

Botanical Society
of Otago
Newsletter.
No. 13, 1990 September.



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Botanical Society of Otago meetings

Thursday October 25:

Dr Peter Johnson, of D.S.I.R.
"Botanical highlights of Norfolk Island"
DSIR building, Cumberland St, 7:30 pm.

Thursday November 8:

Prof. Alan Mark, of the University Botany Dept.
"Botanical Travels in South America"
(a talk with slides and/or video)
DSIR building, Cumberland St, 7:30 pm.

Botanical Society of Otago field trips

For all trips:

Meeting place: Union St (between Gt King and Cumberland Streets)

Transport: Bring a car if you can, but there should be enough spaces for those without their own transport.

Saturday September 15:

Waipori Gorge - Forest Ecology

Led by Dr Ralph Allen, of D.S.I.R.

The trip will examine vegetation patterns in native bush (primary and secondary) in relation to history and environment.

Meet in Union St at 9am. Or in the Waipori Gorge carpark/picnic area (just over the first, steel bridge in the Gorge) at 9:45am. The trip will disband early afternoon.

Saturday September 22:

An Introduction to intertidal seaweeds (at Brighton Rocks).

Led by Brent Kelly, of the University Botany Dept.

Meet in Union St at 9:40am. Or in the Brighton Domain at 10am. The trip will disband early afternoon.

Saturday October 20:

Soils of the Dunedin area.

Led by Dr Alan Hewitt, of D.S.I.R.

Dr Hewitt, one of the local soil scientists, will take us to 5-6 sites with soil profiles exposed, explain the interpretation of soil profiles, and compare the soil development with the environment of the site.

Meet in Union St at 9:40am. The trip will disband midday.

Saturday November 3:

Nichols Falls.

Led by Alison Evans

Nichols Falls, a side valley of the Leith, was once a popular attraction before becoming part of the water catchment reserve. We will examine the native bush, and visit the falls.

Meet in Union St at 9am. The trip will disband early afternoon.

Offers to Bot. Soc. members

Flowering Plants of New Zealand,

by Colin Webb, Peter Johnson and Bill Sykes

(all of Botany Division, DSIR, when it existed, now of "Land Resources Division", Peter being, of course one of our local botanists)

This book, with full colour, is a simple introduction to native and introduced plants, including more than 80% of native species, with a simple introduction to all the major families of flowering plants in N.Z.. It is also intended to serve as a reference.

It is available to Botanical Soc. members for \$33.95 (normally \$39.95). Order from Information Officer, DSIR Land Resources, Private Bag, Christchurch, enclosing \$33.95 (includes GST and P&P), mentioning that you claim the discount.

Reminders: 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.

Wellington Jubilee award

The Wellington Botanical Society has established a Jubilee Award of up to \$1000 for:

"Field work; artistic endeavour; publication; research; propagation or cultivation of N.Z. native plants for educational purposes; or other projects which promote the better understanding of the N.Z. indigenous flora and vegetation."

An award can be used for travel, accommodation, materials or publication.

Further details from Bastow Wilson, University Botany Dept. Applications close in Wellington on October 10. (The Wn Society welcomes contributions to the fund)

A large fossil leaf from the Middlemarch diatomite

MIKE POLE

The Middlemarch diatomite is a lacustrine deposit lying within the Foulden Hills, eastern Otago. The finely laminated unit is formed of the siliceous tests of fossil diatoms. Fossil leaves are numerous on the bedding planes of the diatomite and often have the cuticle preserved. The age of the diatomite is not clear, but is probably close to the age of the surrounding Foulden Hill volcanics. These have not yet been radiometrically dated, but their age is almost certainly older than the Taranaki (Late Miocene) to Waitotaran (Pliocene) age of the diatomite suggested by Couper (in Coombs *et al* 1960) on the basis of palynology, an earlier Miocene age being more likely (D.S. Coombs pers. comm. 1990).

Leaves were collected by Cecilia Travis in 1965 and by Alex Lowe, Chuck Landis and myself in 1988. All leaf remains found to date have been angiosperms, no conifers or ferns have been located. The macroflora is not closely similar to assemblages from the Miocene Manuherikia Group of Central Otago (Pole 1989). In general it seems to be very diverse and a large number of taxa is expected on further collecting. I suspect that there may not be a large time difference between the Manuherikia and Middlemarch leaves and the differences may be due to soil richness. The Manuherikia communities grew largely on nutrient poor deeply weathered schist or in peat swamps, while the Middlemarch community may have grown on nutrient rich basaltic soil. This is reminiscent of the situation in the Atherton Tableland of northern Queensland today, where relatively taxa-poor rainforest growing on granitic soil sharply contrasts with richer rainforest growing on basaltic soil surrounding crater lakes in which some diatomite has accumulated.

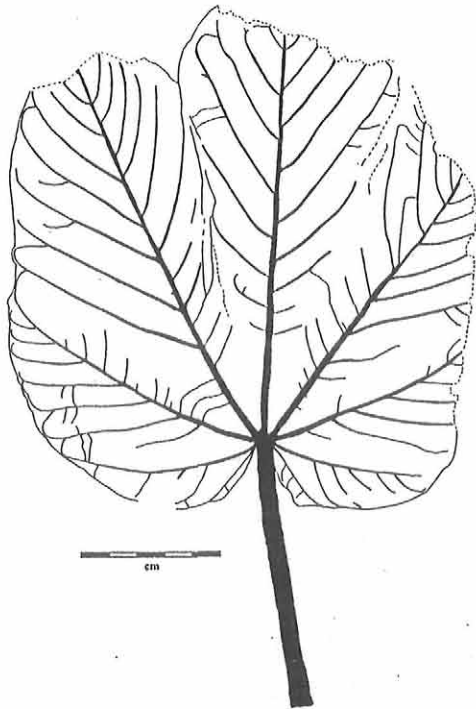
Most taxa at Middlemarch remain unidentified, however a number of asymmetric laminae are present which are very similar to leaflets of Dysoxylum (Meliaceae).

The large leaf, illustrated here and now in the Middlemarch Museum, was found by Neville Peat and Bill Thompson in 1988 while Neville Peat was researching a novel, set in the Strath Taieri. The venation and large size of the leaf is suggestive of a number of families, including Euphorbiaceae and Sterculiaceae, but further study is in progress.

REFERENCES

POLE, M.S. 1989. Early Miocene floras from Central Otago, New Zealand. *Journal of the Royal Society of New Zealand* 19 : 121-125.

COOMBS, D.S., WHITE, A.J.R., HAMILTON, D. 1960. Age relations of the Dunedin Volcanic Complex and some paleogeographic implications. Part 2. *New Zealand journal of geology and geophysics* 3 : 572-579.



Field Club meetings

Meetings in the Red Lecture Theatre, Gt King St. 7:30 pm:

September 17: Alison Evans, on Native trees and shrubs in gardens.

October 1: Neville Peat, 'The eccentric Emblem' (Kiwi)

October 15: Dick Price, 'Down Memory Lane'.

October 29: Gwen Wales, Tasmanian Potpourri.

November 12: AGM, and Bob Begg, Underwater Otago.

Field trips, meet at NZR Road Services, Cumberland St:

September 15; Morrisons Creek (meet Duke St), 1:30pm.

September 29: Rhododendron Riot, Sawyers bay, 1:30pm.

October 13: Leith Saddle, 1:30pm.

October 27: Munro's Gully, 10am.

November 10: Heyward Point, 10am.

November 24: Nuggets, 9:30am.

December 8: Mt Stalker, 8:30am.

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.

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