

the Bryological Times

*Newsletter of
the International
Association of Bryologists*

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The Stanley Greene award

The Stanley Greene Research Award is open for proposal. The award is given to research projects within all disciplines of bryology. Awards will be around 5,000-7,000 CDN\$.

Proposal including a resume and names of three references. It is very important that it is stated in clear terms the product(s) and where they will be published.

Deadline for proposal is 31 January 1999. Send proposal to Dale Vitt, Department of Biological Sciences, University of Alberta, Edmonton, Alberta, Canada T6G 2E9

**The new
identity of
International
Association
of Bryologists**



IAB have until now not had any logotype but with the growing activity of our society the council decided that we need one. The following logotype is made by Dale Vitt for our use

Contribution from
Ray Tangney
Regional Editor

Architecture and growth form in Mosses

Ray Tangney

Department of Botany, University of Otago, PO Box 56, Dunedin, New Zealand.

The study of plant architecture is a branch of morphology, best known perhaps for the analyses of tropical tree architecture e.g. Halle et al. (1978). This approach to plant construction has a strong developmental focus, as growth and branching are not events but processes occurring through time. Meristem position and activity determine plant structure, and architectural analysis can be viewed as a search for repeatable constructional units, from a developmental perspective.

This article provides a brief introduction to architectural analysis of mosses, outlines its usefulness, and advocates a greater use of architectural analysis in moss gametophyte morphology.

MOSESSES

Bryologists have traditionally not used the term architecture in morphological analysis. Bryophyte growth forms have provided a classification of branching pattern of individual bryophyte plants, their "genetically fixed method of ramification" (Magdefrau 1982). Growth forms however, have in practice not been clearly distinguished from life forms. The latter are used to classify bryophytes on the basis of physiognomy, the overall appearance of bryophyte colonies, i.e. groups of individuals. Consequently there has been a lack of emphasis on branching pattern analysis, and confusion over both the nature and utility of life forms and growth forms. Because of this I prefer the term architecture as used in 'higher' plants as it brings with it the strict emphasis on branching pattern and its developmental processes, and a fresh approach to bryophyte branching pattern analysis. Recent papers by Mishler and De Luna (1991) and La Farge-England (1996) have addressed this issue. Mishler and De Luna provided a framework for the description of bryophyte development, emphasising repeated

units, at different hierarchical levels, as the basis of growth. The five developmental levels range from the cell, the metamer (the merophyte), the module (the products (metamers/merophytes) of a single apical cell, i.e. a branch), branch system and shoot system.

La Farge-England also addressed the branching pattern of mosses. Her focus was the nature of growth forms and their characterisation in terms of branching pattern and perichaetial position. As well, many of the terms associated with the description of growth direction and pattern were outlined, defined and illustrated. These two papers provide a good foundation for the development of a more architectural approach to moss branching pattern.

RECOGNITION OF MODULES

The hierarchical system outlined by Mishler and De Luna incorporated the observation that differentiation occurs within each level. At the level of the cell, differentiation is dependent on the cell's position in the next level, the metamer. Similarly, all metamers are not equal within modules / branches. Modules are defined as the accumulated products of a single terminal apical cell. If architecture is the search for repeatable modules, then the pattern of development within the modules, i.e. that which characterises the module, is the focus of architectural analysis.

Individual merophytes in mosses produce a leaf and associated stem tissue, and have the potential to produce branches through lateral apical cells. The size and shape of leaves, presence or absence of branches, direction of growth, etc, may therefore be used to characterise merophyte development within a module. For example distinct heteroblastic series can be observed along branches from the juvenile, or first, leaves produced, to the mature leaves (Mishler and DeLuna 1991). The

pattern of metamer / merophyte development from juvenile to mature is repeated in each new module, making them recognisable.

REPETITION OF MODULES (REITERATION)

When the terminal apical cell ceases growth (i.e. when module growth ceases), new growth comes from lateral apical cells. In this way repetition of the modules is sympodial and new heteroblastic series are produced. By definition, growth and branching within modules is monopodial (apical dominance is maintained). However, reiteration of modules may be either sympodial, or monopodial, by continued activity of the terminal apical cell.

INFLUENCE OF PERICHAETIAL POSITION

If perichaetia are terminal, the terminal apical cell is used up and subsequent growth has to come from lateral apical cells. The growth of new modules in acrocarps is therefore sympodial. If perichaetia are lateral, either on the stem (pleurocarps), or on abbreviated lateral branches (cladocarps), the terminal apical cell is able to continue growth. In both cases, growth within modules is monopodial. Acrocarpy imposes sympodial reiteration, but pleurocarpy/cladocarpy allows reiteration to be either sympodial or monopodial.

UTILITY OF ARCHITECTURAL ANALYSIS

Architectural data are of considerable morphogenetic interest. The repetition of heteroblastic series within modules means that between related taxa the modules are architecturally homologous. Modules are comparable between taxa and heteroblastic series have been used to develop heterochronic explanations of speciation in *Tortula* (Mishler 1986).

Continued on page 3

Continued from page 2

In *Camptochaete* (Lembophyllaceae), architectural analysis has helped understand the morphological variation at both species and generic levels within the family, and showed that the same architectural pattern may produce various traditional growth forms. *Camptochaete* exhibits a heteroblastic series which produces distinct phases of stolon, stipe and frond within modules (Tangney, 1997). Reiteration of the modules may be either sympodial or monopodial. Extreme morphological variation is associated with reiteration of the modules and differences between the genera reflect differential development of the same architectural pattern (Tangney 1996, 1998).

CONCLUSION

The classification of mosses offers the challenge of synthesising information from two highly developed generations, the sporophyte and the gametophyte. With the debate continuing over the relative value of each generation in this synthesis (e.g. Buck 1991), architectural analysis offers a greater understanding of plants at the level of branch / branching pattern. Its emphasis on developmental pattern has the potential to produce both new characters and novel hypotheses of evolution (Mishler and De Luna 1991) within mosses, both of which will find a place in analyses increasingly incorporating molecular data.

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Best Book Buy

Still available is Seville Flower's book "Mosses: Utah and the West". The hard-back book of 565 pages has wonderful illustrations and a great introductory chapter on bryophytes. It is available for only \$7.95 US plus shipping and handling.

Contact Liz Christopher at Brigham Young University, Utah, U.S.A. They accept VISA and personal cheques drawn on an American bank. Telephone (801) 378-7379

Recent death

DR. ALAIN LECOINTE

Dr. Alain Lecoïnte (University of Caen) died May 25, 1998, at an age of only 54 years after a long, fatal illness. He was an excellent professional bryologist in floristics and bryosociology, working mostly in Normandy and Brittany (France).

CHARLES B. ARZENI (1925-1997)

Bryologist, Economic Botanist and Master Teacher

It is with sadness that I report the death of Dr. Charles Arzeni. Dr. Arzeni passed away at the age of 71 on October 9, of massive heart failure in Ajijic (state of Jalisco), Mexico. At the time of his death, he and his wife, Joan were preparing to return to Texas after a 2 month stay.

Arzeni began college studies at Eastern Illinois University and received a B.S. in Biology in 1948. In 1949, he received his M.S. in Botany at the University of Michigan and his Ph.D. in 1952 (as a Horace H. Rackham Scholar) at the University of Michigan.

After receiving his Ph.D., Arzeni became a research botanist for the Firestone Rubber Company in Liberia from 1952-54. In 1954, he returned to the U.S. to become Chairman and Profes-

sor of Biology at Tougaloo College, Mississippi until 1960. From 1962-64 he was an Associate Professor of Biology at the American University in Beirut, Lebanon. In 1965, he returned to the U.S. to become Professor of Botany and Curator at Eastern Illinois University (Charleston, Illinois) until his retirement in 1993. During his tenure at Eastern, Arzeni had numerous advisees and over 40 M.S. and 20 Ph.D. degrees. After his retirement in 1993, Arzeni and Joan, his wife, moved to Texas and traveled to Mexico on a regular basis.

During his academic and research career, Arzeni traveled internationally as a researcher and lecturer. He was also a Fulbright Scholar in Colombia (1975) and in Peru (1976), in addition, he served as resident Director of Tropical Field Botany, Monterrey Tech, Mexico in the years 1968-1974, 1976, and 1987-1990).

A memorial fund has been established in his honor at Eastern Illinois University. Memorials can be sent to:

Charles B. Arzeni Memorial Fund, c/o Eastern Illinois University Foundation, Charleston, IL 61920

Kevin J. Lyman, Curator of Non-vascular Plants, Milwaukee Public Museum

News from the Bryological Society of Japan

The Bryological Society of Japan (BSJ) has elected new officers for January 1998 - December 1999, at the general meeting in Hiroshima, 3 - 8 August, 1997.

President: N. Kitagawa (Nara Univ. of Education).

Secretary: H. Deguchi (Hiroshima Univ.).

Treasurer: T. Yamaguchi (Hiroshima Univ.).

Auditor: H. Kanda (National Institute of Polar Research).

Editor: J. Hasegawa (Minami-Kyushu Univ.).

Associate Editors: T. Furuki (Natural History Museum and Institute, Chiba), H. Akiyama (Museum of Nature and Human Activities, Hyogo) and N. Nishimura (Okayama Univ. of Science).

The secretary of BSJ was moved incidentally from National Institute of Polar Research to Hiroshima University. All communications should be addressed to secretary: Bryological Society of Japan, Department of Biological Science, Faculty of Science, Hiroshima University, Kagamiyama, Higashihiroshima-shi, Hiroshima-ken, 739 Japan (email: hdeguch@ipc.hiroshima-u.ac.jp).

The 27th Annual Meeting of the society will be held at Kochi, 25-27 July, 1998. The events include a paper reading session, a society banquet, a business meeting, and a field excursion. All inquiries about the meeting should be addressed to Dr. T. Matsui, Department of Biology, Faculty of Science, Kochi Univ., Akebono-cho, Kochi 780, Japan (e-mail: matsuito@cc.kochi-u.ac.jp).

THE 1998 ANNUAL MEETING

The 27th Annual Meeting was held on 25-27 July, 1998, in Kochi-shi, SW-Japan. More than 60 members attended from all over Japan. The events included (1) a paper reading session with 12 presentations, (2) a poster session

Hedwig Symposium

GÖTTINGEN, GERMANY, 29-30 MAY 1999

FIRST ANNOUNCEMENT

In 1999 it will be 200 years since Johannes Hedwig (1730-1799), the "founder of bryology", has died. Hedwig, a professor of botany at Leipzig, is known for his pioneer studies on the morphology and systematics of cryptogams, especially mosses. He discovered the function of the antheridia and archegonia, he provided the first detailed descriptions and illustrations of the peristome and demonstrated the relevance of peristome characters in the classification of the mosses. His posthumously published "Species muscorum frondosorum" (1801) is the starting point for the nomenclature of the mosses.

To commemorate the achievements of Johannes Hedwig, a small symposium will be held at the University of Göttingen on 29-30 May 1999. The programme shall include a lecture session on Saturday 29th and an excursion into the Harz Mountains on Sunday 30th. An exhibition of the publications of Johannes Hedwig will be arranged in collaboration with the University Library.

The second announcement, including a detailed programme and information on accommodation in Göttingen, will be available in the autumn of 1998. Those interested in receiving the second announcement are requested to send their complete address (with Fax and e-mail-number, when available) to the convener, S. Rob Gradstein, Institute of Plant Sciences, Untere Karspüle 2, 37073 Göttingen, Germany. You may also preregister by email to: sysbot@gwdg.de

The programme of the lecture session, chaired by Wolfgang Frey (Berlin) and Timo Koponen (Helsinki), is as follows:

1. JOHANNES HEDWIG AND HIS CONTRIBUTIONS TO BRYOLOGY

- Jan-Peter FRAHM (Bonn): The life and work of Johannes Hedwig
- Wilfried MORAWETZ (Leipzig): Johannes Hedwig and the history of botany in Leipzig
- Patricia GEISSLER (Geneva): The Hedwig herbarium and its importance for nomenclature of mosses

2. BRYOLOGY 200 YEARS AFTER JOHANNES HEDWIG

- Dale H. VITT (Edmonton): The classification of the mosses 200 years after Hedwig
- Terry HEDDERSON (Reading): The impact of molecular data on the systematics of mosses
- Hélène BISCHLER-CAUSSE (Paris): Molecular approaches to the systematics of liverworts
- Jeffrey G. DUCKETT (London): Whither bryophyte systematics and phylogeny?

BRYOLOGICAL RESEARCH

"Bryological Research" is published by our Society, three times a year, continued from "Proceeding of the Bryological Society of Japan". Volume 7(4) was published at the end of May, and 7(5) was published at the end of July.

J. Hasegawa (*Biological Lab., College of Horticulture, Minami-kyushu Univ., Tananabe-cho, Miyazaki 884-0003, Japan*)

with 2 posters, (3) a society banquet, full of delicious seafood, (4) a business meeting, and (5) an excursion to Benuvalley, a calcareous area in Kochi-pref.

In the business meeting, the president, Dr. N. Kitagawa proposed Drs. H. Ando of Hiroshima and U. Mizushima of Tokyo to be a honorary member of our Society. The proposal was accepted unanimously.

The meeting for 1999 (28th) will be held at Shirahama-onsen, a famous hot spring in Wakayama, on 21-23 August.

How is the Bryological Times produced?

The Bryological Times is produced by and for members of the International Association of Bryologists. The editor may have one or more assistant editors in addition to regional and column editors. At present Lars Söderström, Trondheim, Norway is the editor with help from Henrik Weibull, Uppsala, Sweden and Terry Hedderson, Reading, UK.

Lars puts together the final issue while Henrik takes care of typing in material that reaches us on paper, and Terry checks the language. To save time, contributors do not normally see their contributions after the linguistic check. We hope that this procedure does not cause any problems.

Starting from this issue, six regional editors are appointed. They are Ray Tangney, New Zealand (covering Australasia), Ben Tan, Singapore (covering south and southeast Asia), Cao Tong, China (covering central and east Asia), René Belland, Edmonton, Cana-

da (covering North America) and Inés Sastre-De Jesús, Puerto Rico (covering Latin America). One additional editor should be appointed covering Europe and/or Africa. This will be done shortly.

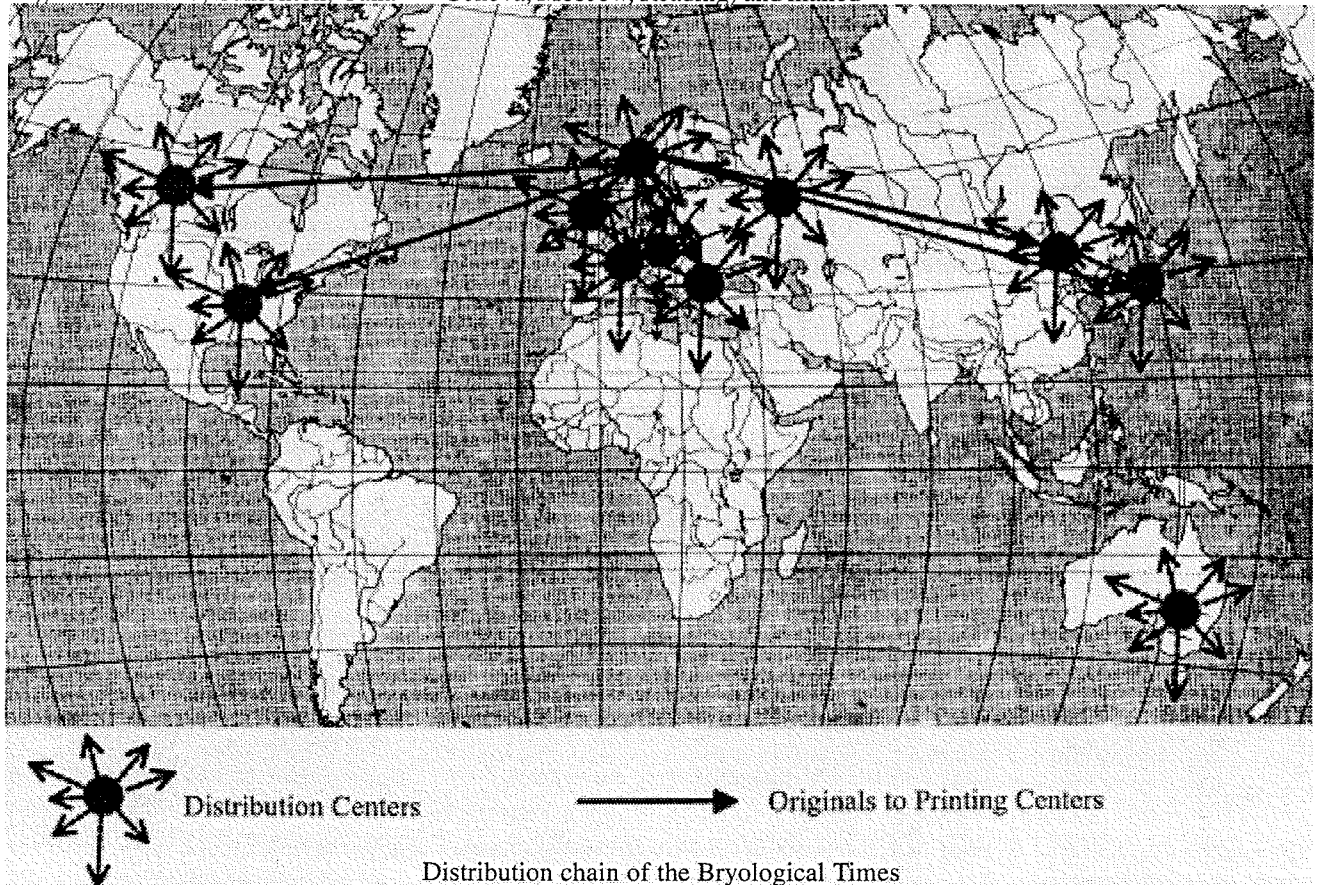
To cover special topics that we feel are important fields at the moment, we have special columns with their own editors. At present we have four such columns. The Literature column is edited by Johannes Enroth, Helsinki, Finland. The Tropical Bryology column is edited by Tamás Pócs, Eger, Hungary. The Conservation column is edited by Tomas Hallingbäck, Uppsala, Sweden. The News From Herbaria is edited by Roy Perry, Cardiff, UK.

The Bryological Times is edited in Trondheim, Norway. Originals are then sent to Hiroshima, Shenyang, St. Louis, Prague, Eger and Edmonton for duplication. Copies from some of these copying centers are thereafter sent to a few additional mailing centers (Canberra, Geneva, Moscow, Reading) and mailed

to you. At present it reaches over 600 bryologists around the world.

Editors are appointed at each IAB Meeting for 2 years with possibilities to be re-appointed. The Editor-in-Chief is a member of IAB Council. Regional and column editors are also appointed for two years with possibilities to be re-appointed.

The whole survival of this newsletter is in the hands of you, dear members. We like to have contributions from all of you, both on smaller and larger matters. When we have very little material (as we have at present) the Bryological Times will appear irregular but if you provide us with more material (directly to the editors or through our regional editors or column editors) we can print and send out up to 6 issues per year. Please, send in more reports on activity, announcements, shorter communications, etc.



**LARS SÖDERSTRÖM**

I have been interested in bryophytes ever since I had to take care of the bryophyte part of a cryptogam course for kids back in 1975. Two of us, at that time both with general interests in botany but no special knowledge of cryptogams, decided who should take the bryophyte part and who should take the fungi part by flipping a coin. I got the bryophytes and thus became a bryologist (my friend is now a skilled amateur mycologist!).

I have worked most of my time in Umeå, Sweden, but since 1992 I have been based in Trondheim, Norway. I am

Editors

originally a plant ecologist and have done most of my research in bryophyte ecology, especially population ecology and metapopulation dynamics. This work has led me to an interest in conservation and problems around species survival and rarity, areas that I work most with now. As the editor of BT I am a member of the IAB Council. I am also the treasurer of the Nordic Bryological Society and the chairman of European Committee for Conservation of Bryophytes (ECCB).

Address: Lars Söderström, Department of Botany, Norwegian University of Science and Technology, N-7034 Trondheim, Norway. Tel. +47 735960 61. Fax. +47 735961. Email: Lars.Soderstrom@chembio.ntnu.no

Please send all types of material that do not fit into a column to me (or a regional editor), preferably on disc or as attachment to an email. I can read almost all formats.

HENRIK WEIBULL

Henrik Weibull is a PhD student in Uppsala, Sweden. He is working with bryophytes in deciduous forests. He will present himself in a coming issue.

Address: Henrik Weibull, Department of Conservation Biology, Swedish University of Agricultural Sciences, P.O.Box 7002, S-750 07 Uppsala, Sweden, Phone +46 18 672049, Fax +46 18 673537. Email: Henrik.Weibull@nvb.slu.se

Send material that needs to be typed directly to Henrik.

TERRY HEDDERSON

Terry Hedderson is from Newfoundland, Canada, but now working in Reading, UK. He will also present himself in a coming issue.

Address: Terry Hedderson, Department of Botany, University of Reading, Whiteknights, RG6 2AS Reading, UK. FAX +44 1 734 753 676. Email: T.A.J.Hedderson@reading.ac.uk

Terry is checking the English in all contributions.

Regional Editors

Regional editors shall serve as a magnet for contributions for different regions. In addition they shall be responsible for a main story to every issue.

**BENITO C. TAN**

I am now at the Department of Biological Sciences of the National University of Singapore and I have accepted the assignment to make periodic reports on the bryological activities and progress in Southeast Asia. I am originally from the Philippines and have spent many years studying the moss diversity and biogeography in Malaysia.

From 1990-1997, while working as a research associate at the Farlow Herbarium of Harvard University in USA, I had enlarged my research interest to include the moss floras of China and

Vietnam. I have monographed the families Hookeriaceae and Sematophyllaceae for the floras of the Philippines and China. I also participate in the preparation of the revision of Sematophyllaceae with Drs. H. Ramsay and W. B. Schofield for the Flora of Australia project. As a member of the IAB Committee on Endangered Bryophytes headed by Dr. T. Hallingbäck, I monitor in collaboration with Prof. Z. Iwatsuki in Japan the world most endangered moss taxa and identify the various hot spots of moss diversity in Asia. Now that I am back in Southeast Asia, I will focus again on systematic and biogeographical research on the regional moss flora, especially the moss flora of Borneo.

Address: Ben Tan, Dept of Botany, School of Biological Sciences, National University of Singapore, Singapore 119260. Email: dbsbct@nus.edu.sg

Ben will try to cover bryology in southern and southeastern Asia.

RAY TANGNEY

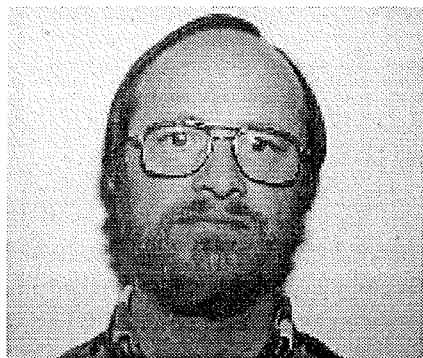
Ray Tagney is from Dunedin, New Zealand and will try to cover bryology in Australasia. He will present himself in a coming issue.

Address: Ray Tangney, Department of Botany, University of Otago, PO Box 56, Dunedin, New Zealand. Tel. +64 3 479 7577. Fax. +64 3 479 7583. Email: ray@phyton.otago.ac.nz

INÉS SASTRE-DE JESÚS

Inés Sastre-De Jesús is from Puerto Rico and will try to cover what happens in bryology in Latin America. She will present herself in a coming issue.

Address: Inés Sastre-De Jesús, Departamento de Biología, Universidad de Puerto Rico, P.O. Box 5000 Mayagüez, Puerto Rico 00681-5000. Email: I_sastre@rumac.upr.clu.edu

**RENE BELLAND**

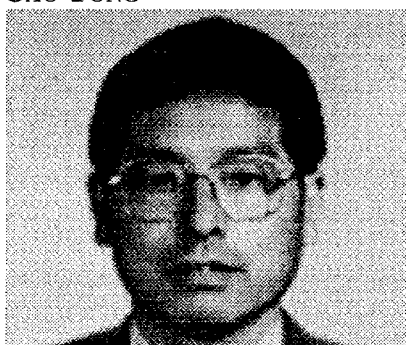
When Lars asked me to write a short biography of myself for the Bryological Times, the first thing I did was peruse through all the old issues of BT to find an example of a biography of a new editor. It would appear that I am a guinea pig, as I could not find any such biographies! Thanks Lars...

My interest in bryology goes back to 1979, when I took Dale Vitt's course at the University of Alberta (where I was completing my B.Sc.). Dale's enthusiasm of mosses rubbed off on me and I decided to continue and do an M.Sc. As a good student, I took Dale's advice and applied for grad studies at different Canadian universities. There was not much choice at the time... I could go to Newfoundland and work with Guy Brassard, or I could head in the opposite direction and study at University of British Columbia (U.B.C.) with Wilf Schofield. I chose to go east. I landed in Newfoundland only to discover that once one is on the "rock", it is very difficult to leave. Consequently, my master's degree led to a Ph.D., and my planned stay of 2 years drew out to 7 years! Once I completed my doctorate however, I was allowed to leave Newfoundland, and found my way to U.B.C. and Wilf Schofield where I spent 7 years (yes, 7 is a magic number) as a post-doc and research scientist. In 1993, Dale Vitt offered me a job to work in peatland ecology and restoration. Since the funding at U.B.C. was nearly exhausted, I accepted the position at University of Alberta (U.A.). Getting out of the bogs was easier than getting off the island of Newfoundland, as after only 1.5 years in the bogs, I landed permanent employment at the U.A. Devonian Botanic

Garden. My purgatory is over and I no longer have to trample through black spruce infested mires! Instead, my present position allows me to pursue my interests in landscape ecology, rare bryophytes, and biodiversity. My recent projects include studies of rare mosses of Alberta and Canada. This work includes study of the attributes of rare mosses. It has led to the formulation (with Dale Vitt) of a conceptual model for predicting the occurrence of rare mosses on landscapes using the notion of "mesohabitats" (see Bryologist 100:1). I am also currently working on a study of the patterns of moss diversity in the Canadian Rocky Mountains. This is a long-term project that will result in a predictive model for resource management. And finally, I have been labeled a "computer hacker" since I program computers extensively. My latest project in this area is computerizing the U.A. bryophyte herbarium. For this I am developing a product called "Merlin SQL", which I might tell you about sometime ...

Address: René J. Belland, Devonian Botanic Garden, University of Alberta, Edmonton, Alberta, Canada. T6G 2E1. e-mail: rbelland@gpu.srv.ualberta.ca

René will cover bryology in North America

CAO TONG

I was born on 22 January 1946 in Shanghai, the largest city in China. I studied at Department of Biology, Fudan University, Shanghai, from 1963 to 1968. Then I worked at a biscuit factory in Shenyang, Northeast China for about ten years during the "Cultural Revolution". In 1978 I started my bryological research at the Institute of Forestry and Soil Science, Academia

Sinica, under the advice of the well-known Chinese bryologist, professor Gao Chien. As a visiting scholar sent by the Ministry of Education of China, I studied at the Department of Botany, University of Alberta, Canada, from 1984-1986. During these two years abroad I got good training in Bryology and completed a taxonomic revision and phylogenetic analysis of *Grimmia* and *Schistidium* of China as well as studies of *Sphagnum* spores at Dale Vitt's laboratory. When back in China in 1986, I continued to work on Chinese bryophytes at the Institute of Applied Ecology, Academia Sinica (which is the new name for Institute of Forestry and Soil Science). I have been undertaking a project on Bryoflora of China supported by National Nature Science Foundation of China. Two volumes of the Bryoflora of China (vol. 1-2, chief editor Gao Chen) were published in 1994 and 1996 and they were awarded second class of Natural Science award by the Chinese Academy of Science. Additionally, I have published several taxonomic revisions of Grimmiaceae, Encalyptaceae and Andreaeaceae in China and worked on ecology and spore morphology of bryophytes. I have published more than 50 scientific papers dealing with bryophytes. I have been active in international scientific collaboration. During the last 10 years I have worked at or visited universities and botanical gardens in Canada, the United States, Finland, Japan, Russia, Sweden, Poland, Hungary and North Korea. I was appointed as deputy director of the institute in 1994-1997 and elected as a councillor of IAB in 1993. At present I am also a councillor of the Botanical Society of China and vice chairman of their bryological committee, and president of the Botanical Society of Liaoning Province.

Address: Cao Tong, Institute of Applied Ecology, The Chinese Academy of Sciences, P.O. Box 417, 110015 Shenyang, Liaoning, P.R. China. Tel. +86 24 23916289. Fax: +86 24 23843313. Email: IFP@iae.syb.ac.cn

Cao Tong will cover bryology in central and eastern Asia

Column Editors

TAMÁS PÓCS



I was born in 1933 as the second child of five. My father was a presbyterian pastor and my mother a teacher. I am married with 4 children and 6 grandchildren. My wife, Sarolta (Saci), also a biology teacher is often my companion in the field and is my main technical helper in herbarium work.

My attention turned early towards living things (algae, mosses, insects, molluscs) and during my secondary school studies I fabricated my own microscope (of magnification 140X) and had a herbarium of 4000 specimens, including many bryophytes. I had very good teachers, such as the late Ádám Boros and László Vajda in Bryology, Ödön Szatala in Lichenology, Bálint Zólyomi in Phytogeography and Rezso Soo in Taxonomy. After university studies I became a research fellow in the Hungarian Natural History Museum. My interest was divided among vegetation studies in Hungary, phanerogam floristics in the Carpathians and bryology. I longed for many years to see tropical vegetation. In the Hungary of the 50ties it was almost impossible. Socialist tropical countries were the only real possibilities. After 7 years of preparation, in 1963 and also in 1965-66 I was able to visit the Vietnamese tropical forests and to collect thousands of plants. In the immense biodiversity of rain forests I had to realise that one can not do everything and decided to concentrate on bryophytes.

In the meantime I became the head of the Botany Department at Eger College and created a bryological herba-

rium (EGR), which counts at the moment some 140.000 incorporated specimens. In 1969-1973 and also during 1985-90 I was allowed to go and teach at the new Agricultural University of Tanzania - of course, not bryology but I had ample time to climb up weekly in the neighbouring Uluguru Mountains or to visit Kilimanjaro and many other interesting areas in East Africa and to collect ten thousands of plant specimens. In fact, I became a passionate collector more than a bryophyte taxonomist during that time. Even now, the rate of my collecting activities exceeds about 100 times the rate of identifications and in our store room an immense number of tropical bryophytes (about 200.000 specimens) have accumulated, from the collection of myself, my colleagues and others, like Denes Balazs (geographer), and Gyorgy Topal (zoologist), from all over the World. These are at the disposal of anyone who is interested but better to spend a few weeks at our department sorting out, and labelling, what is needed (full documentation available) than to wait until we can select and label them. Since that time I collected in Cuba, Venezuela and many countries of tropical Africa. During the past 8 years I visited mostly the Indian Ocean islands, like Madagascar, the Comoros, Seychelles, Reunion and Mauritius.

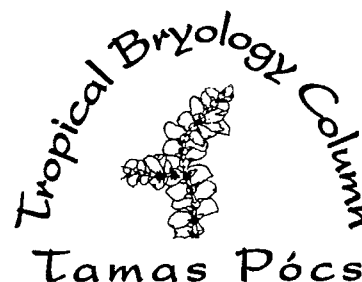
My main taxonomic interest is in the epiphyllous liverworts, first of all *Aphanolejeunea*, *Cololejeunea*, *Colura* and *Diplasiolejeunea*. I am also working with Lepidoziaceae, Rutenbergiaceae, Bryaceae and with the pottiaceous mosses of loess cliffs in Hungary.

I retired two years ago from my everyday duties and obtained Professor Emeritus status. I still take part in postgraduate courses, teaching mainly different subjects in bryology and phytogeography. Our department is one of the few in the world where 5 bryologists are working. Now we have new facilities. Our Academy established with my leadership a small Bryology Working

Group, with two scientist members. It will operate from next year.

I am now 65, still active in fieldwork, maybe travelling too much and sitting at the microscope and at my CD too little - but I try my best while I am mobile enough. When my health will prevent me from field activities, I could consecrate more time for writing up - If I will have time for it.

Address: Tamás Pócs, Eszterházy Teachers' College, Department of Botany, Eger, Pf. 43, H-3301 Hungary, Tel.: (36) 36 434 685, e-mail: colura@gemini.ektf.hu

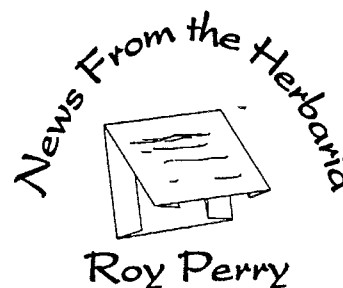


Tamás Pócs will edit the column "Tropical Bryology" which is open for all aspects of bryology in the tropics.

ROY PERRY

Roy Perry is from Cardiff, Wales. He will edit the column "News from the Herbaria". All herbaria that would like to spread knowledge about their collections and other activities should write about it to this column. Roy will present himself in a coming issue.

Address: A. Roy Perry, Department of Botany, National Museum of Wales, Wales CF1 3MP, UK. Email: PerryR@cardiff.ac.uk



**TOMAS HALLINGBÄCK**

I have, since the early 1970s mainly been working with floristic field surveys of bryophyte vegetation in south Sweden. The two specific interests are the threats caused by air pollution and by forestry on the bryophyte flora and vegetation. I have also been involved with mire vegetation studies. Since 1984 I have been the chair of the Swedish Committee for Threatened Bryophytes which in spring 1998 produced a comprehensive Swedish Red Data Book of Bryophytes. Since 1990 I also have some international responsibilities as the chair of the IAB Standing Committee for Bryophyte Conservation and the IUCN Specialist Committee for Bryophytes, and a board member of the European Committee for Conservation of Bryophytes (ECCB). In my daily work at the Swedish Threatened Species Unit in Uppsala I am besides bryophytes also responsible for lichens and macrofungi.

Address: Tomas Hallingbäck, Threatened Species Unit, Swedish Agricultural University, P.O. Box 7007, S-750 07 Uppsala, Sweden. Tel: +46 18 6724 67. Fax: +46 18 673480. Email: Tomas.Hallingback@dha.slu.se

**Tomas Hallingbäck**

Tomas will edit a column dealing with rarity and conservation of bryophytes throughout the world.

EUROPEAN BRYOLOGISTS AND LICHENOLOGISTS: HOW ABOUT A RESEARCH VISIT TO HELSINKI?

The Department of Ecology and Systematics, University of Helsinki and the European Commission have signed a contract concerning the "Large-Scale-Facility -status" of the Helsinki bryophyte/lichen herbaria and other relevant facilities. According to the contract, citizens of the EU-member countries (and those of Liechtenstein, Iceland, Norway, and Israel) can visit the Facility, free of charge and all costs of the visit covered by EU funds. The contract duration is 20 months, from 1st September 1998 to 30th April 2000. The minimum number of access offered to the visitors is 24 man-months.

Within the Facility, access will be made to the pertinent ones of the following installations, depending on the type of research:

- Molecular Ecology and Systematics Laboratory
- Ecological Laboratory
- Division of Electron Microscopy
- Botanical libraries (General, lichenological, bryological; others if necessary)
- Lichen and moss herbaria (Herbaria Generale; lichen herbaria of E.

Acharius and W. Nylander; moss herbaria of S. O. Lindberg and V. F. Brotherus)

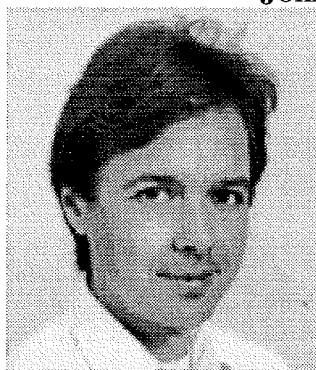
The interested persons/researcher groups should send an application to:

Professor Timo Koponen
Dept of Ecology and Systematics
P.O. Box 7
FIN-00014 University of Helsinki
Finland

The applications should consist of 1) CV(s), 2) research plan (including the expected time and duration of visit, and 3) publication list of the applicant(s). The applications will be evaluated by our "Users' Selection Panel", which consists of 5 members. The European Commission must also approve the eligibility of the applicants' home institutions. The contract is intended to finance primarily short visits; for visits exceeding 2 months, we must seek a prior approval of the Commission.

For further information contact:
Dr. Johannes Enroth
(address as above)
fax + 358 9 191 8656
e-mail enroth@kmus.helsinki.fi

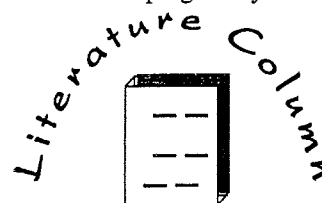
JOHANNES ENROTH



kinds of physical exercise (a hopeless attempt to stay "young").

Address: Johannes Enroth, Department of Ecology and Systematics, P. O. box 7, FIN-0014 University of Helsinki, Finland. Fax: +358 9 191 8656. Email: Enroth@kmus.helsinki.fi

Johannes is keeping an eye on new

**Johannes Enroth**

literature. If you have a book that you would like to have reviewed, or if you review a book yourself, send the material to him.

I was born in 1956 and am a muscologist. My research focuses are mainly on tropical mosses, especially the families Neckeraceae and Cryphaeaceae. I work at the Department of Ecology and Systematics, University of Helsinki, Finland. My hobbies include the history of botany, chess, and various

Tropical Bryology Course, Helsinki 24.3.-3.4.1998.

The first course on Tropical Bryology was held at the Division of Systematic Biology, University of Helsinki in 1993. Following the election of the Division of Systematic Biology as a large-scale facility by the European Commission, with the EU program "Advanced instruction in bryology and lichenology" and the launch of the Finnish Biodiversity Program by the Academy of Finland, two courses were organised in 1996 and in March of this year a course on "Tropical Bryology" was held, which included a weekend workshop on "The systematics of Sematophyllaceae and Hypnaceae".

The course was attended by 15 students representing 9 different countries and taught by 14 lecturers from 9 different countries, so it was a very international group that assembled for the first morning of introductory lectures. The course struck a good balance between theory and practical work with 3 hours of lectures in the morning and 4 hours of practical most afternoons, with an optional evening program.

Lectures covered a wide range of topics, with an introduction to Finnish bryology and the local facilities from the resident staff, T. Koponen, S. Piippo and J. Enroth. Biogeography was covered by T. Koponen, T. Pócs, B. Tan and J. Vána; bryophyte conservation by D. Norris, T. Pócs and B. Tan and bryophyte ecology by J. Enroth and T. Pócs. An introduction to the problems and pitfalls of field work in the tropics was given by D. Norris and a more light-hearted account of some of the less obvious benefits accruing from field work by T. Koponen! Additional topics included regional introductions to bryology in the Neotropics, Africa and S.E. Asia and accounts of the taxonomy of Splachnaceae, Mniaceae, Polytrichaceae and Orthotrichaceae.

Afternoon practicals enabled us to gain experience with a wide variety of taxa. Hepatics were introduced by T. Pócs, S. Piippo, and J. Vána, with sessions on Lejeuneaceae, Lophoziaceae, Anthocerotae, Jungermanniaceae, and

Gymnomitriaceae among others. D. Norris, T. Koponen, J. Enroth and B. Tan led practical sessions on a wide range of different moss families including Meteoriaceae, Neckeraceae, Sematophyllaceae and Mniaceae. In addition we were able to continue working in the herbarium after the formal teaching sessions had finished, with many of our lecturers willingly staying on to assist those who wanted to take full advantage of their two-week visit to Helsinki.

The Main Library of the University of Helsinki is housed in a beautiful building with high domed ceilings and murals and an evening visit there enabled us to see some of the bibliophilic treasures of the city, including a hand coloured copy of J. D Hooker's work, and a donation of a beautifully bound private collection of over 9,000 books.

The two day workshop was held at the Tvärminne Zoological Station, and for those of us who had never visited Finland before, a coach journey out on the Sunday enabled us to see some of the country around Helsinki. The workshop on the taxonomy of Hypnaceae and Sematophyllaceae had contributions from N. Nishimura, L. Hedenäs, M. Ignatov, B. Tan, B. O'Shea and D. Norris which gave us an overview of some different approaches to pleurocarpous moss taxonomy. The Monday afternoon was an opportunity for the students to present a brief introduction to their own research projects. The Zoological station provided a very comfortable and enjoyable weekend with a chance to sample some excellent catering and a sauna, complete with a swim in the ice fringed Baltic!! I, of course, can only personally vouch for the fact that the ladies enjoyed (?) a dip in the sea, though I am assured that the gentlemen also partook of this Finnish adventure!

The final day, for some obscure reason, included a course exam, which was not universally appreciated; but we didn't let that spoil the day, which finished with a tour of the recently renovated and still unopened Palm Greenhouse and then a final dinner, before

we all dispersed home. I would like to thank the staff of the bryophyte herbarium in Helsinki for all their hard work in the preparation and presentation of this course and for the impressive volume (and weight) of handouts and reprints provided. I am sure that all the participants will have benefited, not only from the taught course work, but also from the contacts made during two, very enjoyable, weeks in Helsinki.

Liz Kungu.

New Colour Postcards of Bryophytes and Lichens

On the occasion of the 30th anniversary of the Bryologisch-Lichenologische Arbeitsgemeinschaft Mitteleuropas (BLAM) the Staatliche Museum für Naturkunde in Stuttgart (Germany) presents a set of 12 high quality colour postcards of bryophytes and lichens. The photos taken by Martin Nebel and Volkmar Wirth show six mosses and liverworts from Southwest Germany (*Cratoneuron filicinum*, *Hedwigia stellata*, *Racomitrium lanuginosum*, *Radula complanata*, *Rhodobryum roseum*, *Sphagnum subsecundum* mixed with *S. warnstorffii*), and six lichen species from North America, South Africa, New Zealand and the Alps (*Caloplaca elegantissima* with *Xanthoparmelia serusiauxii*, *Dermaticum thunbergii*, *Letharia columbiana*, *Ramalina menziesii*, *Sticta filix*, *Thamnolia vermicularis* with *Cetraria nivalis*). The postcards can be ordered from A. Kleinsteuber, Naturwiss. Buchversand & Antiquariat, Adlerstr. 54, D-76137 Karlsruhe, Germany, Tel. +49-(0) 721-937 4678. Fax +49-(0)721-9374679 email: a.kleinsteuber@t-online.de The prize of one set is DM 6.- (plus postal charges).

Michael Sauer, Albrecht-v.-Haller-Institut für Pflanzenwiss., Abt. Syst. Botanik, Univ Göttingen, Untere Karspüle 2, D-37073 Göttingen, Germany, tel. +49-(0)551-392029; e-mail: msauer@gwdg.de

Bryology at the International Botanical Congress in St. Louis 1999

1999 IAB BIENNIAL MEETING - AUG. 1-7, 1998

The IAB biennial meeting will be held in conjunction with the XVI International Botanical Congress (IBC) in St. Louis, Missouri, U.S.A. Complete details of the IBC are available on their website - <http://www.ibe99.org>

Six symposia of general interest to IAB members will be held during the International Botanical Congress. These include one jointly sponsored by ABLs, IAB, and IAL. Tentative presentations are as follows

Bryophyte and Lichen Rarity: Patterns, Causes, and Conservation.

Organizers: Clifford Smith (USA), Lars Söderström (Norway) and Dale Vitt (Canada)

1. What are the attributes and patterns of rare bryophytes? Dale H. Vitt and René Belland (Canada)
2. The population ecology of rare bryophytes. Lars Söderström (Norway) and Heinjo During (Netherlands).
3. Phylogenetic diversity of rare lichens and bryophytes. Terry Hedderson (UK) and Paula DePriest (USA).
4. Maintaining genetic diversity in small populations of endangered epiphytic lichens. Christian Scheidegger (Switzerland).
5. Can vascular plants be used to manage bryophytes and lichens? Emma Pharo (Canada).
6. Conservation of lichens: An international overview. Clifford Smith (USA).
7. Differences between common and rare species: The importance of diaspore banks. Irene Bisang & Lars Hedénäs (Sweden).

Moss Diversity. A Global Perspective. Organizers: Steven P. Churchill (USA) and Brian O'Shea (UK).

1. World View. Marshall R. Crosby (USA)
2. North America (including Mexico): Overview. Alan T. Whittmore (USA)
3. Central & South America, Caribbean: Overview. Steven P. Churchill (USA)
4. Africa (including associated islands): Overview. Brian O'Shea (UK).

5. Temperate Eurasia: Overview. Michail S. Ignatov (Russia)

6. Tropical Asia and Pacific Islands: Overview. Ben Tan (Singapore)

7. Australia-New Zealand, Antarctic & associated islands: Overview. Heinar Streimann (Australia)

Species-level relationships in bryophytes: new approaches. Organizers: Robert Wyatt (USA) and Hélène Bischler (France).

1. Polyploid evolution in the *Dumortiera* species complex. Hiroyuki Akiyama (Japan).

2. Speciation patterns in the hair-cap mosses (Polytrichaceae). Gregory S. Derda (USA).

3. Genetic variation and diversification in *Porella* from Madeira. Suzana Sa Fontinha (Madeira).

4. Species relationships in *Asterella*. David G. Long (UK).

5. Genetic differentiation and cryptic speciation in the *Conocephalum conicum* species group. Ireneusz J. Odrzykoski (Poland).

6. Species delimitation in the *Sphagnum capillifolium* complex: molecular investigations. Jonathan A. Shaw (USA).

7. When worlds collide: dealing with the growing problem of cryptic species in bryophytes. Robert Wyatt (USA).

Evolutionary biology of the Bryopsida: a synthesis. Organizers: Bernard Goffinet (USA) and Terry Hedderson (UK).

1. Ordinal phylogeny in the Bryopsida. Terry A. Hedderson (UK).

2. Phylogenetic relationships in the Sphagnopsida inferred from nuclear and chloroplast DNA sequences. Sandra Boles (USA).

3. Phylogenetic relationships among the nematodontous mosses. Jaakko Hyvönen (Finland).

4. Relationships among basal arthro-dontous mosses: origin and diversification of the arthro-dontous peristome inferred from nuclear and chloroplast DNA sequence analysis. Bernard Goffinet (USA).

5. Protonemata, peristomes, and phylogeny, or some mosses are in the wrong place. Jeffrey Duckett (UK).

6. Phylogenetic relationships among acrocarpous Diplolepidae. Cymon J. Cox (UK).

7. Phylogenetic relationships among families and classification of Pleurocarpo Diplolepidae based on morphology and sequences of the rbcL, trnL and rps4 genes. Efraim DeLuna (Mexico).

Current concepts of phylogeny in liverworts, hornworts and takakiophytes. Organizers: Barbara Crandall-Stotler (USA) and Jiro Hasegawa (Japan).

1. The phylogenetic relationships among liverworts, hornworts and takakiophytes and within group lineages: an overview. Barbara Crandall-Stotler (USA).

2. The position of *Takakia* in early land plant evolution. M. Higuchi (Japan).

3. Phylogeny of hornworts. Jiro Hasegawa (Japan).

4. Phylogeny of the Marchantioids. M. C. Boisselier-Dubayle (France).

5. Phylogeny of the Metzgeriidae. V. Freire (USA).

6. Phylogeny of the Jungermanniiidae. Raymond Stotler (USA).

7. Biodiversity and phylogeny of the Lejeuneaceae and its relationship to epiphylls. S. Rob Gradstein (Germany).

Continued on page 12

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Bryophytes: model systems for cell and molecular biology. Organizers: Melvin J. Oliver (USA) and David J. Cove (UK).

1. Gene expression and desiccation-tolerance. Melvin J. Oliver (USA).
2. Establishment of cell polarity. David J. Cove (UK).
3. The phytochrome system in bryophytes. Fritz Thuemmler (Germany).
4. Molecular aspects of development. Michael Christianson (USA).
5. Mechanisms of oxidative stress tolerance. Nicholas Smirnov (UK).
6. Calcium-mediated signalling in plants. Karen Schumacker (USA).
7. Homologous recombination in *Physcomitrella*. Didier Schaefer, Switzerland.

These exciting symposia are of interest to all bryologists. Four related symposia that are partially concerned with bryophytes: *Phylogeny of Green Plants* organized by Buchheim & Kenrick, *Dessication Tolerance in Plants* organized by Tuba & Alpert, *Vicariance biogeography revisited - new perspectives from ferns, bryophytes, algae and fungi* organized by G. M. Mueller, T. J. Entwistle and R. Vilgalys and keynote symposium on *Phylogeny of Life* organized by Huss and Mishler

In the tradition of previous IBC's, the Scientific Program of the XVI IBC will consist of invited oral presentations (in Plenary Sessions, and Symposia) and contributed Poster Sessions. Note: there will not be sessions for contributed oral presentations; all non-symposium pres-

entations will be given as posters.

The Congress will be convened at America's Center, the convention center of St. Louis. The Congress will begin on August 1 and will be preceded by the nomenclature session held between 26-30 July at the Missouri Botanical Garden. The Congress ends on August 7. The evenings are free.

Barbara Crandall-Stotler will arrange a meeting for IAB together with ABLs. Plan is for paper presentations to be limited, mostly or entirely, to students. There are only 2 half day sessions. There will be an all day field trip to one of the canyons, some socializing, time for an Executive Council Meeting. The cost will have to be for buses for field trips (not arranged yet) and the dorm rooms are 17 double and 22 single and motels are about \$50. Dates are July 30 to Aug. 1.

"Taxonomy and ecology of peatland and aquatic bryophytes" a report from a course in Finland, the summer of 1997.

Kristian Hassel

Norwegian University of Science and Technology, Institute of Botany, 7034 Trondheim



Last summer a Ph.D. course was arranged by the University of Helsinki, with professor Timo Koponen as the organiser. The participants were young upcoming bryologist from all over Europe (Czech Republic, Finland, Germany, Hungary, Latvia, Norway, Spain, Sweden, The Netherlands and

United Kingdom) and China. The course started the 17 August and ended 1 September. During this period we travelled with bus from Helsinki in the south to Mekrijärvi (Pohjois-Karjala) in east and north to Oulanka (Koillismaa).

Sunday the 17 of August we arrived at Lammi Biological Station, most of

us got excellent rooms, but some had to live in a tree lodge close to the lake. In the afternoon there were guided tours in the area close to the biological station for those who were interested. In the evening we got the opportunity to visit the most famous facility of the bio-

Continued on page 13

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logical station, the sauna by the lake. It was an interesting experience, at least for those who had the pleasure to be there when the bus driver came (he liked it humid!). We learnt our first sauna rule; if one person likes it more humid, he is free to pour on water. After a relaxing sauna, with refreshments, all were prepared for the excursion next day. The following days we visited different kinds of wetland habitats, and one of the most exiting species we found was *Cryptothallus mirabilis*. After each days excursion lectures were held about different taxonomic groups, *Spagnum* by P. Pakarinen, Mniaceae and Splachnaceae by T. Koponen, Amblystegiaceae by L. Hedenäs and Hepaticae by S. Piippo.

After a nice party on the last night at Lammi we had a day on the bus, reaching Mekrijärvi Field Station in the evening. But on our way we stopped in Kuopio for lunch. Here we met M. Haapasaari, J. Lewinsky-Haapasaari and R. Fagerstén. They had been out collecting lake bryophytes which we were served in buckets with water and refreshments on the side, and we soon got in the right mood for wet bryo-

phytes. Also in Mekrijärvi there was an excellent sauna by the lake. The next two days were all day field excursions to aapa fens where we saw a lot of interesting bryophytes. *Fissidens pusillus* was recorded as new to the province (Pohjois-Karjala) and at least to me large quantities of *Spagnum wulfianum* was a new experience.

Tuesday 26 of August we arrived at Oulanka Biological Station north of Kuusamo. Here the sauna was localised not far from the river, which gave the opportunity for a cold refreshing bath. During the days in Oulanka we visited a wide range of interesting wetland and forest habitats. Among the most interesting species registered were *Gymnocolea borealis*, *Scapania massalongii* and *Calypogeia suecica*. Lectures were given about *Philonotis* by T. Koponen, Jungermanniales by J. Váňa, the boreal vegetation zone and its subzones by R. Virtanen and ecology and population biology by L. Söderström.

On the trip back to Helsinki, we spent one night in Jyväskylä where the official farewell party was held. Here we also got a new sauna experience, sauna and indoor swimming pool. It was nice

but not to be compared with the saunas we had experienced earlier on the course. During the party we sang the national folk songs we had been practising during the bus trip (The Chinese one was very hard to get right!), and also a unique new bryologists song was presented (see below). This song summarised many of the funny happenings during the course.

I should also mention that there were two exams during course. All passed (either the teachers were good or the students clever; maybe both) and got their course certificate.

Index Herbariorum Update

Updated information for herbaria in 21 countries listed in Index Herbariorum, edition 8, and its supplements (published in Taxon) is now available for searching by institution, city, state, acronym, staff member, correspondent, and research specialty (<http://www.nybg.org/bsci/ih/ih.html>). Telephone and fax numbers and e-mail and URL addresses are included.

The updated information is available for herbaria in the following countries. The percentage given following each country refers to the percentage of herbaria that have responded to our request for updated information:

Argentina (73%), Armenia (60%), Australia (92%), Austria (100%), Azores (100%), Barbados (100%), Belarus (67%), Belgium (83%), Belize (100%), Bolivia (100%), Botswana (100%), Brazil (84%), Brunei Darussalam (100%), Bulgaria (66%), Burkina Faso (100%), Canada (95%), Denmark (100%), Iran (67%), Mexico (77%), Puerto Rico (71%), U.S.A. (100%)

This file will be updated every few months, so please send updates and corrections to Patricia K. Holmgren (pholmgren@nybg.org)

Ten keen Bryologists

(Song by the students of the course in peatland bryophytes in Finland 1997)

Ten keen bryologists
Were learning bryophytes,
one of them got stuck in those,
but nine spent all their nights!

Nine freak bryologists
went out into a mire,
one of them got grilled in there,
but eight survived the fire!

Eight smart bryologists
went out into a bog,
one found too much *Sphagnum* there,
the rest got through the fog!

Seven dumb bryologists
went out into a fen,
one discovered two bears there,
the others passed the den!

Six sane bryologists
collected more mass samples,
one mistook it all for spinach,
five needed no example!

Five lax bryologists
took a break with sauna,
one got broiled like a fish,
the rest remained living fauna!

Four wise bryologists,
jumped into a river,
one of them jumped down the rapids,
three cared not a shiver!

Three sure bryologists
identified Mniaceae,
one took *Mnium* for a *Bryum*,
two were like Timo so crazy!

Two brave bryogists
were walking near the border,
one saw a Russian endemic,
the other returned in order!

One lone bryologist
liked bryophytes, so then
he looked for nine more bryophiles
and started again as ten!



Johannes Enroth

New literature

P. P. Duarte Bello, 1977. Musgos de Cuba published in Fontqueria 47: 740 pp. 368 taxa with dichotomous keys. 325 distributional maps, 319 lams. With full localities and collectors. Large descriptions. Price 185\$. Can be ordered in: Cyanus, S. L., Vinateros, 87-1c, E-28030 Madrid, SPAIN

The first impression is that this is a voluminous and impressive book. It covers 368 species, which are cited in full, with synonyms, long descriptions, an indication of the distribution (taken from Index Muscorum), ecology and long citations of collections, even in the case of *Funaria hygrometrica* and *Rhizogonium spiniforme*. The distributions of 325 species are mapped on dot maps, and 319 species are illustrated separately. A bit superfluous are three different indices for maps, illustrations and descriptions.

The problem with this book is that it was published in 1997, although the manuscript is apparently from 1977, as indicated on page V. I remember that Tamás Pócs showed us a manuscript of a moss flora of Cuba at the Geneva meeting in 1979, and apparently this manuscript was printed almost twenty years later, but almost unchanged and not updated. Tamás Pócs expressed in the preface that "the work was completed 15 years ago". The references show some citations of Buck up to 1981, one author's own publication even from 1995, but usually not later than 1977. I was delighted to see the *Campylopus* part: this is exactly the taxonomic situation of the genus if I had not worked on it. None of the many results and changes are considered. It is a tragedy that this book was published so late. And it was hardly available before the edition of Bill Buck's "Pleurocarpus Mosses of the West Indies", which gives a modern overview of the Hookeriales, Leucodontales and Hypnales in well

proved Flora Neotropica Monograph style and quality.

Thus this book is new but the contents are antiquarian, and every colleague should know that he will buy an antiquity, and thus I cannot share the view of Tamás Pócs in his foreword, that one "will profit greatly from this excellent book". It will cause taxonomic troubles and confusions instead. The total number of species treated in Duarte's flora (368) is about the same as the number of species given for Cuba by Claudia Delgadillo's LATMOSS (354), however, these species are largely different. For example, the user finds two species of *Ectropothecium* in Duarte's Floras but only one from Cuba in Buck's flora, but under a different name, 8 species of *Hookeriopsis* in Duarte's flora but only one from Cuba in Buck's flora, and so on. We all know about the problems which our colleagues in tropical countries have with the availability of literature, and especially the bad situation for science in Cuba, for which North American politics are at least in part responsible, but it is hardly understandable that this book was printed instead [J.-P. Frahm].

Werner, J. 1996. Die Moosflora des Luxemburger Oeslings. Travaux scientifique du musée national d'histoire naturelle de Luxembourg 24. Available from: Musée national d'histoire naturelle, Bibliothèque rue Münster, L-2160 Luxembourg. Price: 520 BEF.

Bryophytes have been mapped in the Luxembourg Ardennes ("Oesling"). From a total area of 826 km², 110 square kilometers were investigated and bryophytes mapped. These squares include a variety of habitats. The book describes the habitats and the flora. An appendix gives data on the habitat and frequency for all noted species. Finally, distribution maps for all species in the areas are presented [Lars Söderström]

BRYOPHYTES OF THAILAND

For those interested in Asian bryophytes, the following publication may be of interest to you.

Sornsamran, Renoo & Obchant Thaitong 1995. The Bryophytes of Thailand. Office of Environmental Policy and Planning, OEPP Biodiversity Series Vol. 2. Bangkok, Thailand.

This is a 234 page booklet (approx. 11.5 cm X 21 cm). It displays in a tabular format the 925 bryophytes reported for Thailand (644 mosses, 279 liverworts, and 2 hornworts) arranged by order/families, general locations (sites), and literature citation for that record. This book is printed in English and is FREE from: Office of Environmental Policy and Planning, Ministry of Science Technology and the Environment, 60/1 Soi Phibun Wattana 7, Rama VI Road, Bangkok, 10400 THAILAND, phone: (662)2795202; fax: (662)2713251

MOSES & LIVERWORTS OF HONG KONG

The two volumes of Mosses & Liverworts of Hong Kong (Vol. 1 by M. L. So, 1995; Vol. 2 by R. L. Zhu & M. L. So, 1996) recorded 300 existing bryophytes in the region with colour photographs and drawings. This first complete survey of all bryophytes of Hong Kong documented many previously unknown distribution and new records, including many tropical and sub-tropical species.

Complimentary copies of Mosses & Liverworts of Hong Kong are now available free to institutions/libraries in developing countries. To obtain, please send your name, affiliated organization and mailing address to: Mr. Kwok Leung Yip, Department of Biological Sciences, University of Cincinnati, Cincinnati, OH 45221-0006, USA; E-mail: yipkl@email.uc.edu; Fax: (513)556-5299.

Contribution from
Inés Sastre-
De Jesús
Regional Editor

News, information and comments from Latin America.

Inés Sastre-DJ

Saludos from Puerto Rico! In this space the reader will find out about upcoming events, projects and colleagues from the Latin American bryological community. This community is formed by active groups in: México, Costa Rica, Panamá, Colombia, Venezuela, Brasil, Argentina, Cuba and Puerto Rico. No trained bryologists are known for the other Latin American countries.

If readers would like to announce any information in this column, send an e-mail to: i_sastre@rumac.upr.clu.edu. Hasta la próxima ...

UP-COMING EVENTS

The Latin American botanical community will be celebrating the "Séptimo Congreso Latinoamericano de Botánica" during October 18-24, 1998 in México City. This event takes place every four years, and in it close to 1,000 botanists gather to present papers, attend forums and participate in symposia. This year's topic is Diversity and Conservation of Plant Resources in Latin America. The Latin American Bryological Society will have a symposium in which the diversity of research topics, carried out in the different countries, is represented.

Program: V Simposio Latinoamericano de Briología.

10:00 a.m. Introducción- Inés Sastre-DJ

10:10-10:50 Distribución geográfica y diversidad de los musgos neotropicales. Claudio Delgadillo M., Dept. Botánica, Instituto de Biología, UNAM.

10:50-11:30 Homología filogenética y el uso de métodos numéricos para el reconocimiento de estados. Efraín De Luna y Angela Newton. Dept. Sistemática Vegetal, Instituto de Ecología, Xalapa.

11:30-11:50 Los musgos de Quindío, Colombia. Oscar Orengo y Jaime Uribe, Instituto de Ciencias Natura-

les, Univ. Nacional de Colombia.

11:50-12:10 Novedades para la flora briológica del noroeste de Argentina. M. Magdalena Schiavone, A. Beatriz Biasuso y Celina Matteri, Fundación Miguel Lillo, Argentina.

12:10-12:30 Sobre los Musci (Bryophyta) de Tierra del Fuego. Celina Matteri y M. Schiavone Museo Argentino de Ciencias Naturales, Argentina.

12:30-12:50 Los musgos pleurocárpicos del Valle de México. Angeles Cárdenas S. Dept. Botánica, Instituto de Biología, UNAM.

12:50-13:10 Una aproximación a la flora de musgos de Cerro Hoya, Panamá. Noris Salazar Allen Universidad de Panamá.

13:10-13:30 Son los sumideros de la zona cárstica de Puerto Rico un centro de biodiversidad briológica? Carmen Reyes e Inés Sastre DJ, Universidad de Puerto Rico.

13:30-1350 Retención de agua de algunos briofitos con distintos hábitos de crecimiento en el Neotrópico. Inés Sastre DJ, Universidad de Puerto Rico.

15:00-15:20 Epiphytic bryophyte diversity in primary and secondary lowland forest in southeastern Brazil. Denise Pinherio Da Costa, Jardim Botánico Río de Janeiro, Brasil.

15:20-15:40 Estimaciones del deterioro de la flora briológica en dos localidades industrializadas del área metropolitana de San Juan, Puerto Rico. Sobeida Escorcia e Inés Sastre, Universidad de Puerto Rico.

15:40-16:00 La clase Anthocerotae en Las Antillas Mayores. Deisi Reyes, Centro Oriental de Ecosistemas y Biodiversidad, Cuba.

16:00-16:20 Caracterización preliminar de la Tribu Lejeuneae (Lejeuneaceae: Hepaticae) en Cuba. Kesia

Mustelier, Centro Oriental de Ecosistemas y Biodiversidad, Cuba.

16:20-16:40 Diversidad de musgos de la Sierra Maestra Occidental, Cuba. Angel Motito y María Elena Potrony, Centro Oriental de Ecosistemas y Biodiversidad, Cuba.

16:40-17:00 Ascomicetes en la hepática epífila, *Radula flaccida*. Peter Döbbeler, Institut für Systematische Botanik der Ludwig-Maximilians-Universität, München, Alemania.

17:00 Clausura- Noris Salazar.

BRYOLOGISTS IN PUERTO RICO

Yolanda Serrano is a Biology professor at the Inter American University in Bayamón. She teaches undergraduate basic biology courses. Her interests are the study of species of disturbed habitats and floristics.

Carmen Reyes-Colón is a Masters degree student at the University of Puerto Rico, Mayagüez Campus. She has worked on the bryophyte flora of Mona Island and presently is studying the bryophyte communities in sink holes of the kartz topography in Puerto Rico.

Inés Sastre-DJ is an Associate professor at the Biology Department of the Mayagüez Campus, University of Puerto Rico. Mainly I teach and coordinate the first-year biology course, but some semesters can also offer graduate courses for which a Tropical Bryology course was described. Presently, I have been working on local floristics to develop a teaching and research herbarium and to establish conservation priorities for the island. Another of my chores is to help Dr. José R. Mari-Mutt (Editor) in the publication of the Caribbean Journal of Science, a peer-reviewed journal. The entire journal is now available in compact disk; see our home page at:

<http://mayaweb.upr.clu.edu/artssciences/cjs/index.htm>. Bryological papers related to the Caribbean are welcomed for publication.

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

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Tropical Bryology Column: Tamás Pócs, Eszterházy Teachers' College, Department of Botany, Eger, Pf. 43, H-3301 Hungary, e-mail: colura@gemini.ektf.hu

DIARY

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October 2-4. Annual Blomquist Bryological Foray. Contact person: Molly McMullen, Cryptogamic Herbarium, Box 90338, Duke University, Durham NC, 27708-0338, USA. Phone: (919)-660-7300. Fax: (919) 660-7293. e-mail: mmcm@duke.edu

October 18-21. Séptimo Congreso Lationamericano de Botánica in Mexico City with a bryological symposium (see p. 15). Contact Inés Sastre-De Jesús Deptof Biol, Univ of Puerto Rico, P.O. Box 5000 Mayagüez, Puerto Rico 00681-5000. Email: I_sastre@rumac.upr.clu.edu

November 7-8. BBS Bryological Workshop. Local Secretary: Dr. June Chatfield, Anglefield, 44 Ashdell Road, Alton, Hampshire, GU3 2TA, UK. Tel: +44 01420 82214.

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April 14-21. BBS Spring Field Meeting in Abergavenny, Gwent (provisional dates). Local secretary: Dr. Jonathan Sleath, The Villa, Kingstone, Herefordshire HR2 9ET, UK. Tel. +44 01981 251634.. Email: jonathan.sleath @virgin.net.

May 29-30. Hedwig Symposium, Göttingen, Germany. For information contact: S. Rob Gradstein, Institute of Plant Sciences, Untere Karspüle 2, 37073 Göttingen, Germany. Email : sysbot@gwdg.de

July 30-August 1. IAB/ABLS meeting in or near St. Louis. More information to follow.

August 1-7. XVI International Botanical Congress and IAB Biennial Meeting in St. Louis, Missouri, USA. Information to follow (see also this volume).

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

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