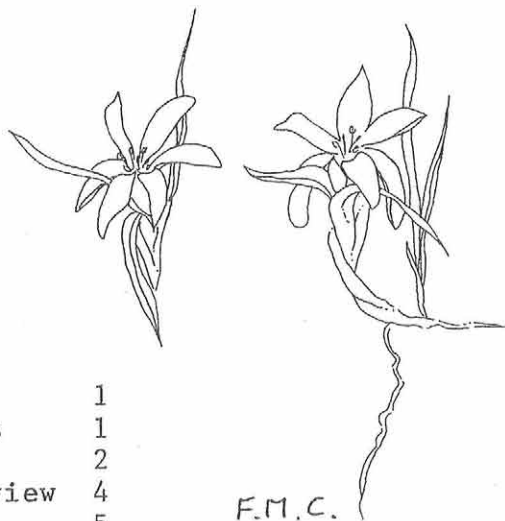


Botanical Society  
of Otago  
Newsletter.  
No. 12, 1990 April.



### Contents

B.S.O. meetings	1
Offers to Bot. Soc. members	1
A Fossil Leaf-Miner Trace	2
Wetland Plants in N.Z.: review	4
N.Z. Ferns etc.: review	5
Natives/Conservation symposium	6
Martin Holdsworth: Obituary	7
Other meetings	8
Botanical Society of Otago	8

### Botanical Society of Otago meetings

Thursday April 26:

Stefan Halloy, of MAF Tech

"Convergence between N.Z. and South American  
Vegetation"

DSIR building, Cumberland St, 7:30 pm.

Thursday May 31:

Mike Pole, of the Geology Dept, Otago Univ.

"NEW ZEALAND PLANTS OF THE PAST"

DSIR building, Cumberland St, 7:30 pm.

Thursday June 28:

Habiba Gitay, of Botany Dept, Otago Univ.

"QUEENSLAND TROPICAL RAIN FORESTS"

DSIR building, Cumberland St, 7:30 pm.

### Offers to Bot. Soc. members

DSIR journals, including the N.Z. Journal of Botany, are available to Bot. Soc. members for \$50, Peter Johnson's "Wetland Plants in N.Z." (see below) for \$39.95, and "Threatened Plants of N.Z." for \$32.00. Write to: DSIR publishing, PO Box 9741, Wellington.

## A FOSSIL LEAF-MINER TRACE FROM MIOCENE SEDIMENTS OF THE MANUHERIKIA GROUP, CENTRAL OTAGO

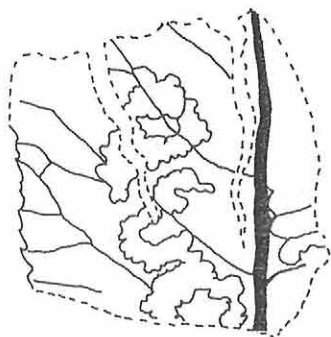
MIKE POLE and TONY HARRIS

A single trace of a leaf mining insect has been located in a leaf bed within lower Miocene sediments (about 17 million years old) of the Manuherikia Group, Central Otago. M. Pole, who is studying the fossil flora, collected the fossil from locality F41/f235, near the Bannockburn. The flora from this locality is thought to have represented a podocarp notophyll vine forest, with the conifers Dacrycarpus and Decussocarpus (Pole, unpublished data). The leaf-miner (specimen OU13685) was passed on to F. Harris who gave the following identification:

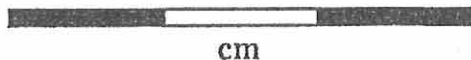
ORDER: Lepidoptera

Family: Nepticulidae

Genus: Stigmella Schrank, 1802.



OU13685



Identification to species level was not possible. The genus, which is still extant in New Zealand, presently includes 28 species (Donner and Wikinson 1989).

Holden (1982) reported the first fossil leaf-miner traces from New Zealand. They were from mid-Miocene and possibly older sediments.

Rozefelds (1985, 1988) and Rozefelds and Sobbe (1987) describe leaf-miner traces from Australia.

## REFERENCES

DONNER, H. AND WILKINSON, C. 1989. Fauna of New Zealand. No. 16. Wellington. New Zealand Science Information Publishing Centre, DSIR.

HOLDEN, A.M. 1982. Luvly grubs - crumbs from an extinct insect's tucker box. Geological Society of New Zealand Newsletter 58 : 39.

ROZEFELDS, A. C. 1985. The first records of fossil leaf mining activity from Australia. in Hornibrook Symposium, 1985, extended abstracts. New Zealand Geological Survey Record 9 : 80 - 81.

\_\_\_\_\_ 1988. Insect leaf mines from the Eocene Anglesea locality, Victoria, Australia. Alcheringa 12 : 1 - 6.

ROZEFELDS, A. C. AND SOBBE, I. 1987. Problematic leaf mines from the Upper Triassic Ipswich Coal Measures of southeastern Queensland, Australia. Alcheringa 11 : 51 - 57.

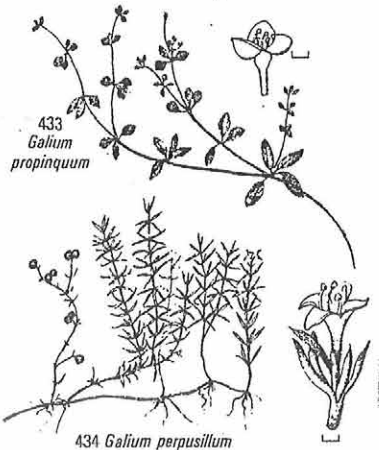
# Wetland Plants in New Zealand

by Peter Johnson and Pat Brooke, \$39.95 to members.

Reviewed by Warren McG. King.

Originally conceived as a study of lake-edge vegetation, this book has expanded in scope enormously. It covers everything from tree-bogs to mangrove swamps to alpine flushes and contains descriptions of more than five hundred species.

The introduction is excellent, negotiating "sticky" subjects such as taxonomy and succession in a concise and clearly understood fashion. While maintaining the humour which makes "Wildflowers of Central Otago" such a delightful read, the slightly more serious nature of this book has required a little more depth. The enormous variation of wetland plant communities is discussed in some detail, and illustrated with many black-and-white photographs. Underlying edaphic and hydrological conditions are outlined and typical species identified. These 20-odd pages, and especially the section on the importance of wetlands, should be pre-requisite reading for anyone interested in "gumboot country".



Of course, the main body of the book is occupied with descriptions and drawings of wetland plants: some algae, ferns, conifers, monocots and dicots. Mosses, lichens and fungi are not examined. The sections are split into families, and genera with many species, such as Carex and Epilobium, are usefully divided in a key-type arrangement. A description and its accompanying drawing are usually on facing pages, as with Hugh Wilson's excellent field guides, making this book very friendly. The drawings (pencil) are marvellous and, though not quite as explicitly detailed as Hugh

Wilson's, they may arguably be more life-like. Characteristic features, such as flowers, fruits, and ligules are often detailed. Given also a list of references, a comprehensive illustrated glossary and an index of families, scientific and common names, this book worthily demands a place in every field-naturalist's ruck-sack.

## N.Z. Ferns and Allied Plants

by Patrick J. Brownsey and John C. Smith-Dodsworth.  
Publ: David Bateman Ltd, Auckland, \$89.95.

Reviewed by Peter Bannister.

The New Zealand flora is particularly rich in ferns and allied plants, and this book describes all the species, whether native or introduced, found in New Zealand. This is an achievement in itself, but when the descriptions are accompanied by numerous relevant drawings, illustrations and photographs it becomes something of a triumph!

The book introduces the basic life cycle of ferns and club mosses and then describes ferns in greater detail, with respect to both vegetative and reproductive structures. Sections on the classification, identification, collection and cultivation of ferns, fern societies and botanical societies (yes, this one is mentioned! [but they got its name wrong. Editor]) complete this introductory part and give the lay person a clear insight into the subject and suggestions for further reading.

The main section of the book has keys to genera, which worked well when I tried them, and keys to the species of larger genera. Species descriptions are concise and informative, and almost every species is illustrated, by drawings or photographs. A scale is given for drawings but not for photographs, and I found the use of non-standard "cms" and "mms" where the scale is subdivided mildly irritating (numbers at the top and

bottom of each scale would have obviated the need for the spurious plural). The taxonomy is up to date, although here I must ride another hobbyhorse as informal names are used for species that have not been formally described, yet we have good descriptions of each species and their distribution in English. Had they been in Latin we might have had some names to use. As it is, *Blechnum* "black spot" becomes *Blechnum* sp. 1 and *Blechnum* "mountain" becomes *Blechnum* sp. 2. This is a scholarly as well as a popular book - the authors of the new Australian flora did not hesitate to use a bit of Latin and erect new species as they went along. However, I realise that it is not as simple as that and I would not want these niggling criticisms to put anyone off this excellent book.

The book concludes with a glossary, bibliography, maps of localities and an index. This is typical, the book is complete in all respects, and everything one might expect to be there is there. I am impressed and shall obtain my copy as soon as possible - my only regret is that I did not avail myself of the pre-publication offer in a previous B.S.O. Newsletter!

## Natives/Conservation Symposium

Tauranga, 1990 August 1-2. Speakers include such eminent botanists as Warwick Harris. To include scientific, ethnic, commercial, garden and conservation aspects. Further details: Bastow Wilson, Botany Dept., Otago Univ., or Charmain Brown, 90's Natives, Bay of Plenty Polytechnic, Tauranga.

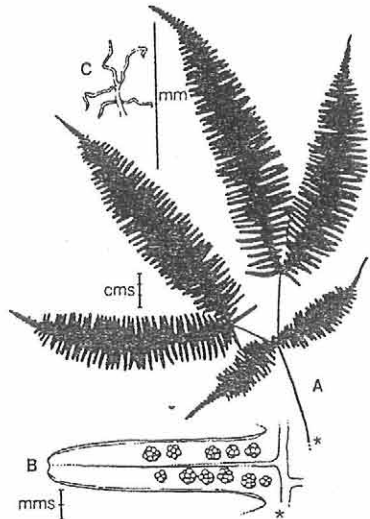


Fig. 55 *Dicranopteris linearis*. A portion of a frond with pinnae on ultimate rachis branches only; B pinna with notched apex, and sori of 6-10 unprotected sporangia; C irregularly branched hair from the rachis.

## Martin Holdsworth

When the Botanical Society of Otago was being formed, Martin Holdsworth commented: "I thought that sort of thing went out with country parsons in elastic-sided boots". However, even if Martin thought little of the Botanical Society, many of its members thought a lot of him. [Editor]

### Obituary

Martin Holdsworth was a botanist of the old school, and had a very wide knowledge of the plant kingdom in all its aspects.

He lectured for many years in the Botany Department, Otago University. Most well-known as a physiologist, he also knew the angiosperm families well, and had an immense knowledge of morphology. He had a keen interest in ecology, and made valuable collections, notably from east Otago and Stewart Island.



Dr Holdsworth was stimulated by a great curiosity about all phases of plant growth and differentiation, but despite the depth of his knowledge he remained totally devoid of pomp, and was always interested in discussing any aspect of botany. He was basically an empiricist, and relished the simple experiment which probed the principles of plant physiology. This characteristically English side of his approach was balanced by a radical scepticism more typical of the French, and his lectures contained many valuable lessons in the more irrational sides of science. The institutional suppression of heterodoxy and the role of psychological and personal factors in botanical research were favourite themes. His lectures contained penetrating analyses of the historical development of physiology, which included many amusing anec-

dotes. His incisive interpretations of current research were based on close readings of the classic German physiologists, and the realisation that most modern accounts involve reincarnations of a few pivotal ideas introduced in the first part of this Century.

Dr Holdsworth's time in Ghana also greatly influenced his views, and his lectures were enlivened with constant references to the behaviour of exotic plants, such as mango and cocoa. He had a rare understanding of tropical phenomena such as the double rainy season and "irregular" phenology, and he exploited this valuable knowledge in framing general principles as well as in critiques of accepted views.

M.J. Heads.

## Other meetings

### Fungal Foray

There will be a Fungal Foray at Boyle River Lodge, Lewis Pass, May 10-13. The cost is \$10+ per person-night. Limited to 30 persons. Contact Phillipa Horn, Plant Science Dept, Lincoln College, Canterbury.

### Dunedin Naturalists Field Club

April 23: Some impressions of Soviet Union, by E.C. Shaw, Red Lecture Theatre, Gt. King St., 7:30 pm  
May 7: Summer botany of Stewart Island, by H. Duff, Red Lecture Theatre, Gt. King St., 7:30 pm  
April 21: Field trip to Graham's Bush, 11am - 6 pm.

## Botanical Society of Otago

Membership: Dr J. Bastow Wilson, Botany Dept. Otago Univ PO Box 56 Dunedin. Work 797572, Home 739-300.

Ideas: Dr Peter N. Johnson, Botany Division, D.S.I.R., Dunedin. Phone: Work 774-050; home 780-376.

Donations: Mr H. Ian West, PO Box 115, Waitati, Dn.

This Newsletter was published 1990 April 18. International Standard Serial Number ISSN 0113-0854