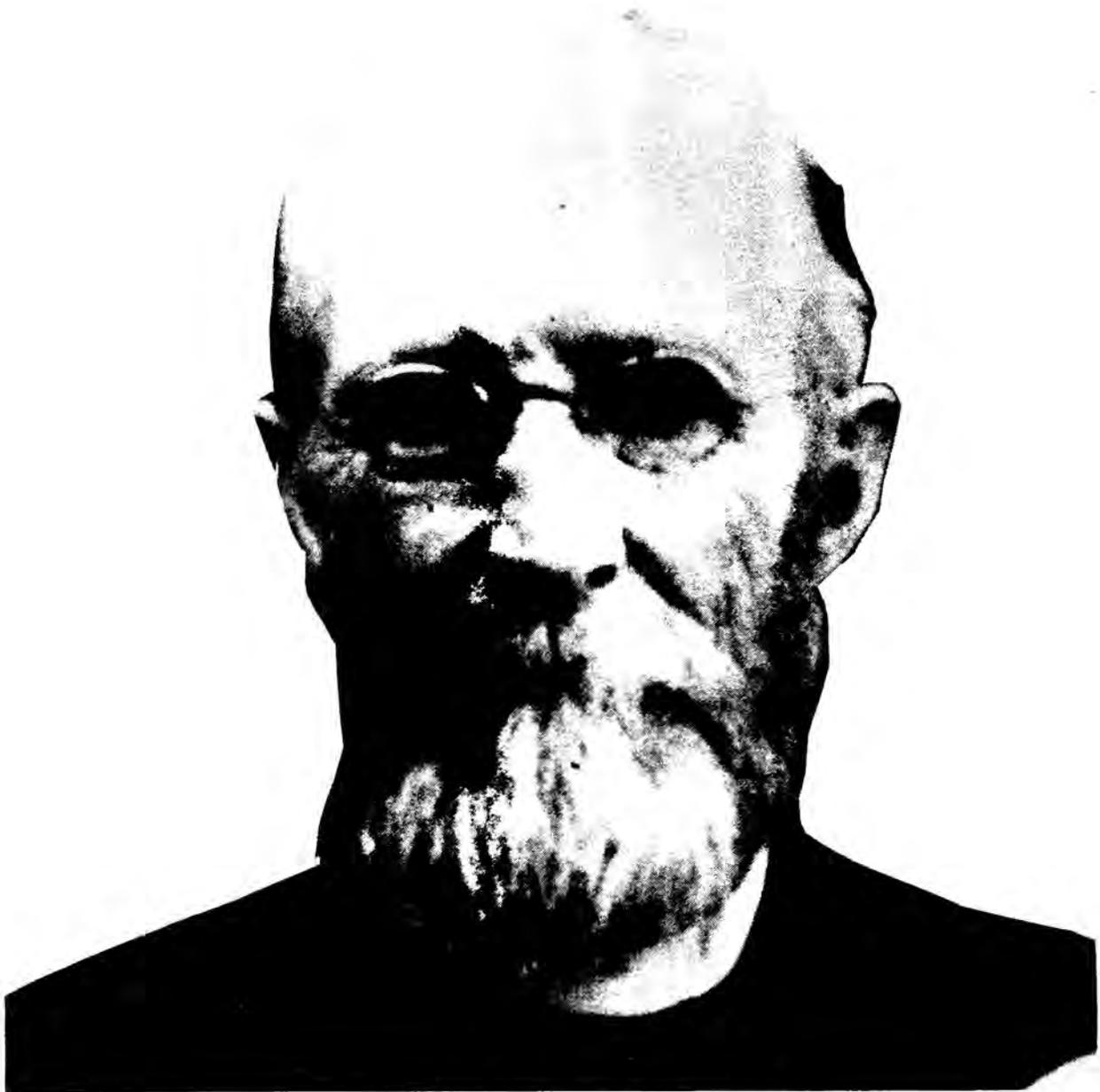


AUSTRALASIAN BRYOLOGICAL NEWSLETTER

Number 36

June 1997

Editor: Mr. P.J. Dalton, Plant Science Department, University of Tasmania, GPO Box 252-55, Hobart, Tasmania, 7001 Ph: (03) 62 267873, Fax (03) 62 262698, email: P.J.Dalton@utas.edu.au



William Anderson Weymouth
1841-1928

EDITORIAL

You will have noticed that this newsletter is different from previous issues. Before I took over the responsibility as editor, the newsletter was presented with a cover page. Since the opportunity arose, I thought it may be appropriate to return to this style, albeit a little different. In keeping with our regional theme I put forward the suggestion that the cover page of each issue feature either people, places or plants in Australasian bryology - in this case a photograph of a prominent Tasmanian bryologist, William Weymouth. Alternatively, we may be able to develop a standard cover with a combination of these features. This is not a novel idea as many of the journals and similar newsletters feature a cover photograph or illustration, but if nothing else it gets my editorial off the front page. Whatever, I would be interested to hear your views, critical or otherwise, and any other comments you may have on this change of style. Moreover, if you think you can provide a suitable cover photograph or illustration then forward it to me along with accompanying notes. I should point out that the cover for this issue was taken from a small old photograph, hence the lack of quality in this instance.

During the next twelve months there will be two opportunities to get involved in bryological activities, details of which are given on the back page of the newsletter. Firstly, the 13th John Child Foray on the South Island of New Zealand in November and then next year the Vth Australasian Bryophyte Workshop - George Scott (convenor) would certainly want to hear from you if you perceive any problems with the proposed arrangements.

I did promise to produce for this issue a list of email addresses for Australasian bryologists. Unfortunately I haven't completed the task, but will make every effort to have this available by the end of the year. Finally, please note a change to my email address and this along with my other corresponding address is now given on the cover page.....Paddy Dalton.

Cover Page

The source of the cover photograph is purely a matter of coincidence. During one of my visits to our biomedical library, I asked the librarian assistant (who has worked there for several years) for the loan of a particular bryophyte reference. In passing she mentioned that she should be interested in bryophytes as well. "Why is that" I asked quizzically, "because my great grandfather studied mosses" was the reply, and "who is your great granfather" I eagerly pursued, "William Weymouth" she answered. Consequently, I am indebted to Helen Stafford (maternal great grand daughter) who kindly loaned a family photograph taken in 1905 from which the cover photograph has been reproduced, and who also assisted in providing the following information.

William Anderson Weymouth was born in Launceston, Tasmania on 24 September 1841, the eldest son in a family of eight children. His grandfather, Dr. William Weymouth, had immigrated from England to set up a medical practice in the township of Perth, just south of Launceston. His father, also William, was a clerk in the Post Office and died at a young age (45 years) when on board the HMS Creole, it sank while en route to New Zealand.

William Weymouth lived the greater part of his life in Hobart where he married Phoebe Thompson on 25 March 1869 and resided initially at 139 Goulbourn Street, and later at "Lorne", 39 Forest Road, where together they raised 16 children, none of whom were named William!

Weymouth, like many of his contemporaries, was truly an amateur bryologist. He was employed as an insurance assessor by the National Mutual Insurance Company and it is not clear what inspired or from whom he developed his interest in natural history, particularly the study of mosses. Irrespective he was a member of the Royal Society of Tasmania through which he liaised with notable European bryologists Brotherus, Burchard and Levier, and collaborated with another prominent Tasmanian bryologist, Leonard Rodway. He not only made extensive collections, and these can be found in herbaria at Hobart, British Museum, Vienna and Naples, but also published several papers. In these he reported many new records and described several species "new to science", however many have now been placed in synonymy. Weymouth is best remembered by the genus *Weymouthia* which was named in his honour by Brotherus. It is a genus of three species, two of which (*W. mollis* and *W. cochlearifolia*) are common pendulous epiphytes in humid forests throughout south east Australia and New Zealand. He continued to pursue his bryological interests into later life and died on 24 May 1928 in his 87th year at his residence in Hobart.

Paddy Dalton, Plant Science Department, University of Tasmania, Hobart.

IAB Symposium of 2000's Bryology Beijing, China 26-30 May 1997

I was fortunate enough to attend the recent IAB Symposium in Beijing, China - along with Heinar Streimann and Ray Tangney. It was not my first visit to the country but the first time I had the opportunity to talk to a large number of Chinese bryologists on their home turf. Both Ray and I presented papers.

The meeting was attended by around 100 bryologists - about half of whom were from mainland China, Hong Kong and Taiwan. It was a crowded program with symposia covering Systematics and Phylogeny, Ecology, Morphology and Cytology, Physiology and Chemistry, Floristics and Phytogeography, Biodiversity and Conservation, and Antarctic Bryology.

It was a great pleasure to finally meet Riclef Grolle (and to assist in transporting someone of Emperor Status in the world of Bryology in his wheelchair literally up and over the summit of the Summer Palace!). A number of other senior bryologists - from outside and inside China - were present. But most pleasing, at least to my western eyes, was the number of young bryologists from within China. There has been a recent development in China of awareness by the political machinery of the importance of bryology and the need to support bryologists and their research. There is no doubt that this dawning has been hard fought and that the struggle for full recognition is not yet won. However, to replace the ageing senior bryologists in the country there is now a good stock of enthusiastic young beginners - and how many countries can really boast that!

The Chinese bryologists desperately need contact with western bryologists. This could be by training outside China (Finland, particularly Timo Koponen and the University of Helsinki, has been the major player in this, together with North America and Canada) but also by willing correspondence from bryologists prepared to offer a bit of their time and advice.

Anyway, back to the conference. We were blessed with nice warm weather, pleasant surroundings in the Botanical Gardens (away from a lot of the polluted urban atmosphere), some very nice Chinese food, and four days of very useful information exchange. It was very useful to be able to hear what other researchers in the northern hemisphere are doing and how many aspects of their work are related to or applicable to southern studies being undertaken. The Chinese are also studying many aspects of bryology, both pure and applied, but desperately need contact with the West. Access to literature (both modern and past), access to

Type and other critical specimens (generally denied) and access to new ideas and information have been major problems for Chinese workers. We could offer them so much by sharing experiences, advice, offering help in obtaining literature, perhaps offering to examine type specimens - or, if you are really feeling beneficent, post-graduate experience outside China.

For those lucky enough to be able to spare the time, there was a choice of a week long post-conference tour to the Changbai Mountains (NE) or to Sichuan (SW alpine areas). Unfortunately, the pressure of work commitments prevented me from participating (an opportunity which I have no doubt I will regret for a long time to come).

R. D. Seppelt, Antarctic Division, Kingston, Tasmania.

Australian Biological Resources Study

Flora of Australia: Volume 51 Introduction to Bryology

ABRS will publish the first of the three bryological volumes in the Flora of Australia series in 1998. This volume will contain chapters on the history of Australian bryology, the biology of mosses, the ecology and biogeography of mosses, the fossil record, a key to genera and taxonomic treatments of several families.

At short notice new authors have to be found for a number of these families:

<p>Mniaceae <i>Orthomnion</i> (1) <i>Plagiomnion</i> (1)</p>	<p>Rhizogoniaceae <i>Goniobryum</i> (1) <i>Leptotheca</i> (1) <i>Mesochaete</i> (2)</p>
<p>Bartramiaceae <i>Bartramidula</i> (1) <i>Conostomum</i> (4) <i>Philonotis</i> (8-12)</p>	<p><i>Pyrrhobryum</i> (6) <i>Rhizogonium</i> (5)</p>

Here is an opportunity to contribute to a prestigious Flora series. ABRS would greatly appreciate hearing from any bryologists interested in preparing a flora treatment of any of these families or parts of these families. All authors will receive a complimentary copy of the Volume valued at about AUSS\$80.

Because of the short time available, we are looking for a 'status quo' treatment. There is likely to be little time for in-depth new research.

If you are interested in contributing, please contact either:

Dr. A.E. Orchard or C. Grgurinovic

ABRS

GPO Box 636

Canberra, ACT 2601

Phone: +61 6 2509442

Fax: +61 6 2509448

Email: tony.orchard@dest.gov.au

BRYOPHYTE RECORDS

Rhytidiadelphus squarrosus - an adventive species in western Tasmania

Rhytidiadelphus squarrosus is a common widespread species in the northern hemisphere where Smith (1980) assigned it to the large family Hypnaceae. However in the proposed Bryophyte Flora of Australia it has been placed in a family of its own, the Rhytidiaceae.

In Tasmania it is a robust plant with red ascending stems which are irregularly pinnately branched, reaching up to 20cm in favourable habitats. The main stem leaves are sheathing at the base and completely mask the stem. They are narrowed towards the apex in which the leaf tip is bent backwards at right angles (not unlike that in *Cratoneuropsis relaxa*) to give the whole shoot when viewed from above a characteristic stellate appearance. The nerve is short and double, extending no more than 1/4 up the leaf. The mid-lamina cells are smooth, elongate (at least 6x long as wide) with thick walls (fig.1). There is an angular group of rectangular cells which become orange coloured and thick-walled and thereby form a distinctive patch of alar cells. Branch leaves are smaller, narrower and towards the branch ends, lack the squarrose form of the stem leaves. Capsules have not been seen in the field nor on herbarium collections, although I have located numerous perichaetial buds on one of my collections.

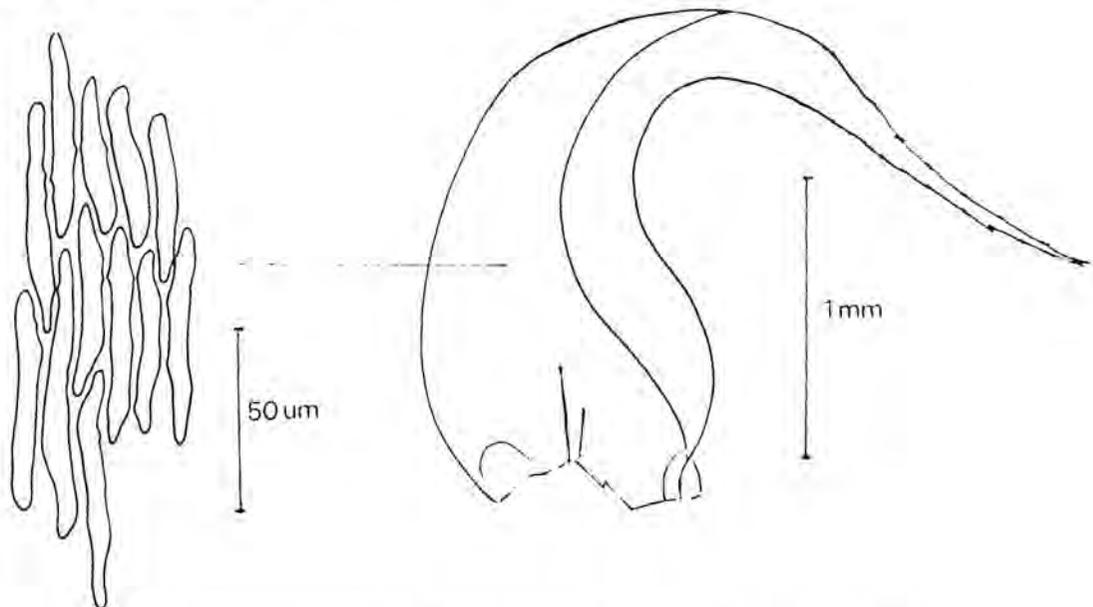


Fig. 1. Leaf and mid-leaf cells of *Rhytidiadelphus squarrosus* (P.J. Dalton 97.21)

In the northern hemisphere, especially the UK, the moss is commonly found in damp grassy places in open woodland, on roadside and in heaths and therefore appears to tolerate a range of soil conditions. According to Watson (1968) it reaches maximal development "on heavily grazed pastures, and the regularly mown 'fairways' of golf courses."

The first published record of this moss in the southern hemisphere was a collection made from a damp clayey slope on the fairway of the Belleknowes golf course in Dunedin (Child & Allison, 1975). It is almost certainly considered to be an introduced species by Beever et al (1992) and Fife (1995).

The earliest record of its occurrence in Tasmania was a collection by Norris (HO 93671) in 1974 amongst moist grasses along Dundas Creek, west coast of Tasmania, and it can only be assumed that its occurrence was the result of similar circumstances to that in New Zealand. Further records from the west coast have been made since this initial collection. Fife (HO 122769) in 1988 made a collection from a grassy picnic area at the Dundas River between Zeehan and Queenstown, while Beaver (HO 301109) collected further south from a rough mown lawn, on the waterfront at Strahan Township in 1993.

In order to evaluate the spread of this adventive species, intermittent sampling has been undertaken along the west coast of Tasmania during the last five years, as part of an ongoing study of Tasmanian Bryophyta by the current author. Collections made indicate that the moss is well established in the Strahan district and at this stage has extended its range as far north as Waratah (fig.2). It appears that its present distribution is mainly confined to the botanical region defined as west coast (Orchard, 1988). In particular a detailed "foursomes experiment" was carried out to ascertain its preference for golf course fairways and the results, which were analysed with great deliberation at the nineteenth hole, conclude that the moss is well established on the local links at Strahan, Queenstown, Zeehan, Rosebery and Waratah-in some instances the dominant ground cover. There is no doubt that *R. squarrosus* is an aggressive species that has found a favourable niche in western Tasmania, where the median annual rainfall is 2336mm (Bureau of Meteorology, 1993). However, collecting has been limited and more sampling in suitable habitats across the State may reveal a wider distribution pattern. It doesn't appear to have penetrated into native vegetation, but is confined to the open grassy areas although it can occupy those habitats at the edge of disturbed or regrowth rainforest. Since the time and place of its introduction, it has achieved widespread distribution probably by asexual fragmentation from human intervention, since observations so far indicate spore production is either rare or non-existent.

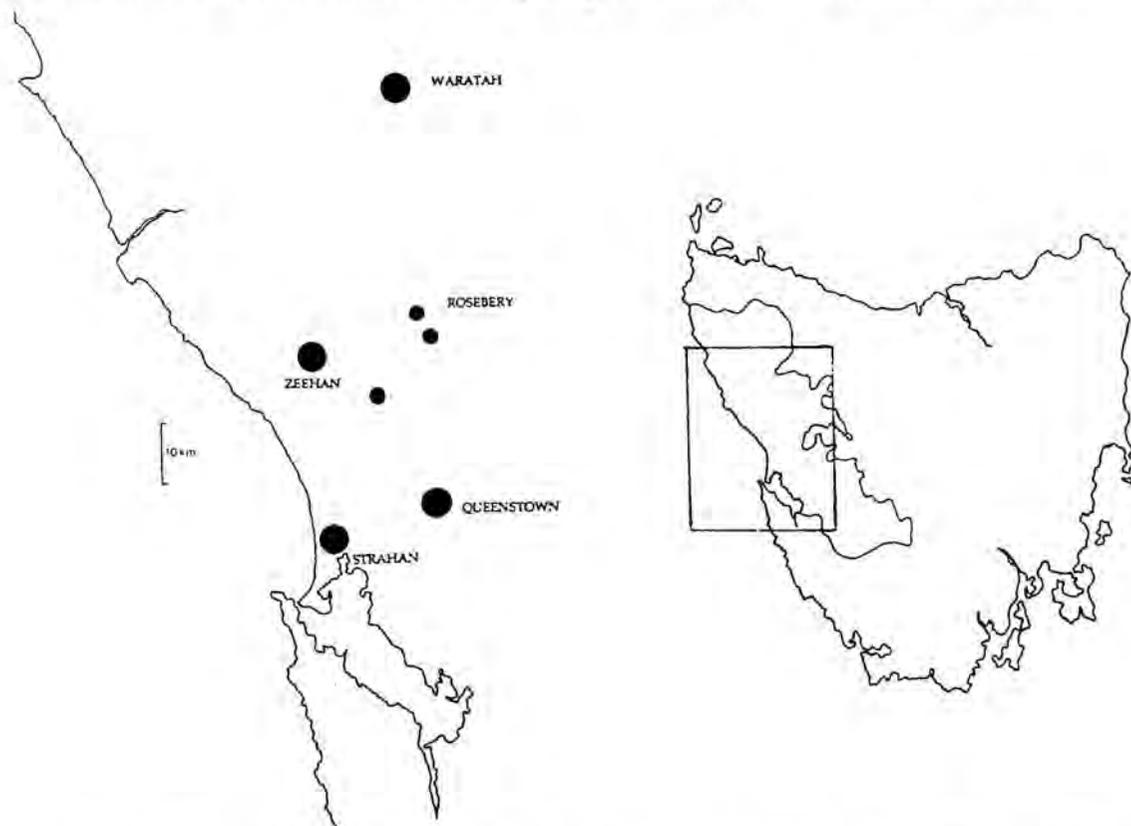


Fig. 2. Distribution of *R. squarrosus* in the west coast botanical region (inset) of Tasmania.

References:

- Beever, J., K.W. Allison & J. Child. 1992. *The Mosses of New Zealand*. University of Otago Press, Dunedin.
- Bureau of Meteorology 1993. *Climate of Tasmania*. AGPS. Canberra
- Child, J. & Allison, K.W. 1975. *Rhytidiadelphus squarrosus* (Hedw.) Warnst.: an addition to the New Zealand moss flora. *New Zealand Journal of Botany* 13: 321.
- Fife, A.J. 1995. Checklist of the Mosses of New Zealand. *The Bryologist* 98(3): 313-337.
- Orchard, A.E. 1988. A Natural Regions Map for Tasmania. *Pap. Proc. Roy. Soc. Tasm.* 122(2): 47-51.
- Smith, A.J.E. 1980. *The Moss Flora of Britain & Ireland*. Cambridge University Press, Cambridge (Paperback ed).
- Watson, E.V. 1968. *British Mosses and Liverworts*. Cambridge University Press, Cambridge.

Paddy Dalton, Plant Science Dept., University of Tasmania

New Records of *Jubulopsis novae-zelandiae*

In a new paper on *Jubulopsis novae-zelandiae* Schuster (1996) states: "The Jubulopsidaceae are of extraordinary interest on several bases: (a) the relict status of the genus and its evident rarity (in some 24 months in New Zealand, from Campbell Island to the tip of the North Island, I have been able to collect the genus at only one locality). (b) The combination of unusual morphological features...". The significance of the species is that it constitutes the family Jubulopsidaceae, one of New Zealand's three endemic families, (the others being Trichotemnomaceae and Allisoniaceae), with a single genus and a single species. A number of New Zealand endemics have been eventually found in Tasmania (and vice versa), and it seems likely that *Jubulopsis* could be there.

According to Schuster's recent publication, *Jubulopsis* is known from Auckland Islands, Mt. Anglem on Stewart Island (the type locality, collected by William Martin, growing on rock), Secretary Island in Fiordland, and from above Morgan Tarn on the Paparoa Range. At this last site it was found on *Dracophyllum longifolium* and *Olearia lacunosa*.

I searched for *Jubulopsis* on Stewart Island in December 1995 to get some idea of its appearance in the field, but without success. Since then, I have found it at four localities that lie in the gap between Schuster's Paparoa Range record and the Fiordland record and one site north of the Paparoa Range record (at Denniston):

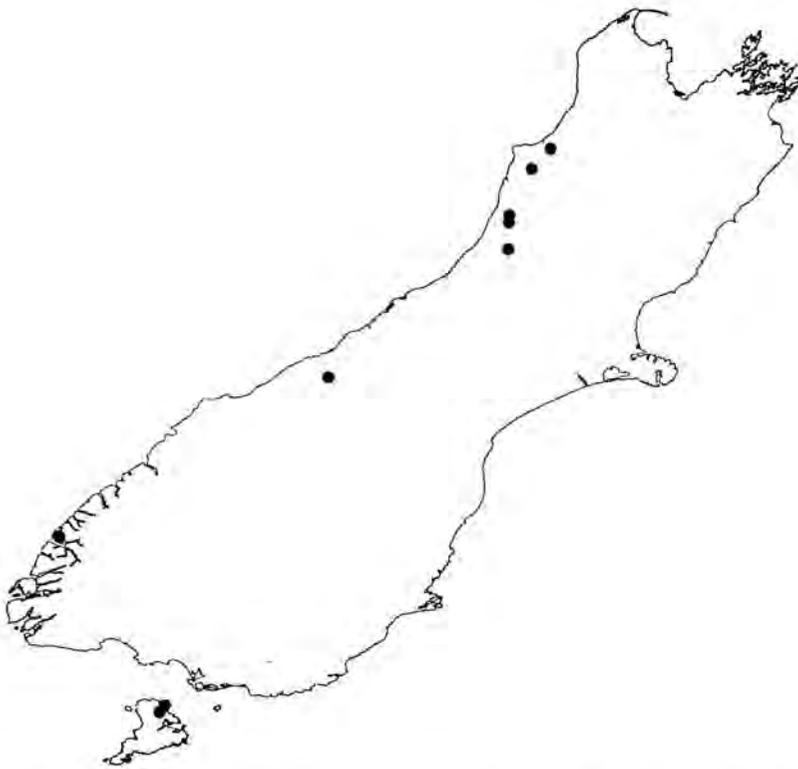
Denniston Plateau, Whareatea mine, NZMS 260 K29 093365, 650m, *Metrosideros umbellata* + *Leptospermum scoparium*/Empodisma minus scrub, on branches of *Leptospermum scoparium*, D. Glenny 6943 (CHR).

North Westland, south of Sewell Peak, NZMS 260 K31 738690, 1000m, *Leptospermum scoparium* + *Nothofagus solandri* + *Halocarpus biformis* scrub, on branches of *Leptospermum scoparium*, D. Glenny 6418 (CHR).

North Westland, Mt. Davy, NZMS 260 K31 735653, 800m, *Leptospermum scoparium* scrub on road verge, on branches of *Leptospermum scoparium*, D. Glenny 6424 (CHR).

Central Westland, Hohonu Range, NZMS 260 K32 745365, 780m, *Metrosideros* + *Halocarpus biformis*/Pseudopanax lineare + *Phyllocladus alpinus* scrub, on branches of *Metrosideros umbellata*, D. Glenny 6533 (CHR).

South Westland, Paringa River, NZMS 260 G37 330044, 542m, *Halocarpus biformis* + *Metrosideros umbellatus*/Leptospermum scoparium scrub, on branches of *Leptospermum scoparium*, D. Glenny 6732a (CHR).



Distribution of *Jubulopsis novae-zelandiae* in New Zealand South Island and Stewart Island.

The species is very inconspicuous, which must partly account for the lack of collections. To find it in the field it seems necessary to have seen a herbarium specimen. It is a pale orange brown mixed with green, or, less commonly, is dark brown. It looks like a *Lepidolaena* but lacks the regularly bipinnate branching pattern of *Lepidolaena*. It has long eyebrow-like hyaline cilia on the leaf margins that can be seen with a hand lens. These cilia make it distinguishable in the field from any *Frullania* or *Lepidolaena*. It seems to prefer well-lit scrub, and in my experience, likes the papery bark of Myrtaceae.

Reference:

Schuster, R.M. 1996. On *Jubulopsis* Schust. (Jungermanniales: Jubulopsidaceae fam. nov.) and its relationships. *Journal of Bryology* 19: 297-310.

David Glenny, Landcare Research, Lincoln, New Zealand.

Scientific Vandalism - A Comment

I wish to raise for discussion a matter which I consider both serious and important for the conservation of Australasian cryptogamic plants. It is a practise which I could only describe as scientific vandalism - not sensible or reasonable collecting practise.

In the last 25 years there have been a number of visitors to our shores who have made extensive collections of cryptogams. Those of us who have been associated with these visitors will have realised that there has been very significant removal of cryptogamic material. Sometimes this has been what I would describe as reasonable, in that the collections have been made for major taxonomic or floristic revisionary studies. on other occasions, however, the collections have been made with the distribution of extensive Exsiccata sets very much the priority.

A few issues of the Newsletter back I copied, quite unashamedly, a letter from the Lichenologists regarding

the Laws governing the collection of specimens and the desposition of Type material in Australian Herbaria (but I am sure the same would apply in New Zealand). These sentiments have also been expressed by the Mycologists.

What brings me to raise the subject of Scientific Vandalism is that I have observed the removal of large quantity of bryophyte and other cryptogamic material from Tasmania, collected with no apparent regard to revisionary work or other scientific study - but purely for the purpose of obtaining exchange material. I have been asked by the Curators of overseas Herbaria to try and determine some of this exchange material. A number of the specimens had not even been identified to generic level, many were without specific identification, some of the specimens should never have been collected as they were so immature as to be impossible to identify.

Why do we need to collect Exsiccata material at all? Permits issued by relevant authorities definitely do not permit such collections. If we are to try and control activities of overseas collectors when visiting our shores then it becomes virtually impossible when our own people are vandalising the flora.

There is no place for scientific vandalism. I would be interested in other readers views on the matter and will answer any comments direct and through the Newsletter.

R.D. Seppelt, Antarctic Division, Kingston, Tasmania.

NEWS AND NOTES

Congratulations to Dame Ella Campbell: This is not the first time congratulations have been offered to Ella through these pages(1) - but surely this time an award that few botanists ever achieve: in the New Zealand Honours Ella became a Dame Companion of the New Zealand Order of Merit. For those of you unfamiliar with the honours system this is the female equivalent of a knighthood. Ella held lecturing positions at the University of Otago, and Victoria University of Wellington before taking up a position at Massey University, Palmerston North, in 1945. She was the first woman lecturer at that University. Ella retired from her teaching position at Massey in 1976, but 20 years later has not yet retired from research, continuing to contribute to New Zealand hepaticology. Her recent publications include studies of *Phaeoceros*, *Megaceros* and *Symphyogyna* (2,3,4,5,6). She writes that, as a result of the award, she has heard from many former students. "It is quite remarkable to learn about the high positions that they hold in all parts of the world". Such a productive career of teaching influence and research contributions are an enviable achievement. Thank-you Dame Ella for raising the profile of our science in such a prestigious way.

(1) News and Notes. A.B.N. 27: 7, (1992)

(2) Campbell, E.O. (1993). Some name changes in New Zealand Hepaticae and Anthocerotae. *New Zealand Journal of Botany* 31: 341-346.

(3) Campbell, E.O., Hopcroft, D.H. and K.R. Markham (1993). A study of *Symphyogyna hymenophyllum* (Hook.)Mont. et Nees and *S. podophylla* (Thunb.)Mont. et Nees (Hepaticae) using scanning electron microscopy of spores and comparative chemistry. *New Zealand Journal of Botany* 31: 347-351.

(4) Campbell, E.O. and J. Hasegawa (1993). *Phaeoceros hirticalyx* (Steph.)Haseg. (Anthocerotae) new to New Zealand. *New Zealand Journal of Botany* 31: 127-131.

(5) Campbell, E.O. and Outred, H.A. (1995). *Phaeoceros delicatus* a new species of Anthocerotae from New Zealand. *New Zealand Journal of Botany* 33: 285-290.

(6) Campbell, E.O. (1995). Name changes in Australasian *Megaceros* (Anthocerotae). *New Zealand Journal of Botany* 33: 279-283.

Jessica Beever, Auckland, New Zealand

A New Society - Society of Australian Systematic Biologists

A new Society has been formed in Australia to represent and foster the interests of systematics and systematists. It encompasses the broad interests and activities of those working in the areas of taxonomy, phylogenetics, biogeography and evolutionary biology, of all groups of organisms and with specific reference to the Australasian Region. The Society operates only by email and has NO MEMBERSHIP FEES. To join please send your Full Name, Postal Address, Taxon group/Interests, E-mail Address, Phone No. and Fax No., to the Society's Secretary, Dr. David Morrison (davidm@iris.bio.uts.edu.au). Details about the Society and its inaugural Conference to be held in Adelaide 29 Sept - 3rd October 1997, can be found on the Society's Home page (<http://www.science.uts.edu.au/sasb/>).

FORTHCOMING WORKSHOPS

The 13th John Child Bryophyte Workshop:

The 1997 bryophyte workshop will be held from the evening of Thursday 27th November to the morning of Tuesday 2nd December at the Maxwell Gage Field Centre, Westport (University of Canterbury Geology Department's field centre), on the West Coast of the South Island of New Zealand. The field centre is in Westport itself. Westport has an airport so pickups from the airport will be no problem. Day trips are likely to be to Denniston Plateau and the Waimangaroa River, Oparara River and coastal forest north of Karamea, and the Nile River. The cost of the workshop will be approximately \$140NZ which will include the cost of accommodation and meals. A first circular will be sent out shortly to those who have attended previous workshops.

Organisers: David Glenny and Geoff Spearpoint, Landcare Research, PO Box 69, Lincoln, New Zealand. Fax: 64 3 325 2418, email: GlennyD@landcare.cri.nz

The Vth Australasian Bryophyte Workshop 1998. Preliminary Notice:

It is proposed to run this excursion in the week, 28June - 5 July, at Hall's Gap, Grampians, Victoria. The AVCC Common Week is from 6-12 July. The proposal for Dunkeld lapsed because of lack of suitable accommodation there. At Hall's Gap there is a pleasant and reasonably cheap conference centre - this year \$33 per day, full board, 2- or 4-bed rooms - which we may have to ourselves or have to share, depending on numbers, and there is space for laboratory work and lectures.

Excursions are planned at least to mountain top vegetation, snow permitting (Mount William plateau), basalt lava caves (Byaduk) and rich wet red-gum flats (Victoria Valley and/or Stawell flats). Local transport will depend on numbers.

There is a daily train and bus service from Melbourne, but other routes are possible. Accommodation cannot be booked until next month, but it would be helpful to know of those likely to come, and also if the proposed dates involve any disastrous clashes we don't know about. All enquiries to:

Convenor: George Scott, Botany School, University of Melbourne. Ph. (Home): (03) 9419-9237

oOo