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 Association of Bryologists*



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## Conservation of Bryophytes in Europe

*A report from the second conference*

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The second Symposium on Endangered Bryophytes was held in Zürich, Switzerland, on the 4th - 8th September 1994. About 55 participants from 15 European countries and Australia gathered at the Institute of Systematic Botany of the University of Zürich, beautifully situated in the middle of the Botanical Garden.

The Symposium was opened in the morning of Monday the fifth by Prof. Dr. Hans H. Schmid (Vice-Chancellor of the University of Zürich) and Prof. Dr. Peter K. Endress (Director of the Institute for Systematic Botany) followed by greetings on behalf of IAB by Dr. Royce E. Longton.

The first two days of the Symposium consisted of two sessions of lectures. The first session, **The scientific basis of bryophyte conservation**, was opened by Lars Söderström who talked about the importance of, and the criteria that can be used for, a classification of rare and

endangered species. The following lectures dealt with a wide range of themes. Tatyana N. Otnyukova talked about sporophyte abnormalities in some species in the Bryaceae family as a reason for decline and disappearance of mosses in impact areas. Johannes Vogel (and F. Rumsey and J. Ji) drew attention to an endangered filmy fern (*Trichomanes speciosum*). This species which is endemic in Europe, occurs in widely disjunctive European populations, and is restricted to habitats such as microclimatically stable caves and deep crevices in otherwise macroclimatically sub optimal areas. Studies presented by Irene Bisang concluded that the hornwort spore bank plays a crucial role in the maintenance of their populations. Beata Papp talked about changes of bryophyte flora and habitat conditions along a section of the river Danube. The bryophyte vegetation in snowbed communities are very exposed to pollution because they assimilate

late pollutants from the snow melt. This was presented by Clare Woolgrove (and Sarah Woodin). We heard about rare hepatics of the Russian Arctic and their protection by Nadia A. Konstantinova (and A. D. Potemkin), and Henrik Weibull (and Lars Söderström) talked about rare and endangered hepatics of Scandinavia in a regional perspective. The last lecture during the first session was given by Royce E. Longton. He talked about some implications for an effective management of rare bryophytes, and he described a comparative study of genetics and population biology in rare and common species, combining traditional and molecular techniques in an attempt to elucidate these matters.

The second session, **The practice of bryophyte conservation**, consisted of lectures dealing with the conservation programmes in the different countries. Tomas Hallingbäck gave the opening lecture talking about successful procedures

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used to identify, recover and survey threatened bryophyte taxa in Sweden. Patricia Geissler gave a lecture about experience with conservation programmes for southern European bryophytes. She presented two examples, one site in south-western Switzerland and one site in Mediterranean France, where the proposals have not yet been successfully applied. Henk C. Greven told us about conservation problems in the Netherlands, and Rudolf Soltés talked about measures to protect bryophytes in the Tatra Mountains in Slovakia. Some of the conservation problems in western Irish woodlands are deforestation and introduction of the shrub *Rhododendron ponticum*, added tourism, grazing and limited legal protection - a lecture given by Nick Stewart. One of the aims of a bryophyte site register for Britain is to be able to monitor any change in populations of rare and scarce bryophytes. Nick Hodgetts (and G. Stark) gave a talk about this register. Alexej D. Potemkin (and N. A. Konstantinova) followed up their lecture from the first session by talking about first steps for liverwort conservation in the Russian Arctic. Finally in the second session, Edwin Urmi informed about The Red Data Book of European Bryophytes - a product of the European Committee for Conservation of Bryophytes, based on contributions by bryologists from thirty countries.

In the afternoon of the first day we were guided through the Botanical Garden which consists of about 8000 species of plants from all over the world. Afterwards there was food and wine outside the Institute and the botanists R. Rutishauser and K. Gersbach played the alpenhorn. This was a very nice and enjoyable evening to end the first day with.

The second day also included a **poster session**. The following posters were presented;

- ⇒ Andrejeva, E.N.: Morphological variations and taxonomic varieties in *Asterella gracilis* (F. Web.) Underw. under industrial pollution.
- ⇒ Bisang, I., Müller, N., Schnyder, N. & Urmi, E.: How to conserve bryo-

phytes.

- ⇒ Gabriel, R. & Sérgio, C.: Bryophyte survey for a first planning of conservation areas in Terceira Island (Azores).
- ⇒ Giraldo, J.L.R. & Rivas, M.J.E.: On the chorology and ecology of three endemic mosses: *Anomobryum lusitanicum* (L. Hag.) Thér., *Anacolia webbii* (Mont.) Schimp. and *Triquetrella arapilensis* Luis. in "Las Arribes del duero" territory (CW Spain).
- ⇒ Gradstein, R.: A couple of pictures of signs telling people not to destroy the moss cushions in an area in the Colombian Andes.
- ⇒ Grolle, R. & Andrejeva, E.N.: Are *Asterella gracilis* (F. Web.) Underw. and *A. lindenbergiana* (Corda) Lindb. and *A. saccata* (Wahl.) Evs. rare hepatics in Eurasia.
- ⇒ Grundmann, M. & Gerhardt, A.: Sandstone quarries as secondary habitats of endangered bryophytes and bryophyte communities in the Central Teutoburger Wald (NW-Germany).
- ⇒ Guerra, J., Ros, R.M., Cano, M.J. & Casares, M.: Gypsiferous outcrops in SE Spain, refuge of rare, vulnerable, and endangered bryophytes and lichens.
- ⇒ Haab, H. & Kannukene, L.: Jalase as a prospective area for bryophyte conservation in Estonia.
- ⇒ Karttunen, K., Laaka, S. & Virtanen, R.: Conservation of bryophytes in Finland.
- ⇒ Kolon, K. & Sarosiek, J.: The disappearing of water liverworts *Riccia fluitans* and *Ricciocarpus natans* at the localities in Lower Silesia and their sensitivity to selected herbicides.
- ⇒ Konstantinova, N., Belkina, O. & Likhachev, A.: On the conservation of Kutsk area (SW of Murmansk Region, Russia).
- ⇒ Kosiba, P. & Sarosiek, J.: The disappearance of aquatic bryophytes resulting from the water pollution by textile industry.
- ⇒ Ludwig, G., Schnittler, M., Pletcher, P. & Boye, P.: New German Red

List - proposed categories and symbols.

- ⇒ Sérgio, C., Casas, C., Brugués, M. & Cros, R.M.: Endangered bryophytes in the Iberian Peninsula - Some comments and results.
- ⇒ Sim-Sim, M.: Epiphytic bryophyte communities of *Olea europaea* in Portugal. A background survey for future evaluation of environmental quality.
- ⇒ Solli, I.S.: Why does *Dicranum majus* not produce sporophytes in some populations in southern Norway.
- ⇒ Virchenko, V.M.: Conservation of Bryophytes in Ukraine.
- ⇒ Zheleznova, G.W.: Rare species of bryophytes and conservation of them in the European North in the Komi Republic.

On Tuesday evening a plenary meeting of the ECCB was arranged. A report from this meeting will be published separately in the Bryological Times.

On Wednesday there was an excursion to the Swiss Alps. The day was used to visit two localities south of Zürich. The first stop was made close to Amsteg in the canton of Uri at an altitude of 650 m at one of the two localities for the extremely rare copper moss *Scopelophila lingulata*. At the same locality *Mielichhoferia mielichhoferi*, *Andreaea rothii* ssp. *huntii* and *Gymnocolea acutiloba* (*G. inflata* ssp. *acutiloba*) were also found. Thereafter the bus took us upwards on an alp road to Klausenpass at 1948 m in the canton of Uri, where we had a lunch in good weather and a fabulous view of the alpine landscape. The rest of the afternoon was free for individual excursions in the surroundings. Some species of special interest were the bryophytes *Hylocomiastrum pyrenaicum*, *Lescuraea* spp., *Orthothecium* spp. and the liverwort *Asterella lindenbergiana*.

On the fourth day a workshop was arranged on the theme: The realization of conservation programmes. Three different topics (juridical, psychological and political) were to be discussed. To give an introduction on the topics, one lecture dealing with juridical aspects was given by Marie Pilch - Giering (and Peter

Giering), one lecture on psychological aspects was given by Hans - Joachim Mosler, and one lecture dealing with political aspects was given by Geert Raeymaekers.

There were two parallel working groups. One group dealt with the juridical and political aspects, and the other group discussed the psychological aspects. A panel discussion was arranged. Dr. Henk Greven reported from the group dealing with psychological aspects. The group discussed the six points of the strategy of psychological intervention in favour of endangered bryophytes proposed by H. J. Mosler in his lecture - how to carry out the strategy, and which are the target groups. The points (underlined) and some of the conclusions from the group are listed as follows:

1. To gain attention. Through mass media, education, films, literature etc.
2. To make goals understood. It is important to distinguish between goals and means. Examples of goals are conservation of diversity, of declining species and of processes.
3. To generate positive attitudes. This point is related to point 1.
4. To engender willingness to act. If point 3 works it is easier to realize this point. Target groups are politicians, administrators, managers and resident populations.
5. To induce behaviour. This can be carried out by making guidelines for collecting bryophytes.
6. To continue the behaviour. This includes the monitoring of the conservation processes and making blue lists - lists of previously threatened species no longer in danger.

Dr. Royce E. Longton reported from the group dealing with juridical and political aspects. This group had proposed some resolutions for the Conference. These resolutions contained a request that ECCB should affect the EC and other constellations with regard to which habitats should be included in lists of important habitat types, maintenance of the quality of air, soil and water, promoting interest in plant conservation, strengthening legislation aimed at conservation, allocating

of financial provision and that bryophytes must be considered on equal terms with vascular plants and animals in conservation legislation. ECCB should also ensure that judicial and other authorities are adequately trained in conservation biology and collaborate with scientists from all over Europe.

On the last evening, Thursday the eighth, there was a Symposium dinner. We took the train to Uetliberg where we were served a typical Swiss dinner. Musical bryologists contributed to the pleasant evening with an "aperitif musicale" by Rob Gradstein on violin and Patricia Geissler on the piano and a clarinet duet with the two Swiss botanists, Richard Bolli and Francine Brunner. From the tower outside the restaurant at Uetliberg there is a glorious view of the city, so after dinner many of us climbed up to see.

At last we would like to thank the Organizing committee for well-organized and pleasant days.

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The E-mail address as well as bryonet, the IBIS gopher server, etc., will remain in Duisburg.

### News from Helsinki

Prof. Pekka Isoviita retired from his position as the Head Curator of the Cryptogamic Division of the Botanical Museum of the University of Helsinki on 1 September 1994. Sinikka Piippo is the Acting Head Curator since that date, and Jaakko Hyvönen is the Acting Senior Curator 1 September — 31 December 1994.

### New publications

Schmid-Grob, I., Thöni, L. & Hertz, J. 1993. *Bestimmung der Deposition von Luftschadstoffen in der Schweiz mit Moosanalysen. Schriftenreihe Umwelt (Luft) Nr. 194. 179 pages. Bundesamt für Umwelt, Wald und Landschaft (BUWAL), Bern. Available from: Dokumentationsdienst, Bundesamt für Umwelt, Wald und Landschaft, CH-3003 Bern, Switzerland. Price: sFr 20:-.*

The present report is the Swiss contribution to the European project "Survey of the heavy-metal deposition in Europe using bryophytes as bioindicators". The investigation is based on collections of *Hypnum cupressiforme* and *Hylocomium splendens* made in 235 localities in 1990, and considers 14 different elements (As, Cd, Co, Cr, Cu, Fe, Hg, Mo, Ni, Pb, S, Tl, V, Zn).

In the beginning of the report, the occurrence, production, use, sources of pollution, the pollution situation in Switzerland and limit values in different situations, are dealt with for each of the elements. After this, the methods for collection and analysis are described. Care has been taken to make it possible to reproduce the study at a later occasion. The results, for each element, include a map showing the concentrations in the mosses at the different sampled localities, a figure and a table comparing different Swiss regions, and a comparison between the Swiss results and the results from similar studies in Sweden, Denmark, Greenland and Iceland. The concentrations found are also compared with the amount of precipitation at the localities. It is shown that high concentrations of most elements are correlated with a high precipitation. [LH]

### Death

Prof. D. G. Catchside, Leabrook, Australia, died on 1 June 1994.

## Author abbreviations - an answer to Gillis Een

Patricia Geissler, *Conservatoire et Jardin botaniques, C. P. 60, CH-1292 Chambésy/Genève, Switzerland*

Computer treatment of botanical data claims for standardization of information. Although a need was clearly expressed by Gillis Een in his communication on the first page of *Bryological Times* 78, such standard has already been presented by Sayre & al. (1964). This publication was prepared in a period where the authors certainly did not yet dream of the present general accessibility of electronic tools. For many years, this list was the reference for author abbreviations for bryologists and lichenologist, followed e. g. by the editors of *Index Hepaticarum* vol. 8 to 12 (Geissler & Bischler, 1985 - 1990). The compilers of *Index Muscorum* (Wijk & al., 1959 - 1969), starting their work after the International Botanical Congress in Paris 1954, used a similar pattern, published in Vol. I (1959) and by Margadant & Terken (1980). The *Index of Mosses* 1963 - 1989 (Crosby & al., 1992) does not use any abbreviation.

After publication of the "Draft Index of Author Abbreviations" (Meikle, 1980), a compilation by the *Index Kewensis* (flowering plants) editors, the clear demand of standard forms of abbreviations for all groups of plants covered by the International Code of Botanical Nomenclature was felt by the Botanical Community. As a result, Brummitt and Powell (1992) presented a list of nearly 30.000 author names. TDWG (the International Working Group on Taxonomic Databases for Plant Sciences) has endorsed this list as a standard for citation. We have compared these abbreviations with those given in Sayre & al.: In Brummitt & Powell most names are cited in full and more initials are given, in order to avoid confusion with homonyms. Their principles, clearly presented in the introduction, seems to be consistently followed,

but, as also stated in the introduction, the compiler for bryology showed a tendency for shorter abbreviations, e. g. "Leitg." for Leitgeb, consisting of only 7 letters in full. Diacritic signs are used in their original form, but some cross references are given, eg. Müller is also listed under Mueller. More and more word processors allow now the use of these signs. TL-2 (Stafleu & Cowan, 1976 - 1988) has been used as a standard. That is perhaps why the Norwegian E. H. Jørgensen is spelt there as "Jörgensen". It is intended to sell this database in electronic form. Enquiries should be directed to the Publications Department, Royal Botanic Garden, Kew. I do not know whether it is already available.

In conclusion, I see no use to establish a new list for abbreviations. Rather bryologists should use existing data bases, expanding more and more over the world. The only problem remaining is the transfer of existing data as an ASCII file for diacritic signs, for which a replacement code could be elaborated.

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- Margadant, W. D. & L. Terken. 1981. *Index of author abbreviations in the Index Muscorum*. Utrecht, i - iii, 1 - 28.
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## Compilation of lists of references from a manuscript

One of the first utilities distributed by the IAB software library was a small program by Janice Glime, which compiled a list of references from a manuscript. So it was no more needed to set up the literature cited manually and it avoided that references cited in the text were forgotten in the bibliography. This program simply searched for all strings in brackets or words followed by brackets, e.g. (Müller 1898) or Müller (1898) and wrote it in the list.

Recently I discovered that word processors with an indexing function do the same, e.g. MS-Word or Word for Windows. This is a very simple but effective trick. Maybe somebody makes already use of it, it may serve time. When writing a manuscript, the reference is simply marked and indexed (in Word: Insert - Index entry). The marked string is automatically indexed. At the end of each manuscript, Insert - Index is activated and the list of references is listed (however with page numbers, which must be deleted). What we need next is a macro to add the citation from a bibliographic file, as some bibliographic programs do. But perhaps somebody has already discovered a better method, which he likes to propose here.

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Culberson. 1964. The authorities for the epithets of mosses, hepatics, and lichens. *Bryologist* 67: 113 - 135.

Stafleu, F. A. & R. S. Cowan. 1976 - 1988. *Taxonomic Literature* I - VII. Ed. 2. *Regnum vegetabile* 94, 98, 105, 110, 112, 115, 116, Utrecht.

Wijk, R. van der, W. D. Margadant & P. A. Florschütz. 1959 - 1969. *Index Muscorum* I - V. *Regnum Vegetabile* 17, 26, 33, 48, 65, Utrecht.

## Bad news from Leiden

Early in 1995 I will retire from the staff of the Rijksherbarium, Leiden University. Whether a successor will be appointed has become a matter of grave concern, as the university is forced to take draconic measures in order to meet financial cutbacks it is faced with. United we strive for an alleviation of the budget cuts and a preservation of research in the Rijksherbarium in its present diversity, including bryology, but all vacancies are being blocked temporarily and a permanent loss of staff positions at the institute appears unavoidable.

The Rijksherbarium is a centre of research on the floras of the Netherlands and of the area covered by Flora Malesiana (Malaysia, Singapore, Brunei, Indonesia, the Philippines, Papua New Guinea). It is among the few places where taxonomic and floristic research is executed on Malesian bryophytes. If bryology has to be given up the local expertise will be lost. Such a waste appears inconceivable at a time when the study of biodiversity is recognized worldwide as a major topic of great urgency.

A discontinuation of bryology in Leiden, however, will have far greater repercussions. It will mean the loss of the only permanent bryological staff position left in the Netherlands, as the positions of bryological curators and researchers at the universities of Groningen and Utrecht were lost already in previous years. Consequently, few bryological training opportunities will be left, and none at all for students interested in bryotaxonomy. Thus, bryology in the Netherlands has become a greatly endangered discipline.

The bryological collections of the institute are among the largest in the world. They are particularly rich in early collections (including many types) from Indonesia, Japan, and tropical South America, such as the herbaria of Dozy, Molkenboer, Van den Bosch and Van der Sande Lacoste, and they include

## Amalgamation of Canberra herbaria

*News from the Herbaria.* Send contributions to the column editor: A. R. Perry, Department of Botany, National Museum of Wales, Cardiff, CF1 3NP, Wales, United Kingdom

*Heinar Streimann,  
Curator of Cryptogams  
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A joint venture, the **Centre for Plant Biodiversity Research**, has been established between the herbarium of the **Australian National Botanic Gardens** (CBG) and part of CSIRO Division of Plant Industry which includes the **Australian National Herbarium** (CANB). This venture commenced on the 1st of January 1994 and the combined herbarium will retain the latter name (CANB).

The two herbaria were within one kilometre of each other and for efficiency they were amalgamated into the Centre so as to integrate and rationalise the botanical, systematic and taxonomic efforts of the Australian government at one location with one management. Another objective is to develop and manage the scientific collections in Canberra more efficiently so as to make them more accessible for research and flora work. It is hoped that this amalgamation will provide more appropriate facilities and new programs in conservation and biodiversity.

A new wing is being built at CANB to house the vascular collections, but because of lack of space the cryptogamic collections will remain at the Botanic Gardens. The amalgamation of the 8,500 cryptogamic collections from CANB has commenced. This involves

repackaging of the specimens into packets similar to those at CBG. These CANB collections contain a high proportion of bryophytes collected by various members (mainly R. D. Hoogland & R. Robbins) of the CSIRO vegetation mapping teams during the 1950's and 1960's. Once the CBG vascular collections are relocated, by the end of 1994, the cryptogams will be located in that space. Thus, after 16 years of dispersed storage, and frequent moves, the cryptogams will be together, allowing for more efficient management of the expected 136,000 (94,000 bryophytes) collections.

At the cryptogamic herbarium it is hoped to begin new programs exploring the role of cryptogams in the formation of crusts in arid areas. Efforts will also be made to encourage more post graduate students and visiting research fellows to make the cryptogamic herbarium their base.

The postal address for the joint venture is: Centre for Plant Diversity, Australian National Herbarium, GPO Box 1600, Canberra, ACT, 2601. Fax: (06) 2465249.

My address for letters remains unaltered, but anything addressed to the above location will also reach me.

a vast majority of the collections of Dutch bryophytes. In the second half of the present century large new bryophyte collections have accumulated, mainly from tropical Southeast Asia, adjacent regions and other parts of the Palaeotropics. Thousands of provisionally named collections are awaiting further identification before duplicates can be distributed. What will be done about these and other curatorial problems if bryology at the institute

comes to an end remains to be decided.

Through the 'Times' I will keep you informed of developments in Leiden. In the mean time, those who would like to comment are invited to write to Prof. P. Baas (the director of the institute) and/or me.

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## Bryophyte Profiles

The *Journal of Bryology* is to publish an occasional series of papers under this heading. Each article will be a detailed study of the biology of a different bryophyte species along the lines of the 'Biological Flora of the British Isles' series for vascular plants which is published in *Journal of Ecology*. 'Bryophyte Profiles' will cover bryophytes from any part of the world and aims to present a growing series of 'example bryophyte biologies' rather than a comprehensive flora which, in any case, would be unachievable. It is hoped that the enterprise will promote studies of the basic biology of individual bryophyte species and provide a useful database for bryologists in all countries.

We hope to publish an average of about one account per part of the *Journal* once the series is established. Each paper should deal with a single liverwort, hornwort or moss species. It should contain substantive new information and review existing knowledge. The papers should be detailed, with maps, tables and figures, but not of excessive length - about 10-15 printed pages. The following checklist of topics should be employed as a framework and guide to the headings and subheadings but some flexibility will be allowed at first as we evolve a workable format.

Recognition - description, illustrations of gametophyte and sporophyte, infraspecific taxa, separation from similar species. Distribution - maps and discussion of distribution in world and author's continent. Life Cycle - sexual reproduction (including chromosomes and fertilization), sporophyte biology, spores, protonema, gametophore development, vegetative spread. Ecology - habitats, communities (past and present), life-form, growth pattern, population dynamics, relationships with other organisms. Physiology - carbon assimilation, water relations, mineral relations, biochemistry. Applied Biology - pollution, conservation, human affairs.

For a very few species (e.g. *Funaria hygrometrica* or *Hylocomium splen-*

## Tropical Bryophytes: Biology, diversity and conservation.

As advertised, the 1995 meeting will deal with "Tropical Bryophytes: Biology, diversity and conservation". It intends to a) bring together the international bryological community, b) discuss recent advances in tropical bryology, c) identify endangered bryophytes in the tropics and elsewhere, and d) propose mechanisms to conserve bryophyte diversity.

The meeting will be held in the Convention Hall, National Medical Center (Unidad de Congresos, Centro Medico Nacional) on Cuauhtemoc Ave. from August 7-12. This is a modern facility located just south of downtown Mexico City, within walking distance from hotels, restaurants, subway stations and historical sites. Areas of tourist interest are within easy reach.

Advance registration is desirable.

*dens*) it would be possible to write something about most of these topics from existing literature. For the majority, however, there will be little available data under most headings. In these cases part of the author's job will be to point out which are the most important lacunae as well as collating information from the literature. It is expected that authors will be tempted to undertake investigations into topics like regeneration from spores or fragments, frequency and timing of fruiting, habitat types, communities, field growth rates and patterns, population sizes and fluctuations and even simple desiccation-tolerance experiments.

Those wishing to contribute a paper should contact me at an early stage to register their interest. It would also be helpful if prospective authors could provide a brief (1 page) summary of the work they intend to undertake with an indication of the timescale. All papers will be subject to the usual review procedure of the *Journal*.

*Dr Jeff Bates, Editor, Journal of Bryology, Imperial College at Silwood park, Ascot, Berkshire, SL5 7PY, U.K.*

You may send your registration fee to the undersigned before April 28, 1995. Payment is required to attend all sessions and receive the Conference publications. Advance registration is US\$ 100 for regular participants, US\$ 60 for graduate students. Late registration will be US\$ 120 and US\$75, respectively. CHECKS PAYABLE TO INSTITUTO DE BIOLOGIA.

Lodging is available at reasonably priced hotels near the Conference site. Reservations may be made through BAUER, S.A. de C.V., Av. Insurgentes Sur 1991, Torre A-701, 01020 Mexico, D.F. Phone 661-8722, 661-5596, FAX (525)/661-8696, c/o Sr. Juan Morales Malacara. Further details to follow.

Preliminary program includes: Aug. 7: Registration, Inauguration, Opening Lecture, Contributed papers. Aug. 8: Workshop on endangered bryophytes. Aug. 9: Field trip. Aug. 10: Contributed papers. Aug. 11-12: Field trip.

The workshop on endangered bryophytes (both tropical and temperate) is being coordinated by Tomas Hallingback. Inquiries and information from him.

Contributed papers are requested. Please, send abstract on or before April 28, 1995 to the undersigned. Full contributions with illustrations included should be turned in at the Conference site to be published in *Anales del Instituto de Biología, Serie Botánica*. Contributions should be submitted as an ASCII or WordPerfect file along with a printout of the manuscript.

Two fieldtrips to nearby areas are planned. One of them, after the meeting requires participants to stay overnight in a neighboring town. Transportation will be arranged for the group and charged at cost. Other expenses will be the responsibility of each participant.

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## Best Book Buys

**Plants of coastal British Columbia including Washington, Oregon & Alaska.** Edited by Jim Pojar and Andy MacKinnon. 527 pp. Lone Pine Publishing, Edmonton. Price 24.95 US\$.

This is a great book and the price is right. It contains 1,100 color photographs and over 1000 line drawing of the common plants of coastal western North America, north of California. In total it treats 794 species, including common mosses, liverworts, and lichens - all in one book. Each species is covered by common and scientific name, general morphological description, ecological notes and comments on past and present uses. Common named are interesting and descriptive; under mosses one learns of goblin's gold and under lichens there are tripes, lungs, pelts, and kidneys. Keys are given to the larger, more difficult groups. This is the best field guide currently in press. [DHV]

**Plants of northern British Columbia.** Edited by Andy MacKinnon, Jim Pojar, and Ray Coupe. 352 pp. Lone Pine Press, Edmonton. Price 24.95 US\$.

What the coastal guide does for western Canada and Alaska, this guide does for plants of the interior of northern British Columbia. It is perfectly usable for northern Alberta and eastward to the Canadian Shield. This book is done in the same format as the coastal book. It also includes common mosses, liverworts, and lichens. The format is concise and the pictures are very nice. In all there are 578 color photographs for just over 500 species. The picture keys are a really helpful addition. Again, this is a superbly illustrated field guide that will add a new dimension of ease for naming plants by everyone. [DHV]

**A conspectus of the Mosses of Antarctica, South Georgia, the Falkland Islands and Southern South America.**

By Dorothy Greene. Available from British Antarctic Survey, Turpin Distribution Services, Ltd., Blackhouse Rd., Letchworth, Hertfordshire, SG6 1HN, UK. Price (including postage) 10.36 US\$.

Marshall Crosby has drawn my attention to a bargain. Rarely, can we find publications available for original "cheap" prices. Try this for a nice change!

During the 60's and 70's, exploration of the Antarctic continent resulted in the British Antarctic Survey carrying out work on vegetation. Interestingly, they found bryophytes worth studying and a significant publication was Dorothy Greene's "A conspectus of the Mosses of Antarctica" published by the British Antarctic Survey in 1986. This is a primary literature source for this region of the world and it is still available at original price - a bargain for anyone interested in bryological literature. [DHV]

**The Elfin world of Mosses and Liverworts of Michigan's Upper Peninsula and Isle Royale.** By Janice Glime. Available from Isle Royale Natural History Association, 800 E Lakeshore Drive, Houghton, MI 49931, USA. Price 15.95 US\$ (plus 4 US\$ for shipping charges).

A nicely produced book of the local bryophyte flora with color photographs - 148 pages in all. Overall, well produced with nicely written text and great photos. A few problems are evident in apparent mis-identification. For example: *Pohlia prolegeia* is probably *P. bulbifera*, *Plagiomnium cuspidatum* is probably *P. ellipticum*, and *Sanionia uncinata* not that species.

However, the book has my overall highest rating and should serve as a significant reference for all persons interested in bryophytes. It is only the second North American book with colored photographs of bryophytes - too bad it isn't more. [DHV]

## American Bryological and Lichenological Society Annual Meeting

American Bryological and Lichenological Society Annual Meeting will be held in Jasper National Park, Alberta, Canada. Lodging and paper reading sessions at Palisades Environmental Research Centre. Field trips to eastern slopes of Rocky Mountains including alpine and subalpine areas; foothills montane zones; interior, cedar, temperate rain forests; and central ranges of the Rockies. Side trips to Columbia Ice Field and Miette Hot Springs. Registration: \$50 US (\$35 students); lodging ranging from \$52 US (at meeting site including food) to \$80 US in Jasper townsite (not including food). Field trip leaders: Dale Vitt and René Belland — bryophytes; Bernard Goffinet and Trevor Goward — lichens. There will be van transportation available from Edmonton to Jasper (about four hours). For more information and first circular, write to Dale H. Vitt, Department of Biological Sciences, CW 405 Bio. Sc. Building, University of Alberta, Edmonton, Alberta, T6G 2E9, Canada; phone +1 (403) 492-3380 or fax +1 (403) 492-1899. Early registration deadline is May 1, 1995.

## Dissertations

**Nils Cronberg**, Lund, Sweden, successfully defended his Ph. D. thesis "Genetic diversity and reproduction in *Sphagnum* (Bryophyta): Isozyme studies in *S. capillifolium* and related species" on the 14 September 1994.

**Johannes Enroth**, Helsinki, Finland, successfully defended his Ph. D. thesis "A taxonomic monograph of the genus *Pinnatella* (Neckeraceae, Bryopsida)" on the 21 October 1994. The thesis is published in Acta Botanica Fennica 151:1-90 (1994).

**The Bryological Times** is a newsletter published bimonthly for the *International Association of Bryologists*. Items for publication are to be sent to the Editors (preferably LH), **except** for those for the regular columns, which may go **direct** to the column editors

Deadlines for material to the *Bryol. Times* will be January 15, March 15, May 15, July 15, September 15 and November 15 with the publication shortly afterwards. Shorter notes may be accepted later if there is still space.

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For details regarding membership of to *International Association of Bryologists* (currently US \$ 10.- per year) write to Dale H. Vitt, Department of Botany, University of Alberta, Edmonton, Alberta, Canada TG6 2E9.

Send contributions to:

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#### 1994

**November 24-29.** 10th John Child Bryophyte Workshop, Waipoua Forest, North Auckland, New Zealand. Further information from Lisa Forester, Department of conservation, P.O.Box 842, Whangarei, New Zealand.

#### 1995

**March 20-25.** Workshop on Macaronesian Fissidentaceae. Place: La Laguna, Tenerife, Canary Islands (Spain). Further information: A. Losada-Lima, Departamento de Biología Vegetal (Botánica), Universidad de La Laguna, 38271 La Laguna, Tenerife, Islas Canarias (Esp.) Number of participants is limited to 20.

**April 5-12.** Spring field meeting at Ambleside, Cumbria. Further information from Peter Bullard. Work address: Cumbria Wildlife Trust, Cumbria, LA22 0BU Phone 05394 32476. Home address: 36 Castle Garth, Kendal, Cumbria LA9 7AT Phone 0539 732699.

**July 29-Aug 3.** ABLs Annual Meeting, Jasper National Park, Alberta, Canada. Further information from Dale H. Vitt, Department of Biological Sciences, University of Alberta, Edmonton, Alberta TG6 2E9, ph. (403) 492-3380; Fax (403) 492-1899.

**August 7-12.** IAB Biennial Meeting entitled Tropical Bryophytes: Biology, Diversity and Conservation. IAB Conference in Mexico City (see BT77). Contact C. Delgadillo, Instituto de Biología, UNAM, Apartado Postal 70-233, Del. Coyoacan, 04510 Mexico, D.F. Mexico, Fax (525)555-1760, email: moya@redvax1.dgsca.unam.mx.

**September 18-21.** XI Simposio Nac. Bot. Criptogamica.

#### 1996

**June-July** (final date to be set later). Second International *Sphagnum* Field Trip and Symposium in New Jersey, New York and Quebec. Further information available at a later date.

**August 5-8.** To celebrate the 100th anniversary of the British Bryological Society, a symposium entitled 'Innovations in bryophyte research' will be taking place at the University of Glasgow. Contributions will be invited shortly. The BBS summer field meeting in west will take place immediately afterwards in the west and central Highlands.

**October 8-12.** International Symposium of Botanic Systematics and Plant Geography, Herbarium Haussmecht, Jena, Germany.

**IS THERE REALLY NOTHING MORE HAPPENING  
BRYOLOGY WITH THE FUTURE?**