# The Bryological Times

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Newsletter of the International Association of Bryologists

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## Editorial

As your new editor, I would like to take the opportunity to thank Lars Söderström, who since 1993 has been editor and driving force behind the Bryological Times. I am pleased that the IAB-Council has given me this opportunity. The Bryological Times not only informs IAB members, it is also a means to network, to acknowledge and to promote the importance of bryological research. For these reasons, many IAB members have expressed a sincere wish to increase the frequency of this newsletter. I would like to make this a priority and therefore need your collaboration. So, please forward news to me, to the regional editors or to column editors. For the next issues, I am looking for a technical editor, who can assist me with the lay-out of the Bryological Times!

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IAB

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The **International Association of Bryologists (IAB)** is an organisation open for all interested in bryophytes. For membership, contact Sandi Vitt, Department of Plant Biology, Southern Illinois Univ., Carbondale, IL 62901-6509, USA (svitt@plant.siu.edu). Visit also our web site at http://www.devonian.ualberta.ca/iab/. The Bryological Times is issued 4 times per year.

# MEETING REPORT

## A memorable five days in the land of the Nawabs
## A report on the IAB's World Conference of Bryology held at Lucknow, India

Report by Benito C. Tan and David Long

The 15th biennial meeting of the International Association of Bryologists (IAB) dubbed as the World Conference of Bryology was successfully organized by Prof. V. Nath and his staff at the National Botanical Research Institute (NBRI) at Lucknow, India. It was held from Feb 23-30. The meeting was attended by 90 people from 11 countries. The program included four specially organized symposia, namely Systematics of Hepaticae, Population Biology of Bryophytes, Floras and Biogeography of Mosses of Indian Subcontinent, and Molecular Biology and Phylogeny of Bryophytes. In addition, two separate sessions of oral presentations by Indian colleagues and non-Indian participants were also held. A brief afternoon poster session on the second day of the conference was made available to participants for exchange of opinions on the poster presentation and content.

The conference started in the morning of Jan 23 (Wednesday) with a beautiful and meaningful candle lighting ceremony jointly performed by the representatives of NBRI, Profs. Pushpangandan and V. Nath, the president of IAB, Prof. S.R. Gradstein, and the invited guest of honour, Emeritus Prof. H.Y. Mohan Ram of the University of Delhi. The last person also gave the inaugural speech to officially open the conference. Immediately after, two special lectures were delivered by Prof. T. Hallingbäck from the Swedish University of Agricultural Sciences on the successful story of bryophyte conservation in Europe, and Dr. V. Virtanen from the University of Helsinki on the use of fingerprinting technique in mosses as evidence to incriminate the suspect in a homicide case in Finland. Both lectures elicited strong interest among the audience in the applied values of the study of bryophytes. The other two special lectures given during the conference, the Biodiversity Through Times by the Director of NBRI, Dr. P. Pushpangadan, and the Salty Tale: Signaling Mechanism and Developing Saline Tolerant Plants by Prof. S.K. Sapory of ICGEB at New Delhi, were equally well received by the participants.

All in all, there were four full days of lectures and discussions of various bryological topics, ranging from biodiversity, ecology, biogeography, paleobotany, medicinal bryology, physiology, population biology, phylogeny and conservation. Not counting the four special lectures, a total of 48 papers and 17 posters were presented at this conference. In between, there were high tea sessions served to allow the participants to relax and stretch their legs, as well as to catch up in conversation with friends and colleagues. For us, the meeting in person with our Indian colleagues, many of whom were known before to us only from publications, was a rewarding experience. Moreso, it was encouraging to meet and talk to a large contingent of young and budding Indian bryologists. Indeed, the contacts with the Indian members of IAB and participants at the meeting raised hopes for a bright future for bryology in the Indian subcontinent! On the other hand, listening to and witnessing the less than ideal working conditions of Indian bryologists reminded us of the big challenges and difficulties that lie ahead in our efforts to complete the documentation of the biodiversity of the bryoflora of the entire Indian Subcontinent.

Wisely, the conference organizers also provided the participants a glimpse of the long history, rich culture and tasty cuisine of northern India. Many sumptuous and delicious meals of Indian food preparation were generously provided with no additional cost to the participants. An evening of indigenous Indian music and dance became one of the highlights of the conference.

As in any international gathering, a conference banquet was organized in the third evening (Jan 25) of the conference at the ballroom of a posh hotel near the center of the city. There was much free flow of alcoholic and non-alcoholic drinks. The atmosphere was mildly intoxicated when the serving of meals began. Taking the highly enjoyable evening occasion, Prof. S.R. Gradstein, in behalf of the IAB Council, made the announcement that Dr. W. R. Buck at the New York Botanical Garden was the recipient of this year's Richard Spruce Award given to a bryologist who has made important contribution within the first 25 years of his career. He further announced that the Hattori Prize of US$400 award for the best paper in bryology published in the previous two years be given to Dr. J. Paton of UK for her well prepared liverwort flora of Great Britain. Our heartfelt congratulation goes to the two winners although both were not present at the occasion to accept the loud applause generated by the participants.

The participants of the conference were fortunate to chance upon the celebration of the Republic Day of India, which fell on Jan. 26. We were all invited to witness the solemn flag hoisting ceremony held at the open, grassy lawn of NBRI. As the colorful petals of roses rained down in sync with the singing of the national anthem of India after the unfurling of the national flag of India, one is reminded of the many great achievements of this botanical institute in the field of horticulture and agrotechnology. Aside from the numerous laboratories conducting research and experiments on various aspects of plant biology, the NBRI at Lucknow manages in addition a large botanical library and herbarium with substantial holdings, a modern bio-informatics office/lab with a database on plant diversity and genomic information, and a large botanical garden that houses live collections of several rare seed plants including *Welwitschia*, a lush fernery, and a specially designed garden for the blind. All these facilities were proudly shown to us by the hosting institution during the conference.

A half day tour was conducted on Jan. 26 to visit the historical sites of Lucknow. It was really an educational and cultural bonus. For first time visitors to Lucknow, the majestic views and the intricate architecture of the old palaces and mausoleums/tombs built by the Islamic rulers or the Nawabs in the eigthteen century or earlier, such as the Asafi Imambara or better known as the Bara Imambara, the Chhota Imambara, the Rumi Gate, and the Shahnajaf Tomb, are very impressive and eye-opening. The ruins of the Residency, also known as the Bailey Garad, where about 3000 British subjects were besieged for 87 days during a local uprising in 1857 is a sober reminder of the colonial past of India under the British rule. The congress participants were also given a chance to appreciate the portrait paintings of the many Nawabs who ruled the Lucknow region when they were taken to visit the Picture Gallery at Durbar Hall.

The last day of the conference (Jan 27) saw the general body of the meeting pass with unanimity three relevant resolutions pertaining to the protection and conservation of regional bryophyte diversity and hot spots in India. Prof. Z. Iwatsuki who was the most senior member of IAB at the meeting co-chaired the closing ceremony with Prof. V. Nath of NBRI. Prof. Iwatsuki then made the final announcement about the publishing of the conference proceedings in the Journal of Hattori Botanical Laboratory before the end of this year. Prof. R.R. Rao, the Deputy Director of the Biodiversity Group at NBRI was invited to render the closing valedictory remarks. The two winning posters were also announced by Dr. Nath. They are - S. Huttunen *et al*. on the pendent life forms in bryophytes and M. Shukla *et al*. on the effect of polluted water on the chlorophyll concentration of bryophytes in Raebareli in India. On the same day, a special dinner was prepared at the Guest House of the NBRI to send off the 20 (?) participants who signed up for the post-conference field trip to the Nainital (Kumaon Hills) and neighboring areas. The group which consists of mostly non-Indian participants left Lucknow at 9:00 PM after a rowdy exchange of hugging and goodbye greetings.

**Nainital trip**

The year 2002 World Conference of Bryology that concluded in Lucknow is now an indelible memory and accomplished landmark in the 32 years of history of IAB. It is the first meeting held in the Indian Subcontinent and also the first meeting of IAB in the new millennium. Although the number of participants outside of the large Indian delegation was small with none from the North and South American continents and Australia, the friendship and camaraderie that got cemented after five days of interactions will stay forever in the minds and hearts of all who were present at the conference. Just like what the organizing secretary, Prof. V. Nath, said at the conclusion of the conference, that the success of the meeting was brought by the foreign participants who came a long way to Lucknow to give paper and poster presentations, in addition to show physical and moral supports. We think similarly that the success of the conference was made possible by the efficient group of staff of Drs. Nath and Asthana at NBRI who worked hard behind the scenes in coordinating the tight program activities, operating the slide and transparency projections during the lectures, and the meeting and sending off of participants before and after the conference. To this energetic crew of unsung heroes, especially to Ajit P. Singh, R. Saxena, and V. Sahu, we thank you from the bottom of our heart. And to all the staff of NBRI, we will always remember your typically Indian hospitality and kindness.

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# Visit the website of the IAB at

# http://www.devonian.ualberta.ca/iab

# LITERATURE COLUMN Editor: Johannes Enroth

## Frahm, J.-P.: Biologie der Moose. mit 128 Abbildungen. Hardback. xi + 357 pp. Spektrum Akademischer Verlag, Heidelberg–Berlin, 2001. ISBN 3-8274-0164-X.

During the last few years we have witnessed a constant flow of books aiming at being textbooks on bryophytes, or which have been been useful as such. Many congress publications or manuals have the common feature that they have been co-authored by specialists and actually are reviews of the latest results from different fields. Schuster's (1983–1984) *New Manual of Bryology*, Bates', Ashton's and Duckett's (1998) *Bryology for the Twenty-first Century*, and Shaw's and Goffinet's (2000) *Bryophyte Biology* fall in this category. Schofield's (1985) *Introduction to Bryology* has been the only real textbook giving a more versatile view of bryology. The present volume by Jan-Peter Frahm, *Biologie der Moose*, is an ambitious attempt towards an inclusive textbook on bryology. He has done good work.

Since *Moose* in German means both hepatics and mosses, I am using the word bryophytes below.

According to the author, the book is especially intended for non-bryologists, students and all other people who may be interested in getting more detailed information on this group of plants, as well as for conveying an overview of different aspects of bryology and, through this arousing interest in bryophytes. The author is too modest. I found the work very useful, especially those chapters which deal with bryology outside my own special fields.

The book provides what the author promises in the preface. The major chapters are: 1. General characteristics of bryophytes, 2. Classification, 3. Systematic overview, 4. Ecology, 5. Phytogeography, 6. Ecophysiology, 7. Cytology and genetics, 8. Phytochemistry, 9. Evolutionary history, 10. Fossil history, 11. Applied bryology, and 12. History of bryology. Systematics and classification which were the two largest parts of many earlier textbooks are in a minor role here and more emphasis is given to ecology. Each of the major chapters includes sub-chapters, which are duly listed in the "Contents"; so that the information on any topic is easily accessible. After each major chapter there is an enclosure summarizing and emphasizing the central facts of that field of bryology.

The Appendix of the book, with four chapters, is very useful. It begins with instructions on how to collect bryophytes and how to make a herbarium specimen, discusses the microscopic and cytological research methods, and cultivation of bryophytes. Then follows a chapter guiding to the literature sources such as identification manuals, bibliographies and bryological journals and newsletters. To my delight, Frahm forgot to mention *Bryobrothera* and *Bryobrotherella*. Also, the list of bryological societies is far from complete. The chapter "Bryology on the Internet" must be out of date, due to the very rapid progress in that field.

The list of references is arranged according to the system of the major chapters. For the chapters 3. Systematic overview, 6. Ecophysiology, and 8. Phytochemistry, in addition to summarizing paragraphs, lists of more specialized papers are given. The fact that the book is aimed at the German-reading public is evident in the lists but, in spite of that, they are up-to-date.
The work is a compherensive summary of what is known of the biology of bryophytes. The only thing that upset me is that, although a partly new classification is proposed for hepatics, the classification of mosses is very traditional. The advances in classification within the families such as Amblystegiaceae, Mniaceae or Bryaceae are not mentioned. I believe that such information might have been useful to the German-reading public. Still, in any case, with Jan-Peter's *Biologie der Moose* we have come a long way from the times, more than 40 years ago, when I had to read the 27th edition of Strassburger's *Lehrbuch der Botanik* as the only available university textbook on bryophytes.

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## Frahm, J.-P. & Eggers, J. Lexikon deutschsprachiger bryologen. Paperback. 672 pp. Selbstverlag der Autoren, 2001. ISBN 3-8311-0986-9. Available from: Books on Demand GmbH (BoD), Gutenbergring 53, G-22848 Norderstedt, e-mail: htbilbo@aol.com

This volume is an enlarged version of the earlier *Lexicon deutscher Bryologen* published by J.-P. Frahm in the journal *Limprichtia* vol. 6 in 1995. The work consists of short biographies of 1335 collectors, researchers and teachers from German-speaking Central Europe and follows their activities abroad. Their bryological publications are listed, and eponymes and references to other biographies given. More than 500 portraits are a remarkable addition to the first edition.
The authors had difficulties in the delimitation of the material. I understand that only German bryologists, or bryologists in neighbouring Central European countries whose mother tongue was German, are included. Excluded are phytogeographers who used bryophytes in their works without a real emphasis on bryology, researchers who used bryophytes as material in their anatomical, morphological, physiological or phytochemical studies, and authors who made their student's examination thesis in bryology, but later were not active as bryologists. Exceptions are the thesis dealing with bryofloristics, bryogeography, taxonomy or ecology in Germany. Additionally, bryologists still alive are not included.

One of the reasons to publish this biography seems to be a desire to bring out the leading position of German bryology in the 19th and 20th century until Theodor Herzog's (1961) and

Karl Müller's (1955) deaths. "To-day, when studies on bryophytes are considered unnecessary, outdated and old-fashioned, and therefore this field is hardly represented in the universities in Germany, it might be interesting to look back on the time when the essential foundations of knowledge in the systematics, morphology, anatomy, cytology and phytogeography of bryophytes were created in Germany." I can comfort my contemporary German bryologists; you are not alone in your battle against the stupidity of the decision-makers in academies, foundations and universities.

I have found the lexicon very useful in many ways. It answers the question "Who was this person?" and lists the publications of German authors. The old labels handwritten in German are often difficult to read. This book may give a hint as to who was the collector and where the specimen was collected and tells who identified and published the collection in question. The locations of the herbaria of publishing authors are given, and if the herbaria have been destroyed, as many of them were in Berlin in 1944, the location of possible duplicates is indicated.

A lexicon like this, which will be used as a reference book, should be accurate and consistent; the things should be presented in the same order and in a similar way for each of the persons dealt with. In this respect the book leaves a lot to be desired. The reason may be that the data obviously have been collected over rather a long time, and that there has been insufficient proof-reading. A quick check of the list of references against the citations in the text showed so many omissions that only a few examples can be given here. Page 167: Handel-Mazzetti's (1927, 1996) really remarkable travel books are lacking in the list of references; page 274, Brotherus (1893) lacking; p. 217 Stephani (1912) and Brotherus (1928) lacking; p. 243, Herzog (1916) is lacking, but possibly is the same as Herzog (1916b) in his biography; p. 274, Brotherus (1893) is lacking; Schumann & Lauterbach (1901) are not mentioned in their biographies, nor given under Schiffner, Stephani, or Brotherus, but cited under Kärnbach on p. 228!; p. 266, Gangulee (1969) lacking in the list of references. But then, on pp. 95, 143, and 180, the references to Brotherus (1912, 1901, and 1892) are given in total and not in the list of references. The lists of the bibliographies in the biographies may contain misleading information, such as the publishing years of Fleischer's *Die Musci der Flora von Buitenzorg* (see TL 2) or omissions such as the *Musci* part (1929) of Handel-Mazzetti's *Symbolae Sinicae*.

There is no coherent way of giving the eponyms. Sometimes the eponym is given in its original form (p. 98, *Schistochila engleriana*) and its later generic combination given, sometimes the eponym is given as a later combination, ( p. 91, *Bazzania eggersiana* (Steph.) Pagán) without citing the basionym. Sometimes these scientific names are with author citations and sometimes not. The wrong spelling of *Tomentypnum* and *Loeskypnum* with "*h*"(p. 291) was astonishing.
The book ends with an author index. It is very useful because through it the connection between the collectors and scientists who identified and published the collections can be detected. Unfortunately, some inconsistency crept into this part. For instance, Brotherus, cited for pages 106, 108, and 143 is not found there but on some neighbouring pages. Where is the German accuracy on which we could rely before?

The lexicon contains an epilogue in which "a new kind of bryosociology" is introduced. We learn that German bryologists were long-lived, only 1 % of them were women, many of them were amateurs making their living in many kinds of professions such as chemists or watchmakers, were not interested in politics, and so on. I can make one significant addition: In the portraits 317 of the bryologists have a beard or a moustache, 159 (plus three women) have neither, and 72 of the figures are so badly reproduced that they could not be put in either category. This shows that the printing and lay-out of the book is not the best possible. I hope that the minor omissions and mistakes mentioned above will be corrected and proof-reading improved for the 3rd edition. Then this lexicon will get a well-deserved and permanent position as one of the most significant manuals in the field of bryology.

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# IN FOCUS

## Research news from the University of Göttingen

Report by S. Rob Gradstein

Our research in bryology focuses primarily on systematics, biogeography and ecology, especially of the bryophytes of tropical America. This is a brief résumé of what we are doing at the moment.

**Systematics and biogeography**

Our main research targets in systematics are the liverwort families Lejeuneaceae, Plagiochilaceae and Jubulaceae. Long-term goals are the preparation of monographs for Flora Neotropica and analyses of the phylogenies of these groups on a world-wide basis, using morphological, chemical as well as molecular data. We are also actively involved in writing catalogues and identification manuals for tropical liverworts to enhance the study of these organisms, which are less well known than the tropical mosses due to the lack of appropriate identification tools. The development of the TaxLink program for documentation of different circumscriptions of taxa or "taxonyms" has been another line of research in systematics.
Since 2001 a new, well-equipped lab for molecular-systematics has been established in our institute and protocols have been worked out for sequencing of not too old herbarium specimens (up to 5 y, rarely older) of leafy liverworts. We are planning active collaboration with research laboratories interested in joint molecular-phylogenetic study of the leafy liverworts.

Plagiochilaceae.

Research is being done together with the group of Rudiger Mues at Saarbrücken and David Rycroft at Glasgow, with support of the German Research Foundation. Jochen Heinrichs has finished his dissertation, which includes a revision of three sections of neotropical *Plagiochila* (*Hylacoetes*, *Adiantoideae*, *Fuscoluteae*) and a new classification of the group into nine monophyletic lineages based on molecular (ITS region), morphological and chemical data. The dissertation is scheduled to appear later this year in Bryophytorum Bibliotheca. This study revealed a.o. that a world-wide approach is required for understanding the systematics of this large and difficult genus and that molecular and phytochemical data are indispensable (e.g., Heinrichs et al. 2000, 2002a, 2002b). Numerous remarkable, close relationships between the neotropical and European *Plagiochila* floras were also detected (e.g., Rycroft et al. 2002).
Jochen estimates that there are about 120 species of *Plagiochila* in the Neotropics (from about 700 described); about half of these have thus far been critically studied. The remaining species are being tackled by Jochen Heinrichs and two PhD students: Michael Sauer, working from the Natural History Museum of Stuttgart, is revising the neotropical species of the large section "*Contiguae*" (= *Vagae* p.p.) and Henk Groth is dealing with the molecular phylogeny of selected groups.

Lejeuneaceae.

Gabriele Weis received the doctor´s degree on a detailed morphological-phylogenetic analysis of the sporophyte in the Jubulales (Weis 2001) and Gregorio Dauphin on a taxonomic revision of the genus *Ceratolejeunea* in tropical America (Dauphin in press). Elena Reiner-Drehwald continues her revision of the large genus *Lejeunea*, from 2002 onwards with a research grant from the German Research Foundation. She hopes to be able to finish this herculean job in 2-3 years. There may be about 70 species of *Lejeunea* in the Neotropics; however, the total number remain a calculated guess since the circumscription of the genus is still unclear (Reiner-Drehwald 1999, 2000). By tackling the phylogeny of the group on a world-wide basis it is hoped to resolve this problem.
Rui-Liang Zhu (Shanghai) is the recipient of a prestigious postdoctoral fellowship from the Humboldt Foundaton and is in Göttingen until April 2003 to study *Lopholejeunea* of Asia, using morphological and molecular data. Anna-Luiza Ilkiu Borges (Belem, Brasil) has come to Göttingen for a PhD study based on a scholarship from the German Academic Exchange Office (DAAD) and will be monographing the genus *Prionolejeunea* for Flora Neotropica. Milena Malonek has presented her MSc thesis on the revision of the genus *Omphalanthus* (5 spp.) and a preliminary molecular-phylogenic analysis of Lejeuneaceae using sequences of the ITS region of nuclear ribosomal DNA. We plan to include markers of chloroplast and mitochondrial DNA in our work on the Lejeuneaceae in future as well, in collaboration with Dr. Jonathan Shaw, Duke University, U.S.A..

Jubulaceae.

Jaime Uribe (Bogotá) is in Göttingen this year with a research fellowship from the German Academic Exchange Office (DAAD), to work on his monograph of *Frullania* subgen. *Meteoriopsis* as part of his requirements for the PhD at the Universidad Nacional de Colombia (dissertation directed by Rob Gradstein). Preliminary results suggest that the group contains no more than about 10-12 species worldwide.

Catalogue of Bolivia.

In the framework of the partnership between the Universities of Göttingen and La Paz, supported by the German Academic Exchange Office (DAAD), we have prepared a first catalogue of the liverworts of Bolivia together with Rosa Isela Meneses from the National Herbarium in La Paz (LPB). Bolivia has a very rich flora but knowledge of its hepatic diversity has been hampered by the poor work of Franz Stephani who described the same species from Bolivia over and over again under different names. More than one thousand species of hepatics have been recorded; in our catalogue we could accept no more than 415 (in 100 genera and 32 families). About 425 species

recorded from Bolivia are synonyms and 235 are rejected as erroneous or doubtful records. The Catalogue will appear in the November issue of the Journal of the Hattori Botanical Laboratory.

Manual of the liverworts and hornworts of Brazil.

This book by Rob Gradstein and Denise Pinheiro da Costa (in press) is the first hepatic Flora for a part of tropical America, providing keys, illustrations etc. to more than 600 species (in 139 genera and 38 families). It is a companion volume to the "Guide to the Bryophytes of Tropical America" (Gradstein et al. 2001) also published by New York Botanical Garden. Several specialists provided generic treatments, e.g., Gregorio Dauphin (*Ceratolejeunea*), Xiao-Lan He (*Trachylejeunea*, *Xylolejeunea*), Tamás Pócs (*Aphanolejeunea*, *Cololejeunea*), Elena Reiner-Drehwald (*Lejeunea*), Alfons Schäfer-Verwimp (*Diplasiolejeunea*), Jiri Váňa (*Anastrophyllum*) and K. Yamada (*Radula*). Aline Souza de Oliveira and Elena Reiner-Drehwald illustrated the work, which was supported by the the Volkswagen-Stiftung, the Brazilian Conselho Nacional de Desenvolvimento Cientifico e Tecnológico (CNPq), and several private Brazilian foundations.

TaxLink

Taxonomic interpretations of names of species or other taxa may vary considerably among authors. The database program *TaxLink* has been developed at the request of the Bundesamt für Naturschutz (Bonn), which allows for a detailed visualization of comparisons between different taxonomic concepts or "taxonyms." TaxLink may store taxonyms with their references, synonyms, relationships between taxonyms, and nomenclatural status of names. Information can be vizualized on screen, printed, and retrieved as textdocument. Information on the availability of TaxLink may be obtained from the Bundesamt für Naturschutz, Konstantinstr. 110, 53179 Bonn (Koperski 2000, Gradstein et al. 2001).

**Ecology**

Tropical forests once occupied large areas in tropical America and elsewhere in the Tropics; in many places they have now been logged or cleared and converted into plantations and farmlands, or replaced by secondary forests, scrubland, or savannas. The human impact on the bryophyte diversity of the rain forests is poorly understood (Gradstein 1992) and is the main focus of our ecological research, which is currently carried through in Costa Rica, Ecuador and Bolivia. Much work has been done in the past on the composition of epiphyte communities in natural forests but the dynamics of epiphytes in secondary forests has been little studied. We are particularly interested in the question as to how the rich epiphytic diversity of the tropical forests is affected by anthropogenic disturbance and what its chances are for recovery following deforestation. We are also interested to learn more about the possible usefulness of the tropical epiphytes as biological indicators, to identify different levels of forest disturbance. Most of our studies include bryophytes as well as lichens and carried out in close collaboration with the lichenologist Harrie Sipman, Botanical Garden and Museum Berlin-Dahlem. All studies include analysis of the much neglected forest canopy, which may harbour about half of the epiphytic bryophyte flora of the forest.

Costa Rica.

Ingo Holz is finishing his dissertation on the cryptogamic epiphyte diversity in primary and secondary (15 y old, 40 y old) upper montane oak forests in the Cordillera de Talamanca, Costa Rica. The study, funded by the German Research Foundation (DFG), is carried out with the Instituto de Biodiversidad, Costa Rica (Maarten Kappelle, Nelson Zamora). Ingo's very large collections from Costa Rica (about 5000 specimens) yielded numerous new and important floristic records as well as a complete inventory of 6 hectare of upper montane forest (Holz et al. 2001, Holz et al. in press).
Mark Merwin (Olympia) is studying the impact of deforestation on tropical forest bryophytes across a gradient of human-induced disturbance (primary forest, 35 year-old secondary forest, pastureland) in lower montane cloud forests of Monteverde, Costa Rica (Merwin et al. 2001). Mark is working with Nalini Nadkarni at Evergreen State College, Olympia (U.S.A.) and in collaboration with Rob Gradstein. Our joint work with Nalini at Monteverde resulted in a first complete bryophyte inventory of 4 hectare of cloud forest (Gradstein et al. 2001).

Ecuador:

In their MSc theses Meike Andersson and Timo Kautz have analysed the rich cryptogamic epiphyte diversity of cacao plantations in the province Los Rios in western Ecuador (Kautz & Gradstein 2001, Andersson et al. in prep.). Cacao plantations are an important substitute habitat for various groups of tropical forest biota and play an important role in their conservation. The exclusive occurrence of the very rare liverwort *Spruceanthus theobromae* on cacao trees in western Ecuador and the lack of data on the epiphyte diversity in these plantations, prompted us to undertake a study of these systems, which was carried out together with the Herbarium of Catholic University of Quito (Katia Romeroloux).
Since mid-2001 Nicole Nöske is carrying out a PhD study on cryptogamic epiphyte diversity in primary and secondary montane forests in the Andes near Loja (Estacion Scientifica San Francisco), southern Ecuador, in the framework of a multidisciplinary research program funded by the German Research Foundation and in cooperation with the University of Loja (Zofre Aguirre). This project also includes analysis of the rich epiphytic flora of the forest canopy. We are working together with Harrie Sipman (Berlin), with Stefano Torrachi from Cuenca, and with Harald Kürschner and Gerald Parolly from the Free University of Berlin who are studying the communities and life strategies of trunk-inhabiting bryophytes along the elevational gradient in the research area.

Bolivia.

Rob Gradstein together with his research students Carola Acebey (Instituto de Ecología, University of La Paz) and Thorsten Krömer have recently studied species richness and life forms of bryophytes on selected trees in submontane forest and fallows (old fields) near Sapecho in the Alto Beni region, Bolivia. The field study confirmed that species richness was much reduced in the fallows, with very few shade epiphytes surviving the deforestation. We also noted a striking vertical shift of epiphytic species towards lower relative heights, with forest canopy species occurring in the fallows mainly on the

tree bases and the lower portions of the trunks. This phenomenon had already been proposed by previous authors but had not been demonstrated empirically. The observed shifts in the vertical distribution of the species correlated very well with microclimate measurements, showing that air temperature and air humidity high up in the forest canopy were very similar to those near ground level in the fallows (but very different near ground level in the forest) (Acebey et al. in press)..

**Outlook**

Our knowledge of the tropical bryophyte diversity has unquestionably advanced considerably in recent decades, both in terms of knowledge of their taxonomy and spatial distribution patterns. Most research has focused in the past on primary forests and very little work has been done on the changes in diversity due to deforestation. We need detailed comparisons between primary and secondary forests as well as plantations, to determine the amount and quality of changes in the biodiversity due to human alteration of the environment. These goals are currently pursued in the framework of our DFG-supported ecological studies in tropical America.
In systematics, the revision of tropical families and genera of liverworts that are poorly known taxonomically is a priority. Modern, molecular methodologies may help resolving the intricate taxonomic relationships of the species and should be combined with morphological and chemical analysis. Targets of our future work will be the completion of the monographs of the liverwort families Lejeuneaceae and Plagiochilaceae for *Flora Neotropica* and the unraveling of the phylogeny of the leafy liverworts.

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S. Rob Gradstein, Institute of Plant Sciences, Department of Systematic Botany, Untere Karspüle 2, 37073 Göttingen, Germany, sgradst@gwdg.de, www.gwdg.de/~sysbot

# THESES IN BRYOLOGY

# Editor: Bill Buck

As reported in the Bryological Times (99:17, 1999), the International Association of Bryologists has decided to begin a repository of bryological theses. These theses will be housed in the Library of the New York Botanical Garden. They will be available via interlibrary loan. The NYBG Library online catalog (CATALPA) may be viewed at http://www.nybg.org/bsci/libr/Catalog.html. As theses arrive, bibliographic data and brief synopsis will be published in this column (see examples below). Bryological theses for any degree, covering any aspect of bryology in any language, will be included. Please send theses to Bill Buck at the address above. Those who want to have their theses included in the "Theses in Bryology Column", but who cannot afford to send a copy of the theses can apply for financial support. Please refer to the preliminary notice (cited above) for information on financial assistance from IAB for reproduction of theses.

**Cleavitt, Natalie Laura. 2002. Relating rarity and phylogeny to the autecology of mosses: A comparative study of three rare-common species pairs in the Front Ranges of Alberta, Canada. Ph.D. thesis, Department of Biological Sciences, University of Alberta, Edmonton, AB, Canada. [xxxii] 293 pp. In English. Current address of author: Department of Biological Sciences, University of Alberta, Edmonton, AB T6G 2E9, Canada <cleavitt@ualberta.ca>.**

In this doctoral thesis, three rare species, *Mielichhoferia macrocarpa*, *Didymodon johansenii* and *Mnium arizonicum*, and three common species, *Bryum pseudotriquetrum*, *D. rigidulus* and *M. spinulosum*, respectively matched, were compared by assessments of habitat specificity, establishment ability, stress tolerance, propagule viability, colony demography, influence of disturbance regime, and frequency of neighbor contact. In general, ecological differences between rare and common species were found, and in an analysis of ecological traits pertaining to local persistence the rare species clustered together. For two of the rare species, *M. macrocarpa* and *D. johansenii*, restriction during the establishment stage was found to be the limiting factor. For the other, *M. arizonicum*, dispersal limitation was speculated as the reason for its rarity. The common species were also found to have restrictions that affected their occurrence. Propagule viability did not relate to establishment ability, suggesting that dispersal and establishment are funtionally separate in mosses. The complexity of mechanisms responsible for habitat specificity and narrow realized niches agrees with the predictions of several rarity hypotheses.

**Mills, Suzanne Elizabeth. 2001. Bryophyte species composition and diversity at different scales in conifer-dominated boreal forest stands. Master's thesis, Department of Renewable Resources, University of Alberta, Edmonton, AB, Canada. [xii] 124 pp. In English. Current address of author: Department of Geography, University of Saskatchewan, 9 Campus Drive, Saskatoon, SK S7N 5A5, Canada.**

This master's thesis examines patterns of bryophyte species diversity at different scales in the boreal forest. Bryophyte occurrence and abundance were sampled at three scales (stand, mesosite and microsite), and log-linear regression was used to model species richness, while multivariate analyses were employed to examine bryophyte species composition. Microsite type (e.g., logs, stumps, etc.) was found to be the principal driver of bryophyte species richness. Soil pH and moisture were positively related to species diversity of forest floor microsites and explained stand scale variation in species composition of mesosites and forest floor microsites.

**Raeymaekers, Geert L. M. 1986. Eco-physiological effects of simulated acidic rain and lead on *Pleurozium schreberi* (Brid.) Mitt. Doctoral dissertation, Michigan Technological University, Houghton, MI, U.S.A. xv + 126 pp. In English. Current address of author: Ecosystems Ltd., Generaal Wahislaan 21, B-1030 Brussels, Belgium <Geert.Raeymaekers@ecosystems.be>.**

This doctoral thesis reports on an investigation of the effects of simulated acid rain and lead interaction on the ecophysiology of *Pleurozium schreberi* in the boreal forest of Baraga State Forest near Alberta, Michigan, U.S.A. A new method using dimethyl sulfoxide as a solvent to extract chlorophyll was developed and compared to the traditional 80% acetone method. Simulated acid rain of pH 5.0, 4.0 and 3.0, and three lead levels, 0, 50 and 1000 ppb, were applied to *Pleurozium* in both field and laboratory experiments. Monovalent cations were strongly leached from the moss, generally independent of the acidity but dependent on the degree of desiccation of the moss. However, Ca and Mg were significantly more removed at lower pH levels, but this also was desiccation dependent.

**Tsubota, Hiromi. 2001. Molecular phylogenic study on the Sematophyllaceae (Hypnales, Musci) and their allies. Doctoral thesis, Department of Biological Science, Hiroshima University, Hiroshima, Japan. ii + 88 pp. + 4 reprints (see below). In English. Current address of author: Department of Biological Science, Graduate School of Science, Hiroshima University, Kagamiyama 1-3-1, Higashi-hiroshima-shi, Hiroshima 739-8526, Japan <chubo@hiroshima-u.ac.jp>.**

This doctoral thesis analyses the phylogenetic position of the genus *Brotherella* and its allies and the relationships between the Sematophyllaceae and Hypnaceae, based on *rbc*L gene sequences. The study suggests that the Sematophyllaceae s.l. are monophyletic, the Hypnaceae are not monophyletic, *Wijkia*, *Trismegistia* and *Acanthorrhynchium* do not form a single clade, and *Brotherella*, *Pylaisiadelpha*, *Heterophyllium*, *Wijkia*, *Isocladiella*, as well as some members of *Hypnum* and *Isopterygium*, belong in the Sematophyllaceae. The Entodontaceae appear to be a sister group to the Sematophyllaceae. Appended are the following four previously published articles: Tsubota, H., N. Nakao, T. Yamaguchi, T. Seki & H. Deguchi. 2000. Preliminary phylogenetic relationships of the genus *Brotherella* and its allied genera

(Hypnales, Musci) based on chloroplast *rbc*L sequence data. J. Hattori Bot. Lab. 88: 79-99; Tsubota, H., H. Akiyama, T. Yamaguchi & H. Deguchi. 2001. Molecular phylogeny of the Sematophyllaceae (Hypnales, Musci) based on chloroplast *rbc*L sequences. J. Hattori Bot. Lab. 90: 221-240; Tsubota, H., N. Nakao, T. Arikawa, T. Yamaguchi, M. Higuchi, H. Deguchi & T. Seki. 1999. A preliminary phylogeny of Hypnales (Musci) as inferred from chloroplast *rbc*L sequence data. Bryol. Res. 7: 233-248; De Luna, E., W. R. Buck, H. Akiyama, T. Arikawa, H. Tsubota, D. González, A. E. Newton & A. J. Shaw. 2000. Ordinal phylogeny within the hypnobryalean pleurocarpous mosses inferred from cladistic analyses of three chloroplast DNA sequence data sets: *trn*L-F, *rps*4 and *rbc*L. Bryologist 103: 242-256.

**Velde, Marco van der. 1972. Genetic structure of the moss genus *Polytrichum*. Doctoral thesis, Department of Genetics, University of Groningen, Kerklaan 30, 9751 NN Haren, Netherlands. 144 pp. In English with Dutch foreword and summary. Current address of author unknown.**

This doctoral thesis consists of seven chapters, plus a summary. The chapters are: Molecular markers reveal cryptic species within *Polytrichum commune* (common hair-cap moss); Genetic evidence for the allodiploid origin of the moss species *Polytrichum longisetum*; Amount and structure of intra- and inter-specific genetic variation in the moss genus *Polytrichum*; Isolation and characterization of microsatellites in the moss species *Polytrichum formosum*; Genetic variation and differentiation at microsatellite loci in the moss *Polytrichum formosum*: comparison with allozyme loci; Clonal structure and paternity analysis of *Polytrichum formosum* revealed by microsatellites; and Phylogeography of *Polytrichum* species within Europe. Although *Polytrichum* species show on average lower levels of genetic variation than most other bryophyte species, in general, mosses seem not to exhibit lower levels of genetic variation than diploid vascular plants. Neither a predominantly haploid life cycle nor the ability to reproduce asexually results in reduced levels of genetic variability in bryophyte species.

William R. Buck, Institute of Systematic Botany, New York Botanical Garden, Bronx, NY 10458-5126, U.S.A (bbuck@nybg.org).

# VACANCY

Report by Lars Hedenas

**The Department of Botany, Stockholm University, invites applications for a tenure-track position as Lecturer *(biträdande lektor)* in Plant Systematics (Reg. no. SU 613-1358-02).**
**Deadline for applications: August 9, 2002.**

The position involves research, supervision and teaching. As initial support, the Department of Botany provides financial support for one PhD-student. A tenure-track position is intended to be indefinite, but for no more than four years at the Lecturer level. The position may be renewed at the same level, but for no more than one year provided that the Lecturer has taught basic undergraduate courses for more than 25 % of his/her time. A Lecturer may apply to be promoted to a tenured position as Senior Lecturer. An application for promotion should be submitted no later than one year before the period of employment as Lecturer has expired.

Anyone who has completed a doctorate or has a foreign degree that is considered to be the equivalent of a doctorate qualifies for employment as a Lecturer. The doctorate should be completed by the final date for applications. Applicants who have completed their degrees no more than five years prior to the end of the application period should be given priority. Applicants who have completed their degrees prior to this date will also be given priority if there are extenuating circumstances. Such circumstances include (but are not strictly limited to) sick leave, military service, formal activities in a trade union or student organisation and parental leave.

In the hiring process, special emphasis shall be given to scientific expertise. Consideration will also be given to pedagogical expertise. Most senior lecturers in the Department of Botany are male. The Faculty welcomes applications from women.
For further information please contact the Head of the Dept., Professor Ove Eriksson, telephone +46 8 161204, e-mail: ove.eriksson@botan.su.se, and the administrative co-ordinator, Ann-Charlotte Östblom, telephone +46 8 162086, e-mail: ac.ostblom@natkan.su.se. Trade union representatives: Bo Ekengren (SACO) and Lars-Åke Säll (ST/ATF) telephone +46 8 162000.

The application, in English, should contain:

· a complete *curriculum vitae* and a numbered list of the applicant's publications,
· a summary of the applicant's scientific and teaching merits and a research plan. The candidate should stress which achievements and publications he/she considers particularly important for this position,
· copies of PhD diploma and other degrees,
· two sets of reprints of relevant publications.

A guideline for documentation and evaluation in qualifying for employment as a member of the teaching faculty at Stockholm University is recommended:
http://www.pb.su.se/Meritering_SU-eng.html Applications, quoting **Reg.no. SU 613-1358-02,** should arrive no later than **August 9, 2002.**

Please send the application to:
**Stockholm University**
**Registrar/PA**
**SE-106 91 STOCKHOLM, SWEDEN**
Applications initially sent by fax (to Registrar, +46 8 16 38 66) or by e-mail: registrator@su.se, should be followed by signed originals as soon as possible.
Useful web-sites for further information:
Stockholm University: http://www.su.se
The Department of Botany: http://botan.su.se

# CONSERVATION COLUMN Editor: Tomas Hallingbäck

## The IAB-IUCN Conservation Specialist Group board meeting, Lucknow (India),

Report by Tomas Hallingbäck

The meeting took place on 24 January 2002 and was organised during the IAB conference in Lucknow
Present were: S. R. Gradstein, T. Hallingbäck, Z. Iwatsuki, L. Söderström, B. C. Tan. Co-opted for this meeting: B. O'Shea and D. Long.

**Brief reports from present members**

Ben C Tan
Since the St Louis meeting, Benito Tan has given talks on moss diversity and the need for conservation to several groups of Singaporean students from high schools who visited the Raffles Museum of Biodiversity Research at the National University of Singapore.
He conducted field work in Mongolia and the Philippines (Mindanao) to document the moss diversity as well as to discover new species of mosses. The expedition to Mt. Malindang on Mindanao Island in the Philippines was conducted in December 2001 with funding from the EU, the SEARCA office of the ASEAN organisation and the Philippine government. The aim is to train the local villagers to learn to appreciate and recognise the local bryophyte diversity, so that they can serve effectively as the forest rangers of Mt. Malindang National Park.
Field expeditions are planned to central Vietnam (December) and Sri Lanka (May) to document the regional moss diversity. In Sri Lanka, the expedition will be followed by a two-day workshop to teach local workers in the Forestry and Park Administrations about the identity of common mosses that can be used as indicator plants of forest conditions.

Finally, Benito Tan will also apply for money to hold the first mini-conference in Shanghai, on the most endangered bryophytes of China. Conference organised in collaboration with Prof. Cao Tong at Shanghai Normal University.

L. Söderström
A conference on rare bryophytes was held in Czech Republic June 2001, organised by the ECCB. Proceeding of this conference will be published in late 2002 in Novit. Bot. Univ. Carol. (Praha), edited by Prof. Dr. Jiri Váňa.
The ECCB has now its own webpage:
http://www.chembio.ntnu.no/users/soder/ECCB/index.htm

Z. Iwatsuki:
The Japanese have published their new Red Data book in 2000: "Threatened Wildlife of Japan Red Data Book 2nd ed. vol. 9 Bryophytes Algae Lichens & Fungi."

T. Hallingbäck

According to Tomas Hallingbäck, the greatest event was when the global 'Action Plan' was published in late 2000. Furthermore, two new "Endangered-bryophytes" Internet sites have been updated see:
http://www.artdata.slu.se/guest/SSCBryo/SSCBryo.html as well as http://rmbr.nus.edu.sg/worldbryo/WorldBryo.html.
Most of the same information can be read in the printed 'Action Plan'.
Some free copies of the " ***Mosses, Liverworts, and Hornworts. Status Survey and Conservation Action Plan for Bryophytes"*** can still be ordered from Tomas.

S. R. Gradstein announced that he wishes to withdraw from the committee because of his too many other commitments. He suggests Dr Uwe Drehwald, who knows the hepatic flora in Latin America rather well, as his successor. We thank Rob Gradstein for his stimulating interest and valuable contributions to the IAB-IUCN Conservation Specialist Group.

**Future Plans and Projects**

1. Urgent need of full **documentation of the 83 red-listed species** on the global red list. Each of the species must be fully documented according to the IUCN standards before the end of 2003. Tomas will ask members and other bryologists to compile relevant documentation.
2. Discussion of recruitment of **additional members** e.g. any of the active bryologists in India and one hepaticologist active in China.
3. **The IAB Rare Species and Bryophyte Conservation Fund**
Some proposals how to spend the return from the IAB 'Rare Species and Bryophyte Conservation Fund' were discussed. Very few applications have hitherto arrived. It was decided that at least some of the money should be used to promote a satellite meeting in connection with the forthcoming IAB world conference. This first satellite meeting (Venezuela next year) will intend to focus on bryophyte conservation. The support should be earmarked for inviting local conservationists (in order to achieve a dialogue etc) and non-local expertise to promote successful conservation of the bryophyte flora.
Next meeting – to be held in Merida (Venezuela) at the end of July 2003.

Tomas Hallingbäck:, Swedish Species Information Centre, Swedish University of Agricultural Sciences, P.O. Box 7007, SE-750 07 Uppsala, Sweden,
(Tomas.Hallingback@ArtData.slu.se)

# RESEARCH POSSIBILITIES

## FUNDS AVAILABLE FOR SHORT VISITS TO THE SWEDISH MUSEUM OF NATURAL HISTORY (NATURHISTORISKA RIKSMUSEET, NRM)

Report by Irene Bisang

The European Commision (EC) appointed the Swedish Museum of Natural History NRM as a Major Research Infrastructure. This provides possibilities for researchers conducting their research in European Community member states, except Sweden, or associated states to get support for visits (up to three months) to NRM through the programme called HIGH LAT. Already in the Bryological Times N° 105, the first round for applications was announced.

**The second call for applications is now opened.**

Please read the following announcement, and visit the homepages indicated there for more information.

The funds are made available through the European Commission's programme for "Improving the Human Research Potential and the Socio-economic Knowledge Base" (IHP). The grant is entitled "Access to Naturhistoriska Riksmuseet - High Latitude" (HIGH LAT). It enables us to cover travel and accommodation costs for scientists wishing to use our collections and or other research facilities. The HIGH LAT programme began November 1st 2001 and will run for 28 months until February 29th 2004. Applications for financial support for a visit to NRM are herewith invited.

There are a number of terms and conditions associated with this opportunity, outlined below. If you are interested in applying for support, or are uncertain about whether you are eligible, please visit our website (http://www.nrm.selhighlatl) or contact the project management (highlat@nrm.se).

1) A formal application must be made. Please read the Application Guidelines before completing it

Application form:
http:llwww.nrm.selhighlatlapplication.htmi).

Application Guidelines:
http:llwww.nrm.selhighlatlappiquide.htmi

The next deadline for submission of applications is 31 August 2002.

2) To be eligible you must conduct your research in an EU Member State or Associated State (http://www.nrm.selhighlat/conditions.htmi). Scientists working in Sweden are not eligible for support under the HIGH LAT programme.

3) Priority will be given to scientists who have not previously used our facilities and who are working in regions of the EU where few such research infrastructures exist.

We hope that many of you will see this as an opportunity to visit the Swedish Museum of Natural History, utilising collections and other facilities that have not previously been available to you.

Irene Bisang, Section of Cryptogamic Botany, Museum of Natural History, Box 50007, SE-104 05 Stockholm, Sweden
irene.bisang@nrm.se (HIGH LAT co-ordinator).

# THE IAB-SYMPOSIUM, MERIDA VENEZUELA, JULY 21-25 2003

## Structure - Dynamics - Evolution
## FIRST CIRCULAR

Report by Yelitza Leon

**General information**

The 2003 Symposium of the International Association of Bryologists (IAB) will be held in the Centro Jardín Botánico , Facultad de Ciencias in the Universidad de Los Andes. Mérida, Venezuela. It is housed in new university buildings on a modern campus outside the town, which has all facilities for an international congress. The Universidad de Los Andes is the third most important University in the country (for more information visit the site www.ula.ve). Mérida is a pleasant city with old historic downtown areas. It is easily reached by a 45 min flight from Caracas International Airport several times a day. Mérida is located at 1600 m and therefore has a very pleasant climate. The town has good possibilities for accommodation in all price classes and also a congress hotel close to the campus. Interesting places for fieldtrips are close to the city, which are easily accessible by car or cable car, which leads within an hour to the surrounding cloud forests and paramos and the top of Mt. Bolivar in 5000 m altitude.
Tourist information about the country, the city and surroundings can be found in the sites www.venezuelatuya.com and www.solinga.com/venezuela

The meeting will be focus on the state of knowledge and development of different areas in bryology from molecular bryology to population and community studies.

**Special presentation:**
Exhibition "BryoArt": Artists who paint, photograph bryophytes are invited to participate.

**Activities**
**Precongress**: July 18-19

Workshop on bryophyte conservation: Organized by Dr. Tomas Hallingbäck (Tomas.Hallingback@ArtData.slu.se). More information to be announced.
Conference (45 min.) additional 10-15 minutes for questions.
Talks (15 minutes)

**Congress technical remarks**
*Congress language*: English
*Postcongress excursions*:

The fieldtrip on July 26 will be led by the world's longest and highest cable car to 2000, 3000, 4000 and 5000 m altitude. By this way montane rain forests, subparamos and paramos can be reached very comfortably within only one hour, depending on your physical condition. The region is type locality of many bryophyte species.
Excursions will be charged separately.

July 27 Páramos and Polylepis forests around Laguna Negra (Paramo de Mucubají)

*Registration fees*

| | Before 1 March 2003 | After 1 March 2003 |
|---|---|---|
| Students | US $ 80 | US $ 100 |
| Professionals | US $ 100 | US $ 120 |

Registration fee covers: Coffee breaks, materials, abstracts, dinner.

*Hotel prices*: Visit www.hotel-laterraza.com for reference.

*Costs for field trips*: to be announced

**Preliminary program**

Monday 21
IAB World Conference in Bryology
9:00 Coffee
8:00 Registration
9:30 Introductory Conference. Dr. William Buck, 2002 Spruce Award winner
11:00 Molecular bryology session starts
12:00 lunch
2:00 to 6:00 afternoon sessions
6:00 IAB Council meeting

Tuesday 22
8:30-12:00 Cell biology and physiology session
2:00 to 6:00 Function and morphology

Wednesday 23
8:30-12:00 Population (Taxonomy and evolution)
4:20-6:00 IAB Business Meeting
8:00 Congress dinner

Thursday 24
8:30-12:00 Phytogeography
14:00 Midcongress fieldtrip: Monte Zerpa

Friday 25
8:30-12:00 Ecology
14:00-17:30 Poster exhibition or session X

**For questions and preliminary registration contact the local organizer:**
*Yelitza León V., Centro Jardín Botánico, Facultad de Ciencias Universidad de Los Andes, Núcleo Universitario Pedro Rincón Gutierrez, La Hechicera, Merida. Apartado postal 52. Venezuela*
*E-mail: yeltleon@ciens.ula.ve*

# Pre-registraton Form

## IAB-Symposium

## Structure - Dynamics – Evolution

**I wish to attend the World Conference of Bryology from July 22 - 25, 2003 in Mérida, Venezuela.**

**Name:**

**Address:**

**E-Mail:**

**I wish to participate in the post-congress fieldtrips on**

☐ **26.7.**

☐ **27.7.**

**I wish to present a paper entitled:**

**Date,**

**Signature:**

---

**Please send to:**

*Yelitza León V.*
*Centro Jardín Botánico*
*Facultad de Ciencias*
*Universidad de Los Andes*
*Núcleo Universitario Pedro Rincón Gutierrez*
*La Hechicera, Merida. Apartado postal 52.*
*Venezuela*
*E-mail: yeltleon@ciens.ula.ve*

# IAB: RECENT DEATHS

William D. Reese died in Lafayette, Louisiana on 4 February 2002. A tribute will be published in a future number of The Bryologist and the Journal of Bryology.

Howard Crum, died in Ann Arbor, Michigan on 30 April 2002. An obituary and complete bibliography will be published in The Bryologist.

# IAB: CALL FOR NOMINATIONS

The I.A.B. will elect 1 vice president and 5 council members for 4 years terms to replace those officers whose terms expire.

Vice President to replace: Schofield

Councilors to replace: Buck, Cao, Frahm, Ignatov, and Seppelt
[Councilors who continue until 2005: Crandall-Stotler, Deguchi, De Luna, Glime, and Longton]

Please send the names of members that you would like to nominate for these positions to the chair of the elections committee:

Dr. R. Stotler
Dept. of Plant Biology
S.I.U., Carbondale, IL 62901-6509, USA

e-mail: stotler@plant.siu.edu
fax: 618-453-3441.

Nominations will close October 31, 2002.

Elections Committee:
S. R. Gradstein
R. E. Stotler, Chair
D. H. Vitt

# NEW IAB-DUES COLLECTORS FOR EUROPE

We are very pleased to announce that beginning now, we have two new persons who will help the society by collecting dues for us.

**IN EURO (€)**
J. Florschütz-de Waard, inz. IAB, Emmalaan 9, De Bilt, THE NETHERLANDS (11 € made payable to postal giro account no. 3685824)

**IN SF (Suisse Francs)**
Michelle Price, Curator of Bryophytes (G), Conservatoire et Jardin botaniques, Case Postale 60, CH-1292 Chambésy-GE, Switzerland, E-mail: Michelle.Price@cjb.ville-ge.ch (17 Swiss francs, made payable to Michelle Price).

**IN UK-POUND (£)**
F.H. Dawson, Freshwater Biological Association, River Laboratory, East Stoke, Wareham, Dorset BH20 6BB, U.K. (7 British pounds)

**IN NORWEGIAN KRONER (NOK)**
Lars Söderstrom, 70 NOK by postal Giro account no. 0825 0999594, Department of Botany, Norwegian University of Science & Technology, N-7055 Dragvoll, Norway or 105 Norwegian Kroner to Nordic Bryological Society.

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## UPCOMING MEETINGS

**2002**

**July 24-28. Annual American Bryological and Lichenological Society Meeting.** University of Connecticut in Storrs. There will be local field trips on two days, July 24-25, preceeding the paper sessions, which will be held on July 26-28. Contact: bbuck@nybg.org or the web site http://www.eeb.uconn.edu/abls/

**August 13-23, The Third International Symposium on the Biology of Sphagnum.** Uppsala (Sweden) – Trondheim (Norway). Contact: hakan.rydin@ebc.uu.se

**September 13-15. Andrews Foray 2002** in Southern Maine (USA). The 27th annual A. Leroy Andrews Foray will be held in York County, Maine. Lodging will be at Oceanwood in Ocean Park, Maine. The main site will be the Massabesic Experimental Forest, raised bog and a coastal wetland/barrier beach. Contact: Betsy Newcomer e-mail: newcomer@psouth.net

**September 18-20, XIV Simposio de Botanica Criptogamica, Murcia (Spain)**. Information: Dep. de Biologia Vegetal, Universidad de Murcia, 30100 Murcia, Spain,. Contact: Dr. Mario Honrubia: honrubia@um.es

**October 4-6. Annual Blomquist Bryological Foray.** The Fifteenth Annual Blomquist Bryological Foray will be held in western North Carolina in the Cataloochee area of the Great Smoky Mountains National Park, Haywood County, and in the adjacent Pisgah National Forest. Contact: Molly McMullen, Phone: (919)-660-7300. Fax: (919) 660-7293. e-mail: mmcm@duke.edu

**November 16-17. BBS Workshop "Arable Bryophytes".** Contact Dr. Ron Porley. Email Ron.Porley@english-Nature.org.uk**.**

**2003**

**July 23-27 15th. IAB meeting in Merida, Venezuela**. See this issue of The Bryological Times: pg xx.

**August 17-23. Fourth International Symbiosis Society Congress**. As several bryological groups are working on cyanobacterial symbioses, David Richardson announces that the Fourth International Symbiosis Society Congress will be held between at Saint-Mary's University, Halifax, Nova Scotia, Canada**.** Contact: D. Richardson Tel.: 902-420-5493, Fax: 902-420-5261, e-mail david.Richardson@stmarys.ca http://people.bu.edu/dzook/

**2005**

**International Botanical Congress in Vienna**, with meeting of the IAB.

**2007**

**IAB meetng in Kuala Lumpur, Malaysia**.. Contact the local organizers: Dr. Haji Mohamed and Dr. Amru N. Boyce, Fac. of Science, University of Malaysia, Kuala Lumpur 50603, email: haji@biology.um.edu.my