type locality), but nobody has yet volunteered to test the caps for edibility.



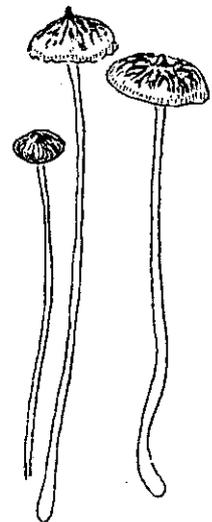
Bertrandia astatogala



Tricholoma sp.



Mycena miniata



Laccaria fibrillosa

In the evenings, besides microscopy and the recording and processing of collections, there were the traditional identification displays, colour slide sessions and the showing of a fungus stamp collection. Don Horne had made a sound slide show of a bedtime story for his grandchildren about the search for the most beautiful mushroom in the world, and this was received with acclamation. The *Coprinus comatus* ink-caps which were served by the chefs on Saturday evening were not found on the foray but had been gathered on Glendowie Park, Auckland, by Lawre Taylor some weeks previously. They had been prepared and frozen to provide a fungal surprise item for the menu.

On Sunday morning everyone pitched in to the packing, tidying and cleaning. We departed having accepted the offer of Philippa Horn to organise the May 1990 foray at Boyle Lodge on the Lewis Pass. Anyone interested should contact Philippa Horn, Plant Sciences Department, Lincoln College, Private Bag, Christchurch.

SPECIES LISTS

Recorder: Marie Taylor

Compilers: Ross Beaver, Peter Buchanan, Phillipa Horn, Peter Johnston, Mario Rajchenberg, Barbara Segedin, Marie Taylor

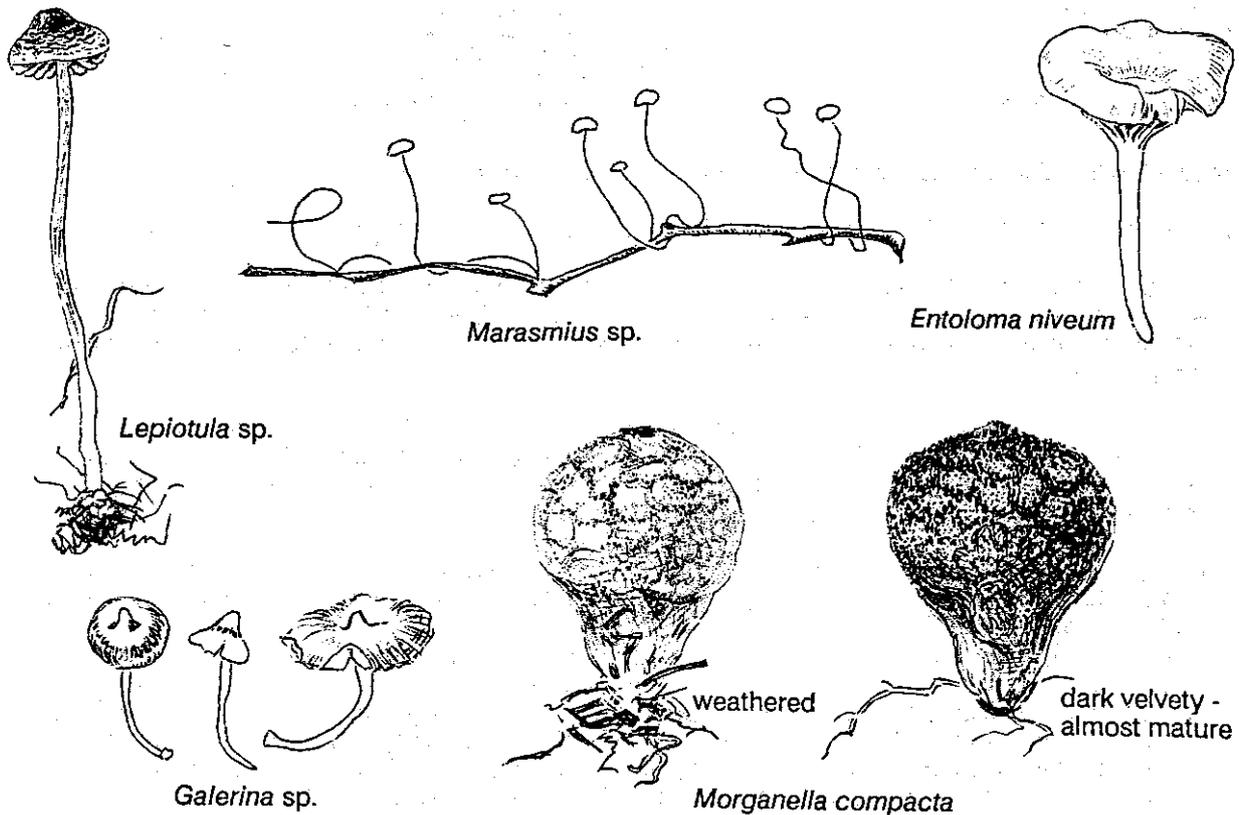
Kaimanawa Forest Park, Tree Trunk Gorge 19 May 1989

AGARICALES

- Astrosporina leptospermi
 - Cortinarius spp.
 - Cuphocybe olivacea
 - Dermocybe canaria
 - Entoloma sp. grey conical, white stem
 - Galerina sp.
 - Gliophorus viridis
 - Hypholoma brunnea
 - Inocybe spp.
 - Laccaria sp. tiny caps thick stem bases, in cluster
 - Laccaria fibrillosa
 - Laccaria masonii
 - Laccaria violaceoniger
 - Marasmius aff. rotula horsehair stems
 - Micromphale sp. on wood
 - Mycena miniata
 - Mycena sp. tiny delicate pink pins
 - Mycena spp.
 - Myxaciium sp. sticky brown cap, blue stem
 - Omphalina sp.
 - Pluteus velutinornatus
 - Pholiota sect. Sordidae
 - Phlegmacium spp.
 - Pseudocoprinus disseminatus
 - Psilocybe sp.
 - Rozites sp.
 - Russula sp. purple cap, gills cream
 - Russula sp. purple cap, gills with purple margin
 - Tricholoma viridi-olivaceum
 - Tricholoma sp. deep pink fibrillar scaly
 - Tricholoma sp. pale pink non-fibrillar
- DACRYMYCETALES
- Heterotextus sp. (= Guepinia)

APHYLLOPHORALES

- Australoporus tasmanicus
 - Diplomitoporus lenis
 - Fomitopsis hemitephra
 - Gloeoporus phlebophorus
 - Phellinus sp.
 - Phellodon nothofagi
 - Schizopora paradoxa
 - Skeletocutis sp.
 - Stereum fasciatum
 - Tyromyces falcatus
 - several Clavariaceae
- GASTEROMYCETES
- Gautieria novae-zelandiae
 - Hysterangium sp. 3 (Nothofagus associated)
 - Hysterangium sp. 4 (Nothofagus associated)
 - Octaviania ?tasmanica
 - Thaxterogaster porphyreum
- ASCOMYCETES
- Ascocoryne sp. on wood
 - Bisporella citrina
 - Coccomyces globosus on Weinmannia racemosa
 - Hypoderma obtextum on Weinmannia racemosa
 - Hypoderma rubi on N. fusca, N. solandri var. cliffortioides
 - Hypoderma sticheri on Sticherus (Gleichenia) cunninghamii
 - Lanzia sp. on Coprosma sp.
 - Lanzia sp. on wood
 - Lanzia berggrenii on Nothofagus fusca, N. solandri
 - Leotia lubrica
 - Lophodermium mahuianum on N. solandri var. cliffortioides
 - Lophodermium minus on Nothofagus fusca, Weinmannia racemosa
 - Trichoglossum hirsutum
- HYPHOMYCETES
- Corynelia tropica on podocarpus cunninghamii



Tongariro National Park, Ketetahi Track 19 May 1989

AGARICALES

Agaricus sp. grey cap with sooty centre patch
Bertrandia astatogala
Coprinus disseminatus
Crepidotus sp.
Entoloma niveum
Hygrophorus procera
Laccaria masonii
Leptotula sp. with pink-orange stem
Melanophyllum echinatum
Tympanella galanthina
DACRYMYCETALES
Heterotextus sp. (= Guepinia)
APHYLLOPHORALES
Clavicornia piperata
Clavariaceae yellow clubs
Dichomitia aff. leucophaeus
Diplomitoporus lenis
Perenniporia ochroleuca
Typhula sp. on wood

GASTEROMYCETES

Hysterangium sp. 1 (Leptospermum associated)
Hysterangium sp. 2 (Leptospermum associated)
Lycoperdon sp.
ASCOMYCETES
Arachnopeziza sp. on Celmisia spectabilis
Crocicreas macrostipitata on Celmisia spectabilis
Hymenoscyphus sp. on Weinmannia racemosa
Lachnum sp. on Celmisia spectabilis
Lachnum virgineum on Astelia sp.
Lanzia sp. on wood
Leotia lubrica
Lophodermium rectangulare on Dracophyllum filifolium
Lophodermium richeae on Dracophyllum filifolium
Meloderma dracophylli on Dracophyllum filifolium
Stictis virginea on wood
Trichoglossum hirsutum
Trichoglossum wateri
COELOMYCETES
Harknessia sp. on Podocarpus hallii

Ohakune, Mangawhero Forest Walk 20 May 1989

GASTEROMYCETES

Gautieria novae-zelandiae
Protuberata sp.

ASCOMYCETES

Arachnopeziza sp. nov. on Gahnia sp.
Bisporella citrina
Bisporella cf. subpallida on wood
Coccomyces sp. nov. on Gahnia sp.
Coccomyces crystalligerus on Dicksonia squarrosa
Coccomyces libocedri on Libocedrus bidwillii
Crocicreas cf. coronatus on Dicksonia squarrosa
Helotium elaeocarpi on Elaeocarpus dentatus
Hymenoscyphus sp. on Elaeocarpus dentatus
Karstenia sp. on Nothofagus solandri var. cliffortioides
Lachnum sp. on Nothofagus solandri var. cliffortioides

Lachnum cf. hyalopus on Astelia sp.

Lachnum filiceum on Dicksonia squarrosa
Lachnum varians on Cyathea smithii
Lanzia berggrenii on Nothofagus solandri var.
Lophodermium hauturuuanum on Gahnia sp.
Lophodermium inclusum on Gahnia sp.
Lophodermium minus on Nestegis cunninghamii
Mollisia sp. on Gahnia sp.
Poculum sp. on Elaeocarpus dentatus
Stictis sp. on Nothofagus solandri
Stictis tortilis on dead wood
Torrendiella eucalypti on Elaeocarpus dentatus
COELOMYCETES
Cryptosporiopsis sp. on Libocedrus bidwillii

Karioi Forest, Lake Rotokuru 20 May 1989

AGARICALES

Agaricus sp.
Armillaria limonea
Coprinus sp.
Cortinarius spp.
Marasmius sp.
Mycena interrupta on wood

Paxillus nothofagi
Pholiota with sharp umbo on wood
GASTEROMYCETES
Crucibulum laeve
Nidula candida
APHYLLOPHORALES
Trametes versicolor blue form

Marie Taylor, Botany Department, University of Auckland, Private Bag, Auckland

■ Wellington Bot Soc 50th Jubilee, Saturday 11 and Sunday 12 November 1989, Victoria University

Glorious weather and a large turnout of botsoccers from all over the country and even some from overseas made the jubilee an exciting and enjoyable event. As can be seen from the Programme (below), topics covered in the Seminar ranged very widely and included a social and historical perspective where appropriate.

We felt privileged to have some Foundation Members present one of whom cut the Jubilee cake. The Special Jubilee Bulletin was edited by Colin Ogle and graced with a beautiful full-colour cover designed by Nancy Adams. (There are some copies still available for \$15 + postage from Rodney Lewington, Hon. Treasurer, Wellington Botanical Society, 4 Highbury Cres., Wellington.)

Well organised so as to leave some time for old friends to reminisce and chortle over shared memories and a photographic archive, Saturday passed all too quickly. A massed display of indigenous plants including some from the Chatham Islands attracted much attention in the foyer. After lunch we piled into cars and briefly visited Otari Reserve where many native species were in flower. This was enjoyed especially by the foundation members who appreciated the Reserve's accessibility. Saturday night's dinner and conversazione provided another opportunity for socializing over a delicious smorgasbord. On Sunday we chose from another smorgasbord of short trips in the Kaitoke region - then gathered at the picnic site for lunch. Many months of planning went into the organisation of the Jubilee and its success is due to this and to the vitality of Botsoccers themselves - semper suit in flore!

Seminar Programme - Saturday 11 November, 1989

Introduction
Seaweeds of the Wellington region
Missing mosses
Ferns of the Wellington region
A century of succession after silver beech forest fires in the
Tararua Range
Vegetation of the Eastern Hutt Hills
Some changes in our urban forest
Threatened plants of Wellington
Botanical History of Wellington
Leonard Cockayne and his links with Otari
Early days of the Botanical Society
Glimpses of Bot Soc's long trips

Ted Williams
Nancy Adams
Rodney Lewington
Patrick Brownsey
Ross McQueen &
Kath Dickinson
Vicky Froude
Ian Atkinson
Colin Ogle
Maggy Wassilieff
Stan Reid
Isobel Morice
Tony Druce

Barbara Mitcalfe, President, Wellington Bot Soc, 15 Boundary Rd, Wellington 5

■ **Annual Conference of the Australasian Society for Phycology and Aquatic Botany (ASPAB)**

This year 17 members and many friends attended the annual conference of ASPAB which was held at Massey University in conjunction with the Science and Natural Heritage Conference, 20-25 January, 1990. The conference opened with a traditional powhiri for the Minister of Science, Hon. Peter Tapsell, and the delegates followed by an opening speech from the Minister who announced the proposal to develop an ethnobotanical garden in Auckland. The first symposium concerned ethnobotany and the writing of the concept plan for the garden.

Fourteen papers and two posters on a wide range of marine and freshwater topics were presented in the ASPAB portions of the conference. It was especially gratifying to hear progress on freshwater studies. After the aquatic sessions a fieldtrip was arranged to the east coast of North Island to the Castlepoint - Mataikona area and several good collections were made.

A full report of this worthwhile and enjoyable meeting will appear in the Society Newsletter. Any New Zealanders interested in joining ASPAB can pay their annual subscription NZ\$20 to:

Murray J. Parsons, DSIR Botany, Private Bag, Christchurch

THESES IN BOTANICAL SCIENCE

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

- Barnfather, D.J., 1989: The Taxonomy of *Phytophthora megasperma* in New Zealand. MSc
Brown, K.L., 1989: The Germination and early Establishment of Kowhai (*Sophora microphylla* Ait.). MSc
Fuller, J., 1989: Ecological Characteristics of some large-leaved *Coprosma* species. MSc
Iball, S.D., 1989: The Comparative Reliabilities and Efficiencies of Some Forest Ecological Sampling Methods." MSc
Large, M.F., 1989: A Spore atlas of New Zealand Ferns and Fern Allies. PhD.
Pepping, K.G., 1989: Reproductive Biology and Cultivar Identification in the Feijoa. MSc
Pone, S.P., 1989: An Investigation of three virus diseases of *Vanilla fragrans* in Tonga. MSc
Rattray, M.R., 1989: An Investigation of the growth and nutrition of three submerged macrophytes in relation to lake eutrophication. PhD

■ **University of Waikato, Department of Biological Sciences**

- Aimer, R., 1989: Ecology of Aquatic Hyphomycetes of New Zealand Streams. PhD
Boase, M., 1988: Succession of subalpine vegetation to *Libocedrus bidwillii* forest on a landslide-initiated soil chronosequence, Mount Taranaki, N.Z. MSc

Edgar, N.B., 1989: The effects of Calanoid Copepod grazing on phytoplankton in Lake Rotomanuka. MSc
Harris, S.L., 1989: The *Frankia-Coriaria arborea* Nitrogen-fixing symbiosis. MSc

■ **University of Waikato, Department of Earth Sciences**

de Lange, P.J., 1989: Late Quaternary development of the Kopouatai Peat Bog, Hauraki lowlands, with some palaeoenvironmental inferences. MSc Hons

■ **Victoria University of Wellington, School of Biological Sciences**

Biggs, H.R., 1989: A comparative morphological study of the leaves and pollen in the New Zealand species of *Muehlenbeckia*. BSc Hons

Blaschke, P.M., 1989: Vegetation and landscape dynamics in eastern Taranaki hill country. PhD.

Howitt, R.L., 1989: Tomato and Pepper Tissue culture: the role of auxins and cytokinins in morphogenesis. BSc Hons

Nendick, K., 1989: Reduced sensitivity to demethylation inhibiting fungicides in New Zealand strains of *Pyrenophora teres* Dreschler and related barley pathogens. MSc

Reid, A.R., 1989: A chemotaxonomic study of the New Zealand Araliaceae. MSc

Ridley, G.S., 1989: Studies in white-spored agarics: The genera *Amanita*, *Squamanita* and *Russula* in New Zealand. PhD

Turner, L.P., 1989: A comparative study of the leaf flavonoids of New Zealand *Clematis*. BSc Hons

Weston, A.S., 1989: The effects of the Herbicide "Escort" on mitotic activity in *Allium triquetrum* root tips. BSc Hons

■ **Lincoln College, Department of Plant Science**

Lieffering M., 1989: Factors influencing the vegetation on a slope in South Westland. M Agr Sc Hons

McNaughton V.J., 1989: The physiology and structure of cereal leaves produced by vitrification. M ApplSc

Tesfaye Mesfin, 1989: Morphometrics, characterisation and seedling emergence studies of a collection of Russell Lupin (*Lupinus polyphyllus* x *Lupinus arboreus*) genotypes in Canterbury. M Agr Sc Hons

Xu Huainan, 1989: Grazing duration studies on lucerne/grass mixtures. M Agr Sc

■ **University of Otago, Botany Department**

Calder, J. 1989: The effects of auxins, cytokinins, and seaweed extracts on germination, root and whole plant growth. BSc Hons

Day, S.L., 1989: The value of some local pollen species for honeybee nutrition. BSc Hons

Fagan, B., 1989: Protected Natural Areas Survey of the Manorburn Ecological District. MSc

Frazer, A.J.W., 1989: Growth and reproduction in *Porphyra columbina* Mont. (Rhodophyta, Bangiales). MSc

Woodman, R.F., 1989: Effects of soil acidity on the establishment and growth of lotus and clover. PhD

Wylie, S., 1989: Some aspects of root induction of plants *in vitro*. BSc Hons

Wynn, L., 1989: The immunological detection and quantification of cytokinins in two mycorrhizal fungi. BSc Hons

BOOK REVIEW

■ **New Zealand Ferns and Allied Plants** by Patrick J. Brownsey and John C. Smith-Dodsworth. With line drawings by T.N.H. Galloway. Numerous colour plates. David Bateman, Auckland, 1989. 168 pages. \$89.95

The fascination which ferns hold for a wide following of plantspeople seems out of proportion to the number of species and their role in vegetation, but it is easily understandable in terms of their beauty, diversity,

and botanical interest. New Zealand is particularly richly and wonderfully endowed with ferns and fern allies. Surprisingly, a good, comprehensive book on these plants has been lacking for some time; the last edition of Dobbie's *New Zealand Ferns* was published in the early 1960s and is long out of print. Several recent popular accounts are still available and useful but they are far from comprehensive. Allan's *Flora of New Zealand Vol 1* (1961) dealt with native ferns and fern allies but there has been much taxonomic work since then.

According to Patrick Brownsey and John Smith-Dodsworth, 193 species and subspecies grow naturally in this country, of which 88 are endemic. A further 22 have become naturalised through human agency, giving us a wild pteridophyte flora in excess of 200 species. They range from towering tree ferns 20m tall to minute filmy ferns scarcely distinguishable at first glance from a moss. Their habitats are equally diverse, ranging from truly aquatic to the driest rock outcrops of Canterbury and Otago, with the expected majority in damp, sheltered places such as rainforest and scrub.

This book does them all proud. After a good introductory section, every species is described and illustrated. Straight forward, useable keys are provided to genera and species. These are arranged in families, starting with those regarded as botanically the most primitive (*Psilotum* and *Tmesipteris* are the most primitive living vascular plants known), and ending with those curious aquatic plants (*Azolla* and *Salvinia*) thought to be the most evolutionarily advanced of the true ferns. In between is a rich feast of diversity and beauty.

The text is a model of precise, clear, information packed, unpadding, authoritative writing, possible only from close familiarity and long study of the plants in the wild and in cultivation. There are beautifully clear line drawings, unmistakable frond silhouettes, numerous crisp black and white photographs, and a splendid colour section depicting virtually all the species. It has never been so possible to identify any fern or fern ally encountered in the wild in New Zealand!

Succinct hints on cultivation are very informative, and sensitive to conservation needs. We are told, for example, that *Loxsonia* is "a rare fern, hard to transplant, which should never be removed from the wild", but that *Leptolepia* is "rather fast-spreading and hard to control once established" and that *Asplenium bulbiferum* is "easily propagated from the bulbils if they are planted in humus. Good for indoors".

Some botanical names will be new to many readers, but the reasons are always clearly and simply provided. Brownsey has a sensible, practical approach to nomenclature, unhesitatingly using new names when the reasons are compelling (thus what we have long known as *Pyrrhosia serpens* becomes *P. eleagnifolia*, and *Cheilanthes sieberi* of New Zealand authors becomes *C. humilis*) but adopting a conservative approach where the issues are still not adequately clarified, such as in the tree fern family Cyatheaceae. Where there are remaining doubts about the status of some named ferns, it is refreshing to have the doubts freely admitted. Thus we are told "The name *Phymatosorus* replaces *Phymatodes* which is illegitimate [under the botanical Code] but the genus is unsatisfactorily distinguished from *Microsorum* and often included in it."

In one or two cases such helpful comments are missing, Brownsey treats the New Zealand Hymenophyllaceae as 2 genera without remark, although other authorities divide the New Zealand species among twelve genera which they consider better reflect the wide diversity of the group. The synonyms are given.

I searched hard for errors and omissions. They are very hard to find; the book is beautifully produced. The printer did manage to get two of the colour photos upside down, giving misleading impressions of *Tmesipteris lanceolata* and *Hymenophyllum villosum*. *Hymenophyllum armstrongii* does occur east of the Main Divide in the South Island. A feature of *Paesia scaberula* perhaps useful for identification - fertile pinnules are less finely divided than sterile ones - is not mentioned, nor is the striking colour change of some bracken fronds from green to lemon yellow as they start to die back in cooler districts. People puzzled by the curiously divided and bunched fronds of some forms of *Dryopteris* in the wild will not find any mention of it here. Distribution notes for *Asplenium lyalli* are a little ambiguous, and opinion wavers from one page to the next as to whether Chatham Island *Polystichum* might be simply a variant of *P. vestitum* or an undescribed species.

Trivia indeed! I even hunted for typographical errors and so far cannot find any. The book is a magnificent contribution to New Zealand botanical literature and is already busy providing pleasure and information to specialist and lay enthusiast alike.

Reviewed by **Hugh Wilson**, 160 Salisbury St, Christchurch 1

PUBLICATIONS

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