Conservation of Bryophytes in Europe

A report from the second conference

Ida S. Solli
Dept of Botany, Univ of Trondheim
N-7055 Dragvoll, Norway

Henrik W. Weibull
Threatened Species Unit, Swedish Univ. of Agricultural Science
P. O. Box 7072, S-750 07 Uppsala, Sweden

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 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 **cont’d p. 2**
used to identify, recover and survey threatened bryophyte taxa in Sweden. Patricia Geisser 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 in- 

troduction in the Russian Arctic. Finally in 

time from the first session by talking 

enjoyable evening to end the first day 

outside the Institute and the botanists 

Afterwards there was food and wine 

encies of plants from all over the world. 

were guided through the Botanical Gar-

In the afternoon of the first day we 

were guided through the Botanical Gar-

we were free for individual excursions 

good weather and a fabulous view of the 

alp road to Klausenpass at 1948 m in the 

are aware of threatened bryophytes 

Konzicka, Z.: Rare species of 

Konstantinova, N., Belkina, O. & 

Konstantinova, N., Belkina, O. & 

Ludwig, G., Schnittler, M., Pretch-

List - proposed categories and symbols. 

Sérgio, C., Casas, C., Brugués, M. & 

Sim-Sim, M.: Epiphytic bryophyte 

Europe), where the proposals have not 

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 ex-

of water liverworts Riccia 

Scopelophila (I. Hag.) Thér., Anacol-

Asterella gracilis (F. Web.) Underw. 

Grever, J., Ros, R.M., Cano, M.J. 

Haab, H. & Kannukene, L.: Jalase 

Karttunen, K., Laaka, S. & Virta-

Kolon, K.& Sarosiek, J: The disap-

Konstantinova, N., Belkina, O. & 

Konstantinova, N., Belkina, O. & 

Lexiscopaea spp. and the liverwort 

Scopelophila lingulata. At the same locality Mielich-

haferia mielichhoferi, Andreea rothii 

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 Hyloco-

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 Raeymakers.

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 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 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.

**New address:**
Prof. Dr. Jan-Peter Frahm
Botanisches Institut der Universität
Meckenheimer Allee 170
D-53115 Bonn
Germany
Tel: +49-(0228)-733700
Fax: +49-(0228)-733120

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.

**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 the 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 in their original form, but some cross references are given, e.g. Müllner 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 “Jör gensen”. 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.


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.

Jan-Peter Frahm, Botanisches Institut der Universität, Meckenheimer Allee 170, D-53115 Bonn, Germany. Email: frahm@uni-duisburg.de
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 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.

Dries Touw, Rijksherb./ Hortus Botanicus, P.O. Box 9514, 2300 RA Leiden, The Netherlands, E-mail TOUW@RULRHB.LEIDENUNIV.NL

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

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.

Heinar Streimann, Curator of Cryptogams
E-mail: heinar@anbg.gov.au
**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 attempt to present a growing series of 'example bryophyte biology' 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.


For a very few species (e.g. *Funaria hygrometrica* or *Hylcomium 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 Congressos, 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.

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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.


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 Biologia, Serie Botanica. 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.

Further correspondence: Claudio Delgadillo, Instituto de Biologia, UNAM, Apartado Postal 70-233, Del. Coyoacan, 04510 Mexico, D.F. FAX (525)/550-1760.

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 tripe, lungs, pelt, and kidneys. Keys are given to the larger, more difficult groups. This is the best field guide currently in press. [DHV]


What the coastal guide does for western Canada and Alaska, this guide doe is probably 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 ad- dition. Again, this is a superbly illustrated field guide that will add a new dimension of ease for naming plants by everyone. [DHV]


Marshall Crosby has drawn my attention to a bargain. Rarely, can we find publications available for original “cheap” prices. Try this for anice 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 worthy 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 problem are evident in apparent mis-identification. For example: Pohlia prolegeia is probably P. bulbifera, Plagiommium 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]

Dissertations


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.

Editors
FAX +46 8 666 42 21.
E-mail kbo-lars@nrm.se

Lars Söderström, Dept. of Bot., Univ. of Trondheim, N-7055 Dragvoll, Norway.
FAX +47 73 59 61 00.
E-mail Lars.Soderstrom@avh.unit.no

Assistant Editor
Henrik Weibull, Uppsala.

Column Editors
J.-P. Frahm & B. O’Shea (computer techniques); J. M. Glime (ecology); T. Hallingbäck & E. Urmi (conservation); A. R. Perry (news from the herbaria); T. Pócs (tropical bryology); M. L. Sargent (techniques); J. Vána & W. R. Buck (floristics and phytogeography); D. H. Vitt (diary, best book buys, taxonomy).

The Bryological Times, founded in 1980 by Stanley Wilson Greene (1928-1989), is distributed from Beijing (China), Canberra (Australia), Edmonton (Canada), Eger (Hungary), Geneva (Switzerland), Hiroshima (Japan), Moscow (Russia), Praha (Czech republic), St. Louis (USA) and Trondheim (Norway).

Production
Lars Söderström, Trondheim

For details regarding membership of the 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.

DIARY

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.

March 20-25. Workshop on Macaronesian Fissidentaceae. Place: La Laguna, Tenerife, Canary Islands (Spain). Further information: A. Losada-Lima, Departamento de Biologia Vegetal (Botanica), 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 Biologia, UNAM, Apartado Postal 70-233, Del. Coyoacan, 04510 Mexico, D.F. Mexico, Fax (525) 555-1760, email: moya@redvax1.dgsca.unam.mx.


1995

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.

Are there really no more happenings in bryology in the near future?