AUSTRALASIAN BRYOLOGICAL NEWSLETTER

Number 33 December 1995

EDITORIAL

The response to my request for support to the newsletter has been very encouraging. The generosity by a number of people has ensured that I can continue to produce the newsletter under the present arrangements for at least a couple of years ahead.What happens after that can perhaps be decided when we meet at the next Australasian workshop in Brisbane, July 1996. Furthermore, I also received a number of useful suggestions which could be further discussed at that meeting. In any case if you would still like to make a donation then it would be gratefully received and for those overseas there is provision to make payments directly to a bank account. The details for this are provided in a note at the end of this issue.

As well as a need to support the cost of the newsletter, there is also a constant request for written articles. I know that for many it can be demanding on one's time to prepare such written input, however without it the newsletter simply flounders. As editor I always seem to rely on the same few to contribute, so I would like to encourage others who could use the Newsletter as a means of information and communication to take a little time and prepare items for inclusion in future issues. I am pleased that this issue has some new contributors and here are some suggestions that might prompt a response from others - research reports and developments, reports on fieldwork and/or travel, interesting collections, request for specimens, suggestions on methods and techniques, personal notes or simply write and tell us what has been happening in your department, herbarium or botanic garden.

Well, having said my piece for another year, may I extend to you all best wishes for the festive season and may the year ahead prove to be rewarding in your bryological activities.....Paddy Dalton.

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The 11th John Child Bryophyte Workshop
Lake Kaniere, Hokitika, 23-28 November 1995

The 11th John Child Workshop was held at Lake Kaniere, Westland, 23-28 November 1995. Thirty people attended, including three from Australia (Paddy Dalton, Mary and Garry Gibson) and one from California (Barbara Levitt). Notable for their absence were Ella Campbell, Jessica Beever and Patrick Brownsey. This is the only workshop ever missed by Jessica Beever who was laid low by a dose of the 'flu. The workshop was organised by Ray Tangney from Dunedin, but all organisation at the Hokitika end was done by Craig Miller of the Department of Conservation who arranged use of the Kaniere Lodge, bought food and arranged for caterers. Our thanks go to Craig and Ray for their efforts for a well run workshop.

There were two evening talks; one by John Braggins showing slides of liverworts taken at the Waipoua

workshop last year and on a collecting trip with Rudi Schuster and John Engel in December last year. Allan Green showed slides of Antarctic research on bryophytes and lichens and described the change in emphasis in research over the last ten years from physiological studies (e.g. on freezing resistance) to research on cataloguing the diversity and distribution of the Antarctic cryptogamic flora.

The first day of the workshop was fine and we went to the Tiropahi River, walking along the route of an old bush tramway through regenerating rimu forest, as far as Alpha Creek where there is a limestone mine proposed to feed the Westport cement factory. DoC staff were keen to have a species list of bryophytes of this area because of this proposal. The area was richer in liverworts than mosses, but John Steel found some interesting mosses on limestone cliffs beyond Alpha Creek, including *Palamocladium sericeum,* a new southern limit for this species that grows on limestone in the North Island and Nelson, and the second only record of *Temnoma angustifolium* was found on the limestone at Alpha Creek (the type was collected in a gorge in the Ruahine Ranges by Amy Hodgson). At the end of the day two full vehicles stopped further up the road to look for *Neogrollea notabilis*, a liverwort of pakihi swamps which John Child collected from sites south of Charleston and south of Westport, its exact location and distribution being unknown. After about thirty minutes of looking and a rather impatient mob wanting to go home for dinner, it turned up in the nick of time, in a *Baumea tenax - Gleichenia microphylla* and *Epacris pauciflora* rushland.

It rained (at times very heavily) on both the second and third day of the workshop and small groups went out to collect near the lodge, around the top end of the lake and as far afield as Hokitika Gorge, under forest of *Dacrydium cupressinum, Eleaocarpus dentatus, Weinmannia racemosa* and *Quintinia serrata*. The rain made it very difficult to see the bryophytes, because of the poor light conditions and the saturation of the bryophytes. By the end of the second day, cabin fever was reaching epidemic proportions inside the lodge, but lots of microscope work was done and a long list of mosses from the Kaniere area compiled. The most interesting moss from this area was *Ctenidium pubescens*, a moss more common in the north of New Zealand, growing on the track around the lake.

On the last day of the workshop, the weather seemed to have come right and we all set off for Mt. Brown on the end of the Newton Range, the track starting only 1 Km from the lodge. A very steep climb through *Weinmannia - Quintinia* forest leads to subalpine forest with *Metrosideros umbellata* and eventually *Dracophyllum traversii - Archeria traversii* scrub and open tussock tops of *Chionochloa pallens.* Few made it to the alpine tussockland as a southerly front brought with it a hail storm which put most people off from continuing upwards.Those who lasted out the hail followed by snow, were rewarded by fine weather throughout the afternoon and the snow soon melted making it possible to collect from the bogs and tarns there: *Pleurophascum grandiglobum, Verdoornia succulenta, Haplomitrium ovalifolium, Gackstroemia alpina* and *Blepharidophyllum xiphophyllum* were among the interesting finds there; *Sphagnum simplex* was notable for its absence.

There were a good number of new faces, notably young Eric Lurling, who came to the workshop with names and details of species memorised from Sainsbury but without having seen the mosses referred to. The workshop seems to be a very strong group at the moment with a good range in the level of expertise (as indicated by the large number of people who contributed names to the species list). The involvement of the Department of Conservation in organising the workshops for the second time and planned for the third will, if it continues, make it easier in the long-run on those who have already organised two or three workshops in earlier years. The only proviso agreed on is that a bryologist should check out the sites planned for visits, as

richness in vascular plants does not mean richness in bryophytes.
The next John Child Bryophyte workshop will be held in the North Island, possibly in the Urewera, and will be organised from Wellington by Paula Warren and by Department of Conservation staff in the conservancy where the workshop is held.

John Child Workshop 1995. Species Lists

Lake Kaniere and Mt. Upright Species list

Mosses

Achrophyllum dentatum	*Achrophyllum quadrifarium*	*Acrocladium chlamydophyllum*
Atrichum androgynum	*Brachythecium plumosum*	*Brachythecium salebrosum*
Breutelia elongata	*Breutelia pendula*	*Calliergonella cuspidata*
Calomnion complanatum	*Calyptopogon mnioides*	*Camptochaete arbuscula*
Camptochaete deflexa	*Campylopus purpureocaulis*	*Catagonium nitens*
Cladomnion ericoides	*Crosbyea straminea*	*Cryphaea tenella*
Cryptopodium bartramioides	*Ctenidium pubescens*	*Cyathophorum bulbosum*
Daltonia splachnoides	*Dawsonia superba*	*Dendrocryphaea tasmanica*
Dichelodontium nitidum	*Dicnemon semicryptum*	*Dicranum billardierei*
Dicranum menziesii	*Dicranum plurisetum*	*Distichophyllum kraussei*
Distichophyllum microcarpum	*Distichophyllum pulchellum*	*Distichophyllum rotundifolium*
Echinodium hispidum	*Echinodium umbrosum*	*Ephemeropsis trentepohlioides*
Fallaciella gracilis	*Fissidens asplenioides*	*Fissidens oblongifolius*
Fissidens pallidus	*Fissidens pungens*	*Fissidens rigidulus*
Fissidens tenellus	*Glyphothecium sciuroides*	*Holomitrium perichaetiale*
Homalia falcifolia	*Hymendon pilifer*	*Hypnodendron arcuatum*
Hypnodendron colensoi	*Hypnodendron comosum*	*Hypnodendron marginatum*
Hypnodendron menziesii	*Hypnodendron spininervium*	*Hypnum chrysogaster*
Hypopterygium filiculaeforme	*Hypopterygium rotulatum*	*Kindbergia praelonga*
Leptostomum inclinans	*Leptostomum macrocarpum*	*Leucobryum candidum*
Lopidium concinnum	*Macrocoma tenue*	*Macromitrium gracile*
Macromitrium grossirete	*Macromitrium helmsii*	*Macromitrium ligulaefolium*
Macromitrium longipes	*Macromitrium microstomum*	*Mesotus celatus*
Mittenia plumula	*Neckera pennata*	*Papillaria crocea*
Papillaria flavo-limbata	*Papillaria flexicaulis*	*Papillaria leuconeura*
Pendulothecium punctatum	*Philonotis tenuis*	*Plagiobryum novae-seelandiae*
Pohlia camptotrachela	*Polytrichum juniperinum*	*Ptychomnion aciculare*
Pyrrhobryum bifarium	*Pyrrhobryum mnioides*	*Racopilum convolutaceum*
Rhaphidorrhynchium amoenum	*Rhizogonium distichum*	*Rhizogonium novae-hollandiae*
Rhytidiadelphus squarrosus	*Sauloma tenella*	*Tetraphidopsis pusilla*
Thamnobryum pandum	*Thuidium laeviusculum*	*Thuidium sparsum*
Trachyloma diversinerve	*Trachyloma planifolium*	*Ulotea lutea*
Weymouthia cochlearifolia	*Weymouthia mollis*	*Wijkia extenuata*

Liverworts and Hornworts

Aneura alterniloba *Archilejeunea olivacea* *Bazzania novae-zelandiae*
Dendromastigophora flagellifera *Echinolejeunea papillata* *Frullania patula*
Heteroscyphus triacanthus ***Hymenophyton flabellatum*** ***Lembidium nutans***
Lepicolea scolopendra *Lepidolaena clavigera* *Marchantia berteroana*
Marchantia foliacea *Pallavicinia innovans* *Plagiochila stephensoniana*
Porella elegantula *Riccardia marginata* *Schistochila appendiculata*
Siphonolejeunea nudipes *Symphyogyna hymenophyllum* *Symphyogyna subsimplex*
Telaranea centipes ***Telaranea herzogii*** ***Trichocolea lanata***
Zoopsidella caledonica

Tiropahi River (NZMS 260 K30 802145, 160m through to K30 822133, 150m)

Mosses

Achrophyllum quadrifarium *Breutelia elongata* *Bryum sauteri*
Camptochaete ramulosa *Cladomnion ericoides* *Cratoneuropsis relaxa*
Cryptopodium bartramioides *Dicnemon calycinum* *Dicranum billardierei*
Dicranum menziesii *Dicranum plurisetum* *Dicranum robustum var setosum*
Distichophyllum rotundifolium *Echinodium hispidum* *Fissidens pungens*
Fissidens rigidulus *Hymenodon pilifer* *Hypnodendron colensoi*
Hypnodendron comosum *Hypnodendron marginatum* *Hypnodendron menziesii*
Hypopterygium filiculaeforme *Hypopterygium rotulatum* *Leptostomum inclinans*
Leucobryum candidum *Lopidium concinnum* *Macromitrium longipes*
Palamocladium sericeum *Polytrichum commune* *Ptychomnion aciculare*
Pulchrinodus inflatus *Pyrrhobryum mnioides* *Racopilum convolutaceum*
Rhaphidorrhynchium amoenum *Seligeria cardotii* *Sphagnum australe*
Sphagnum cristatum *Sphagnum falcatulum* *Sphagnum novo-zelandicum*
Sphagnum subnitens *Trachyloma planifolium* *Trichostomum brachydontium*

Liverworts and Hornworts

Acrobolbus lophocoleoides *Acrochila biserialis* *Adelanthus falcatus*
Bazzania adnexa *Bazzania novae-zelandiae* *Cheilolejeunea sp.*
Chiloscyphus leucophyllus *Chiloscyphus lyallii* *Chiloscyphus novae-zelandiae*
Chiloscyphus triacanthus *Clasmatocolea vermicularis* *Cololejeunea pulchella*
Dendroceros validus *Dendromastigophora flagellifera* *Drepanolejeunea aucklandica*
Frullania aterrima *Jamesoniella kirkii* *Jamesoniella monodon*
Jamesoniella tasmanica *Kurzia calcarata* *Kurzia hippuroides*
Lamellocolea granditexta *Lepicolea scolopendra* *Lepidolaena clavigera*
Lepidolaena hodgsoniae *Lepidozia concinna* *Lepidozia microphylla*
Lepidozia setigera *Lepidozia spinosissima* *Leptophyllopsis laxus*
Marchantia foliacea *Marsupidium epiphytum* *Marsupidium setulosum*
Mastigolejeunea anguiformis *Megaceros denticulatus* *Metalejeunea cucullata*
Metzgeria leptoneura *Pallavicinia innovans* *Paraschistochila tuloides*
Plagiochila gigantea *Plagiochila pleurata* *Plagiochila sinclairii*
Plagiochila stephensoniana *Plagiochila strombifolia* *Plagiochila retrospectans*

Plagiochilion conjugatus *Porella elegantula* *Riccardia cochleata*
Riccardia eriocaula *Schistochila glaucescens* *Telaranea gibbsiana*
Temnoma angustifolium *Temnoma pulchellum* *Trichocolea lanata*
Trichocolea mollissima *Tylimanthus diversifolius* *Tylimanthus saccatus*
Zoopsis leitgebiana

Tiropahi River Pakihi (NZMS 260 K30 796172)

Goebelobryum unguiculatum *Neogrollea notabilis* *Riccardia multicorpora*

Newton Range, Mt. Brown

Mosses

Andreaea nitida *Fissidens dealbatus* *Pleurophascum grandiglobum*
Pohlia ochii *Polytrichum longisetum* *Ptychomnion densifolium*

Liverworts

Acrobolbus lophocoleoides *Adelanthus occlusus* *Anthoceros laminiferus*
Bazzania involuta *Blepharidophyllum xiphophyllum* *Cryptochila pseudocclusa*
Eotrichocolea polycantha *Gackstroemia alpina* *Haplomitrium gibbsiae*
Haplomitrium ovalifolium *Hygrolembidium australe* *Hygrolembidium rigidum*
Jamesoniella kirkii *Kurzia compacta* *Kurzia helophila*
Neohodgsonia mirabilis *Pachyschistochila succulenta* *Pseudocephalozia paludicola*
Schistochila monticola *Verdoornia succulenta*

David Glenny, Landcare Research, Christchurch, New Zealand

Bryo-Wanderings in North America

Last July I spent a few weeks in the United States attending the International Rangelands Congress in Salt Lake City, Utah, and the American Bryological and Lichenological Society meeting in Jasper, Alberta. A grant from the Land and Water Resources Research and Development Corporation, and financial support from the Department of Land and Water Conservation enabled me to spend a few weeks before these meetings catching up with people who are working on arid soil crusts.

Before the congress I spent a week with Roger Rosentreter, a biologist from Boise Idaho. Roger specialises in soil crust lichens and bryophytes, and is interested in how soil crust biota are used for soil reclamation, and how they are useful indicators of rangeland condition. We spent a week wandering over the sagebrush plains of Idaho looking at how fire affects soil crusts.

At a research site at Kuna Butte, just out of Boise, Julie Kaltenecker, a graduate student from Boise State University, is looking at how wildfire affects microphytic crusts. Julie's research indicates that an extensive cover of microphytes (lichens and bryophytes) prevents stable *Artemesia* shrubland from being invaded by cheatgrass (*Bromus tectorum*), an annual European grass. The stable crusts, dominated mainly by Pottiaceae, Bryaceae and assorted soil lichens, are thought to restrict establishment of cheatgrass by making the surface less suitable for seed germination. Another student, Kelly Larsson, is investigating how the morphology of the soil crusts affects the characteristics of the seedbed.

In the United States there are few bryologists and lichenologists working directly on soil crusts from arid and semi-arid rangelands. Despite this, I was impressed at how well informed ranchers are about the benefits of soil crusts.

From Boise I travelled to Salt Lake City to attend the 6th International Rangelands Congress. I presented a poster-paper prepared with the help of colleague Merrin Tozer, which documented the first part of our research on the relationships between soil crust bryophytes and lichens and rangeland health. Our work in western NSW has indicated that the mosses *Barbula crinita*, *B. calycina*, and *Bryum campylothecium*. and to a lesser extent *Fissidens vitattus* are associated with sites in good condition. On the other hand,*Crossidium geheebii* and *Desmatodon convolutus* are generally associated with degraded sites. Similarly the presence of the lichen genera *Cladonia* and *Xanthoparmelia* on the soil surface indicates stable soils in good condition. Our work stimulated a lot of interest from colleagues in Australia and overseas, and this has lead to our involvement in a national biodiversity study with CSIRO, where we are looking at bryophytes and lichens of arid areas in relation to rangeland condition. From Utah it was a dramatic change in scenery, climate and landscape to the ABLS meeting at Jasper National Park, Canada. Over 100 people from the United States, Canada, Sweden, Japan, Austria and China attended the meeting. Our base was the Palisades Environmental Centre within the boundaries of Jasper National Park, and from there we ranged out each day on forays to collect interesting specimens. Because of difficulties in obtaining collecting permits fc such a large number of participants, all of the collecting was made outside the park. Well, almost all of it. Dale Vitt and Bernard Goffinet were our hosts for the six days, and they were ably assisted by a number of other well-qualified professional and amateur bryologists and lichenologists.

This was my first ABLS meeting, and it was quite a shock. From day one, the dichotomy between bryologists and lichenologists was clearly apparent. Participants quickly teamed off, and for the first day or so I was continually asked 'Are you a bryologist or a lichenologist?' to which I usually replied '...um. both or neither really'. Which made it somewhat amusing for me as the vans which transported us around to all of the sites quickly became identified as either 'B' vans or 'L' vans. So, it was off with the 'B' group one day and the 'L' group the next. It didn't seem to matter anyway, because most of the moss and lichen genera were new to me.

Our first field stop produced a frenzy of activity. The sloping *Pinus contorta/Picea glauca* montane forest revealed an abundance of bryophytes and lichens to excite even the most seasoned collector. Paper bags were hurriedly brought out, names argued over, hammers and chisels put into action and generally the whole hillside reduced to a seething mass of B & L-ologists. I resisted the temptation to collect. By day three the temptation was overwhelming, and I succumbed, eventually bringing back 30+ specimens as a memento o. my trip. Later that day we dropped into a 'rich fen' (or was it a 'forested bog'?). The adventurous (or possibly foolhardy) waded up to their waists in slush to collect excellent specimens of *Sphagnum warnstorfii*, *Aulacomnium palustre*, *Paludella squarrosa* and *Tomenthypnum nitens*. Later that night after supper most people retired to the gaming room to enjoy a beer or two. Inevitably the conversation turned to things bryo- or licheno-logical: collection techniques, whether to use methyl cellulose or PVA glue for preparing soil-borne specimens, the merits of storing specimens on horizontal sheets versus vertical envelopes, the pros and cons of the latest taxonomic revisions, and many other topics held dearly by bryologists and lichenologists.

Day two was the formal part of the meeting where talks and presentations were made. After much vacillation, I decided to join the bryology session, which was run concurrently with the one on lichens. We heard excellent discussions of chemical defenses of aquatic mosses, life histories of desert mosses, bryophytes of cave formations in California, bryophytes of Irian Jaya, sporophyte development in *Takakia*, peristomial patterns in the genus *Coscinodon*, desiccation tolerance in desert mosses, and even tales of 'mutant' mosses.

Later that day I gave my talk on the use of bryophytes and lichens as indicators of rangeland condition.
The other two days were spent at sites around Jasper, including alpine cliff faces, montane streams, calcareous alpine tundra (where most of us were drenched), and a lush cedar (*Thuga plicata*) forest near Mt. Robson. Some noteworthy species included *Hypnum bambergeri*, *Mielichhoferia macrocarpa*, *Bartramia halleriana*, and of course numerous hepatics and many, many lichens.
For me it was a wonderful experience, firstly to meet people like Dale Vitt, Nancy Slack, Bill Buck and Chicita and Bill Culberson whose research I have read about over the past few years since I became interested in small things growing on soil. But it was also wonderful to experience environments so different to those I am familiar within Australia, in the company of like-minded people. The whole meeting was well run, the venue was well chosen and the food and company excellent. Dale Vitt and his helpers did their best to keep the fridge well-stocked with Canadian and American beers, dips and other nibbles. Everyone commented on how much they had all enjoyed the week, and Dale is to be congratulated on organising an excellent meeting.

David Eldridge, Department of Land and Water Conservation, Sydney.

Research News

Cephaloziella pulcherrima subsp. *sphagnicola* R.M.Schust., a liverwort subspecies new to New Zealand

David Glenny
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Cephaloziella pulcherrima subsp. *sphagnicola* R.M.Schust. has until now been regarded as an endemic of Tasmania. the type was from Lake St Clair National Park where it grew over *Sphagnum*. *Cephaloziella pulcherrima* subsp. *pulcherrima* R.M.Schust. is only recorded from the type, from New Zealand, Fiordland, near Harris Saddle on the Routeburn Track. The habitat was from exposed peat on the drier margins of tarns in snow tussocklands.

C. pulcherrima subsp. *sphagnicola* is now recorded from New Zealand, Nelson Lakes, near St Arnaud, growing over *Sphagnum cristatum*. It was collected there by John Child in 1984 but Child identified it only to genus. I collected it last year in probably the same site. It is characterised by having dentate, papillose leaves, lobe apices that are narrowly acute and hooked, processes at the leaf bases, and single cell projections from the stem cortex, these having rounded ends (Schuster 1971:206). Schuster comments that "it is not impossible that these two plants [*C. pulcherrima* subsp. *pulcherrima* and *C. pulcherrima* subsp. *sphagnicola*] may prove to be the weaker and more vigorous extreme members of a single species" (loc.cit). Child's and my specimens fit Schuster's description and illustration of subsp. *sphagnicola* well. I have compared Tasmanian and New Zealand material and they are very similar except in two respects: the stem cortex cells on the Tasmanian material are moderately thick walled, while in the New Zealand material the cortical cells seem comparatively thin. The New Zealand plants have rather remote leaves compared to the Tasmanian plants but this may be the effect of different environments. The Tasmanian collections indicate that *Sphagnum* is not the only suitable bryophyte substrate for the subspecies.
It is of concern that the *Sphagnum* bog at St Arnaud has had drains cut across it to dry it out. The site is

outside of, but adjacent to the boundary of Nelson Lakes national Park.

Specimens Examined:
Cephaloziella pulcherrima **subsp. *sphagnicola* R.M.Schust. Nelson Lakes, St Arnaud, c.2000´, among** *Sphagnum* [*cristatum*] in bog behind township; leg. J.Child H5240, 9 Feb 1984 (CHR 424775).
Cephaloziella pulcherrima **subsp. *sphagnicola* R.M.Schust. Nelson Lakes, St Arnaud, swamp near Black** Hill, 630m 41° 47.9´S 172° 50.5´E, *Juncus gregiflorus/Anthoxanthum odoratum + Agrostis tenuis/Sphagnum cristatum + Gonocarpus montanus* rushland, on *Sphagnum cristatum*; leg. D.Glenny **5328, 17 May 1994 (WELT H10350).**
Cephaloziella pulcherrima subsp. *sphagnicola* R.M.Schust. Tasmania, Apsley River, 4km WNW of Bicheno, 40m, 41° 52´S 148° 14´E, riparian scrub of *Pomaderris apetala, Leptospermum lanigerum, Spyridium obovatum, Micrantheum hexandrum.* Associated with *Lethocolea squamata, Dicranum billardierei, Cladia aggregata, Cephaloziella hirta, Funaria cuspidata*; leg. A.Moscal 19797, 8 July 1990 (HO 124427).
Cephaloziella pulcherrima subsp. *sphagnicola* R.M.Schust. Tasmania, Central Highland, Liffey Bluff, 800m, 41° 44´S 146° 45´E, *Eucalyptus delegatensis/Nothofagus cunninghamii* forest on sandstone till, within mats of *Ceratodon purpureus* and *Campylopus introflexus*; leg. A.Moscal 17753, 20 April 1989 (HO 133401).

Acknowledgements:
I wish to thank George Scott and Allan Fife for their comments, and the curator of the Hobart Herbarium for a loan of material.

Reference:
Schuster, R.M. 1971. Studies on Cephaloziellaceae. *Nova Hedwigia* **22**: 121-266.

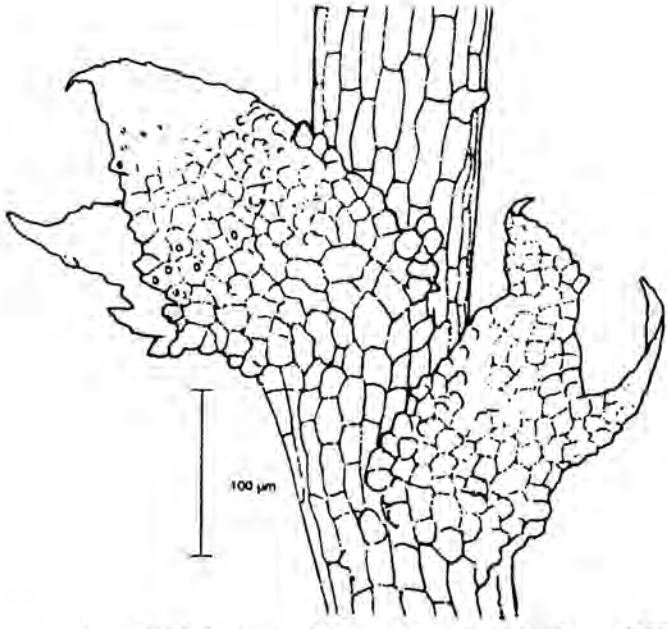

Fig.1 *Cephaloziella pulcherrima* R.M.Schust. Stem and leaf pair, from WELT H10350

IVth Australasian Bryophyte Workshop 1996
July 1st-5th
Department of Botany, The University of Queensland, Brisbane, Australia

Program

The IVth Australasian Bryophyte Workshop will be held in southeast Queensland. This week will provide an opportunity to explore two very different subtropical Australian environments. Two field trips will be undertaken, both in World Heritage areas, two days of seminar and laboratory work are also planned, microscopes and laboratory facilities will be available.

Field trip 1 (1st-2nd). A two day trip to Lamington National Park (2 hours south of Brisbane) will allow for an exploration of a number of different types of bryophyte rich rainforests on deep, volcanic soils. The rainforest are delimited by altitude and include *Nothofagus moorei* forests and mixed forests featuring *Araucaria cunninghamii, Orites excelsa* ans *Acmena ingens*. A highlight of the trip will be a canopy walk at O'Reilly's allowing you to explore the canopy epiphytes at close range in safety.
Accommodation will be at Cedar Lake Country Club.

Field trip 2 (5th-6th). A two day 4WD trip to Fraser Island (3hrs north of Brisbane). Fraser Island is the largest sand island in the world and possesses a diverse range of vegetation from rainforest and *Eucalyptus* forests to heathlands and magnificent landforms including perched lakes, coloured sands and moving sand dunes. Although relatively unexplored bryologically we anticipate the island to be species poor, but what the heck!
Accommodation will be at Kingfisher Wilderness Lodge.

Field trip 2-Alternative (5th-6th). A one day alternative field trip in the vicinity of Brisbane can be arranged for people wishing less energetic field work.

Meeting and Laboratory study (3rd-4th). Seminars and laboratory work will be conducted at the Department of Botany, The University of Queensland, St. Lucia, Brisbane.

Costs-Australian Dollars (1Au=0.75US).

Workshop $100	
Field trips, accommodation and meals*	$145/person - quad share
(2 nights, 2x dinner, breakfast, lunch)	$200/person - twin share
Accommodation in Brisbane**	approx $25/night/person - quad share
Student prices	*field trip accommodation only $52
	**billeting in Brisbane can be arranged

PLEASE REGISTER BY 15TH FEBRUARY

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News and Notes

It is with sadness to report that **Jim H. Willis** (Victorian botanist) died on Friday 10th November, 1995. Many of those who attended the Australasian workshop in Canberra 1991 will remember Jim, whose enthusiasm and knowledge of not only bryophytes, but the flora in general, was greatly admired.

Heinar Streimann has been busy in recent times on field trips. He spent four weeks in Queensland and after a week's recuperation in Canberra spent another two weeks collecting in New Zealand.

Janice Glime has sent the following message for those who would like to be on the **Bryonet** mailing list.
Dear bryologists, lichenologists, and ecologists:
The list serve for bryology is now up and running in the hope that it can provide good discussions and a forum in which teachers, ecologists and bryologists can get questions answered. Since much of bryophyte literature is imbedded in studies of a more general nature, it is often difficult to find answers to ecological physiological and other questions. I hope this list will serve to be of help to those who are interested. If you want to subscribe, mail to:
majordomo@mtu.edu
no subject
message:
subscribe bryonet - l
Note that bryonet - l is the letter l as in liverwort, not the number one. Do not include your email address. Majordomo will take it from your mail. If you include it, I must personally send a message to majordomo to approve your subscription. You should get a message back telling you about the bryonet and how to unsubscribe. If your email program does not include your name with its messages, or you are not sure, would you please send me a separate message with your full name so I can put it in my database. Thank you.
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If anyone still wishes to send **donations to support the newsletter** they are most welcome. Payments can be forwarded direct to the editor or for those particularly outside Australia, payment can be made direct to the following bank account:
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A/C Number: 06 7104 1001 1390
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