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Dear bryologists,
I would like to draw your attention to the message of our president, Dr. Janice M. Glime and to take advantage of the possibility to become actively involved in the working of the IAB, your bryological organization.
Terry Hedderson also invites us for the next biennial meeting of the IAB, which in 2009 will take place in South Africa; the tentative period is 23 to 28 of August 2009. It is the first time the IAB will hold its biennial meeting in Africa. The IAB council wishes to thank the University of Cape Town for hosting this event and invites you to contact Terry Hedderson to provide him the necessary support. We are looking forward to seeing many of you at this event and will keep you informed via the IAB website and the Bryological Times.
Greetings,

Geert Raeymaekers

IAB



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The **International Association of Bryologists (IAB)** is an organisation open for all interested in bryophytes. For membership, contact Geert Raeymaekers or Blanka Shaw. Visit the IAB web site: <http://bryology.org> for further information. The Bryological Times is issued 3 to 4 times per year.

IAB NEWS

Message from the President, Dr. Janice M. Glime

Dear IAB Members,

In another year we will meet again in South Africa and it is time to prepare for your participation in IAB. I invite all of you to indicate your interest in membership in any of the following committees or to indicate your interest in one of the offices that will be vacated in 2009:

President
2nd Vice President
5 councilors

Committees

1. Richard Spruce Award (2009): VP#1 + 2 appointments
2. Hattori Award (2009): VP#2 + 3 appointments (Best paper or series of papers published by a member of IAB within the previous two years in a journal or book; \$400 CDN)
3. Hedwig Award (2011): President prior to IBC Congress + 3 appointments (Award to person who has made outstanding contributions to bryology)
4. Stanley Greene Award (2009): Secretary + 2 appointments (for proposal for research in Bryology)
5. Conservation Committee (all years; reps from many countries)
6. Membership Committee (2007-2010, Rosa M. Ros chair)

7. Riclef Grolle Award Committee (2009): 3 appointments (for Excellence in Bryodiversity Research)
8. Elections Committee (2009): solicit nominations and provide slate; prepare and send ballots by 1 February
9. Judge of elections

Other opportunities for contributions

10. Web site event updates
11. Online identification keys
12. Scanning old issues of Bryological Times
13. Column editor for Bryological Times
14. Contributions for Bryological Times

I hope you will take advantage of this opportunity to participate in your international organization and indicate to me your interests in one or more of these committees or positions by the middle of June. I need to appoint these committees soon and would like to open participation to everyone interested instead of the select few known to everyone.

Thank you for continued interest in IAB. Please let me know how we can serve you and the bryological community better.

Best wishes,
Janice M. Glime
President of IAB

IAB 2009 in the Cape

The next biennial meeting of the International Association of Bryologists will be held in the Western Cape Province of South Africa. The host institution will be the University of Cape Town, a world-class teaching and research University (<http://www.uct.ac.za>).

The winter-rainfall portion of the Cape is well known for the diversity and uniqueness of its angiosperm flora, which constitutes the Cape Floral Kingdom. Less understood is the region's bryophyte diversity. The south-western Cape is home to a large range of habitats including fynbos (fire-prone shrublands), afro-montane forest, succulent Karoo, renosterveld and montane grass-shrublands. These all have characteristic bryophyte floras with little overlap, so regional bryophyte diversity is high. In addition the area harbours a high proportion of apparently endemic genera and species. A particular feature is the ephemeral flora – still poorly studied - that appears after the winter rains, particularly

on clays in arid, shale-dominated areas of the succulent Karoo.

Tentative dates for the event are August 23rd – 28th. This is late winter/early spring in the Cape and, although the weather can be inclement, this is by far the best time of year to see the bryophyte flora – particularly the diverse ephemeral elements. The angiosperm flora, especially the succulents, is also at its best at this time of year. The overlap with the Northern Hemisphere summer vacation should facilitate attendance by bryologists from that region of the globe.

The conference will be held in one of the more intimate and somewhat isolated venues a short drive (45 mins-1 hr) from the city of Cape Town. A strong option is Goudini Spa (about 50 minutes drive from Cape Town) set among the Hex, Slanghoek and Limietberg

Mountains, in the Cape Winelands. This venue can accommodate up to ca. 200 participants, but has a range of meeting room sizes available.

Depending on attendance levels and expressions of interest, a number of post-conference excursions will be offered. Within a day of the conference venue it is possible to see most of the major habitat types of the western Cape, including walks of various degrees of strenuousness. We will also offer a wildflower tour of Namaqualand – a region that also has some interesting bryophyte communities (under quartz pebbles for example). An opportunity to visit the stunning Kirstenbosch Botanical Gardens will be provided during the week of the conference.

Additional details and a call for registration will be circulated soon. In the meantime we would welcome early expressions of interest; these will help us finalise our plans. Questions/comments should be directed to Terry Hedderson (thedderson@gmail.com; thedders@egs.uct.ac.za).

Other Information

General

Public health standards are very good and there is no shortage of the usual modern conveniences. The power supply is **220 – 240V, 50 – 60 Hz**. This means that 110V appliances such as hair dryers (with the exception of electric razors, for which suitable power points are usually available) will not work, except with an adapter

Credit cards, etc.

All major international credit cards are accepted almost anywhere in the country. The most widely accepted are Visa, MasterCard and American Express. Automatic

bank tellers (ATMs) and For-Ex branches are readily available.

Medical Insurance

It is advisable to avail yourself of one of the medical insurance policies that are especially designed for travellers. Any reputable travel agent will have details of such schemes. The conference is far removed from any malaria areas. If, however, you wish to travel before or after the conference, your travel agent should advise on whether anti-malarial medication should be taken (or ask us).

Climate

The conference is to be held during late winter. Weather can vary from hot (30C), to quite chilly (daytime 16C and evening 8-10C) should a cold front push through. Participants should be prepared for rain, and for those heading up to higher altitudes (some of the planned excursions would take us up to 2,000 m), even snow.

Self Tours

For those who wish to part company from the conference group and plan their own pre- or post-conference tours, we can provide help with organisation, offer advice on places to go/stay etc. For example, those wishing to see more “typical” Africa might plan to visit KwaZulu-Natal, Mpumalanga or Limpopo. In addition to providing a whole new bryophyte (and angiosperm) flora, this is the home of the great National Parks (Kruger, Hluhluwe-Umfolozzi) and the Big Five. This region also includes the Pondoland centre of endemism (where, for example, Umtamvuna Gorge has >700 tree species) and the Drakensberg. An intermediate alternative (a 1-2 day drive from Cape Town) is the Addo Elephant Park where most of the Big Five can be seen. This also takes one through some interesting areas of floristic endemism including succulent thicket.

LITERATURE COLUMN

A new Finnish lichen & bryophyte guide

Rikkinen, J.: Jäkälät ja sammalet Suomen luonnossa [Lichens and bryophytes in the Finnish nature]. Otava, Helsinki 2008. 208 pp. ISBN 978-951-1-22221-7.

Although there have been and are numerous internationally well-known lichenologists and bryologists in Finland, Finnish guide books to the native species are not really that many. It is partly a matter of money - small population, small distribution, small income, not much interest from the publishing houses. It is thus with a great joy that I greet this new book by the lichenologist and professor of botany, Dr Jouko Rikkinen.

The book treats 274 species of lichens, hepatics and mosses. The arrangement of the species is ecological: species growing on limestone, species growing on decaying wood, species of dry heath forests, species of old forests, etc. Each species is illustrated by a colour photograph, which are without exception excellent and informative. The selection of species is mostly well-justified, and only slightly lichen-biased. There are not many “serious” omissions, although I would have loved to see for example the common *Brachythecium rutabulum* treated among the mesic-forest species.

As we are - essentially a matter of money - still waiting for the "big" modern Finnish bryophyte (and lichen) flora, this book is definitely a treasure for the amateurs interested in these often overlooked or ignored organisms and also a very useful aid in lichen and bryophyte courses. The Foreword also gives a net link to a virtual flora "Pinkka" that is being constructed at the University of Helsinki (<http://pinkka.helsinki.fi>). It is currently mostly in Finnish (and Swedish), but eventually all of its contents will be translated into English.

Johannes Enroth



Atlas of the bryophyte flora of Eindhoven

The *Atlas of the bryophyte flora of Eindhoven* was published in January 2008. This beautifully illustrated book, written in Dutch, is the result of 25 years of floristic investigation of mosses, liverworts and hornworts in the southern part of the Netherlands. All together an unbroken area of 1000 km² (386 sq mile) has been investigated. The core of the book is formed by detailed distribution maps (dot maps with a resolution of 1 km²), of all 377 species occurring in the area. Moreover, the atlas presents a detailed survey of the biotopes where bryophytes occur: pine, oak, beech, ash, birch and alder woodlands and scrub, heath, heath ponds, inland sand dunes, artificial landscape elements, arable fields, wastelands and stony substrates. Within the biotopes, specific bryophyte communities have been described. In woodlands, apart from genuine soil bryophytes, bryophyte communities from steep drain sides, trunk bases and branches have been treated. Community descriptions include information on associated ferns and phanerogams. To visualize the organisms discussed, the book has numerous illustrations including 22 water-colours and

80 drawings of details of mosses and liverworts. In the concluding chapter the changes in the bryophyte flora during the last 25 years have been discussed extensively.

The book has been published in full colour, hardback and has 400 pages, (30,5x24x3cm).

To order: The "Atlas" (ISBN 978-90-810188-2-1) can be ordered by transferring €30 + €10 shipping cost to IBAN: NL76PSTB0001066049; BIC: PSTBNL21 (for The Netherlands giro 1066049) for the attention of KNNV – Eindhoven with the reference of "Mosflora".

Further information:
<http://www.knnv.nl/eindhoven/knnv-afdeling-publicaties-mossenatlas.html>

The author: H.M.H. van Melick
Merellaan 13
NL- 5552 BZ Valkenswaard
The Netherlands
e-mail: h.vanmelick1@chello.nl

Moss Flora of China, Vol. 4

Li, X.-J., Crosby, M. R. & He, S. (eds): *Moss Flora of China, English Version. Vol. 4. Bryaceae-Timmiaceae*. 211 pp. Hard cover. Science Press (Beijing, New York) & Missouri Bot. Garden Press (St. Louis), 2007. ISBN (this volume) 978-1-930723-57-3. Price USD 75.00, orders to: orders@mbgpress.org

Volumes 1, 2, 3, 6 and (of *Moss Flora of China, English Version* have been published starting from 1999. The latest volume (4) treats the following families:

Bryaceae (Zhang Da-cheng, Li Xiang-jiang & Si He), Mniaceae (Li Xiang-jiang, Si He & Zang Mu), Rhizogoniaceae (Li Xiang-jiang & Si He), Hypnodendraceae (Li Xiang-jiang & Si He),

Aulacomniaceae (Li Xiang-jiang & Si He), Meesiaceae (Li Xiang-jiang & Si He), Bartramiaceae (Zang Mu & Si He), Spiridentaceae (Si He & Li Xiang-jiang) and Timmiaceae (Li Xiang-jiang & Si He)

The total number of genera treated is 32, with 206 species or infraspecific taxa. The largest families are the Bryaceae (11 genera, 103 species), Mniaceae (8

genera, 50 species) and Bartramiaceae (6 genera, 31 species), making a total of 184 species.

As was noted by Blockeel (2007), the families as well as genera are treated mainly in the traditional sense. *Pohlia* is included in the Bryaceae instead of the Mniaceae, *Bryum* is circumscribed in a very wide sense, and the family Plagiomniaceae is not recognized (the last concept following the family taxonomy of Buck & Goffinet 2000). Blockeel (2007) also noted some shortcomings and contradictions in the treatments of various species of the Bryaceae, and there seem to be similar weaknesses in the Bartramiaceae (especially in *Philonotis*) and in the Mniaceae.

Identifying the correct genus for a specimen of *Mnium stellare* would not work with the key to the genera of the Mniaceae, because it has single-toothed leaf margins and according to the key all species of *Mnium* have double-toothed margins. *Mnium laevinerve* is recognized in the Flora as a distinct species, but it was synonymized with *M. lycopodioides* by Koponen (1994). It appears that especially in *Plagiomnium* the species concepts and thus identifications are partly wrong. Koponen (1981; cf. also Rao et al. 1997, Fang et al. 1998, Peng et al. 2000) showed that the geographical ranges of *P. cuspidatum*, *P. rostratum* and *P. vesicatum* do not extend to the central, let alone southern, parts of China, yet each of those species is here recorded from several central and southern provinces. It seems that numerous identifications of specimens cited from PE (or their duplicates in HKAS) should have been checked against the paper by Koponen & Lou (1982); an example is the specimen C. Gao 1936 (HKAS) from Liaoning, which in the Flora is cited under *P. venustum* but by Koponen & Luo (1982) under *P. acutum* (and the authors indeed state that "the presence of *P. venustum* in Asia is highly unlikely"). The record of *Plagiomnium succulentum* from Hubei by Peng et al. (2000) is not included in the Flora. *Orthomnion bryoides* and *O. nudum* were recorded from Hunan by Enroth & Koponen (2003), but in the maps of this Flora there are no dots in Hunan. All in all, the distribution maps seem to be deficient for numerous taxa. It is understandable that very recent records cannot have been included in the Flora, but some of the papers cited above are really not that recent. In this connection it should be mentioned that a new species of *Orthomnion* from Hubei was described by Koponen (2007).

The key to the species of *Philonotis* begins with a doubtful distinction in costa length: Costae clearly ending below the leaf apex or nearly percurrent vs. costae percurrent or excurrent. There must be many border-line cases for which it is difficult to decide if the costa is "nearly percurrent" or "percurrent". *Philonotis falcata* and *P. mollis* were recorded for Hunan by Koponen et al. (2000), but these records are lacking.

Philonotis runcinata is cited from Yunnan, but not from Taiwan (cf. Koponen 1998). Figure 18 in plate 235 (p. 188, *P. turneriana*) is upside down; the papillae should be at the upper ends of the leaf cells.

These are just examples and lead to what I really want to say. Even if it is to be strongly encouraged that Chinese authors study and identify their own taxa, consulting well-known non-Chinese experts especially of difficult genera, such as *Philonotis* and apparently also *Plagiomnium*, would definitely enhance the quality and reliability of this Flora. I believe many of those experts would be very pleased to help.

This volume of the Moss Flora of China, despite its shortcomings, will be a similar treasure in my bookshelf as the previously published volumes. The project as a whole has not lost any of its value or significance, but some of the problems unavoidable in such projects became evident with this volume and should be dealt with in one way or the other for the forthcoming volumes.

Johannes Enroth

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Rao, P., Enroth, J., Piippo, S. & Koponen, T. 1997: The bryophytes of Hunan Province, China: An annotated checklist. *Hikobia* 12: 181-203.

Assessing a two-hundred year bryophyte trend in Switzerland

Urmi Edwin, Schubiger-Bossard Cécile, Schnyder Norbert, Müller Niklaus, Kuchler Meinrad, Hofmann Heike & Bisang Irene (2007): Zwei Jahrhunderte Bestandesentwicklung von Moosen in der Schweiz: Retrospektives Monitoring für den Naturschutz. 139 pp., illustrations + colour photographs. Zürich, Bristol-Stiftung; Bern, Stuttgart, Wien, Haupt. ISBN 978-3-258-07218-0.

The Swiss plateau is the most densely populated part of Switzerland. Eighty percent of rarer bryophytes have either declined strongly or become extinct in this region. Not only are rare species declining, so are the common species. In Baden-Württemberg, even the common *Homalia trichomanoides* has declined. Monitoring the decline of common species is time consuming. Can the wealth of specimens in the collections be put to use?

The goal of this book is mainly methodological. The authors present a herbarium-based technique to monitor changes in population density of bryophytes, not only of the rare species but also of the more common species. Moreover, they are interested in the long-term changes over the last two centuries. They assume that the number of specimens in the reference herbaria, collected over a certain period, is directly related to the number of populations of a taxon existing during that period. However, as the collecting activity is very variable over longer periods, these data had to be corrected for the general collection activity over that period. To do this, they used all collections of a reference data set of 85 species for the period 1850-1999. For each of the 42 species in the test group they then calculated the relative collecting activity (RCA) as the ratio of the number of specimens of the study species to number of specimens of the reference data set. Next the changes in the RCA before and since 1940 were evaluated by a permutation test. These results were finally interpreted taking into consideration the professional judgment of the authors.

The bulk of the book consists of the results for the 42 test species. For each species, conservation, red list status and a short description of its morphology and ecology are given first, followed by the geographical distribution and the number of herbarium specimens.

Illustrations from this part include a clear colour photograph or line drawing, a column chart with the changes in the relative collection activity and a distribution map before and after 1940. These results are then assessed considering expert knowledge of this species, followed by a diagnosis of the changes in population density of the taxon. In the conclusion the results are commented, with conservation measures for the declining species and if necessary areas for future research.

Overall, 16 out of the 42 species studied show a decline and four are increasing; fifteen species need further studies for a correct assessment. Rare and medium frequent species show significant decline, frequent species are more stable. Does this mean that the more common species did not decline, that all the efforts to include them in the analysis were futile? No, the authors show that 12 species of medium or high frequency most probably suffered losses of populations; and yes, *Homalia trichomanoides* is one of these. They urge for future watchfulness. It is surprising to me that *Orthotrichum diaphanum* is also one of these declining common species, in lowland Europe it has been one of the first species to respond to the better air quality.

The book concludes with some recommendations for the conservation of bryophytes and their vegetations. Again the importance of maintaining common species at their current abundance is stressed. As minimum measures they recommend reducing water, air and soil pollution. Their suggestions at the habitat level will also benefit other organisms.

This book is of importance to everyone concerned with bryophyte monitoring and conservation.

Herman Stieperaere

The mosses of the Canton of Bern, Switzerland

Bagutti, B. & H. Hofmann (2007). *Die Moose des Kantons Bern (Schweiz)*. *Cryptogamica Helvetica*, 21: 320 p. ISSN-: 0257-9421.

This bryophyte atlas presents the bryophyte flora of the Canton of Bern, the second largest canton of Switzerland. With circa six thousand square kilometers, it covers nearly fifteen percent of the Swiss surface. The canton, which covers three regions, parts of the Jura, the Mittelland and the Alps, has a rich bryophyte flora (2 hornworts, 202 liverworts and 646 mosses), which is to a large extent due to the various altitudinal zones and diverse geomorphology of the Alps.

This atlas of the bryoflora of the Canton of Bern is the result of over two hundred years of bryological inventorying, starting with the collections of the 18th Century Albrecht von Haller, the father of Swiss bryology, building upon the collection of Paul Culmann, and recent collections of the authors and other bryologists. Additionally, the authors could benefit from research projects, such as the NISM (national bryophyte inventory), species conservation projects and fen & bog conservation projects.

The main geographic regions are described in detail in the introductory chapter and this includes an

assessment of the change in land uses and associated threat to the moss flora of the canton. Particularly affected is the Mittelland, as a result of intensification of agriculture, hydrological measures, and increased industrialization and transport infrastructures.

Most of the species are illustrated with a dot-map (records from before and after 1960 (until 2004) and records for which only literature data are available). For each species, the authors describe the habitat preferences, the number of records, the earliest and most recent record and also the lowest and highest altitude the species is found in the Canton). Of the 25 mainly alpine species, which were so far not or only rarely illustrated, Ingrid Berney made the drawings and of habitat and important characters.

“Die Moose des Kantons Bern (Schweiz)” is a carefully presented atlas and certainly a valuable contribution to the flora of Europe.

G.Raeymaekers

COURSES AND WORKSHOPS

Eagle Hill Seminars

2008 Bryology Seminars at the Humboldt Institute on the coast of Maine!

June 29 - July 5: Acrocarpous Mosses of the North Woods (Jon and Blanka Shaw)

July 6 – 12: Bryophytes for Naturalists (Fred C. Olday)

August 3 – 9: Ecology of Liverworts and Mosses (Nancy G. Slack and Paul G. Davison)

Descriptions of seminars may be found at <http://www.eaglehill.us/mssemdes.html>

Information on lodging options, meals, and costs may be found at <http://www.eaglehill.us/mapinfo.html>

There is a printable and online application form at <http://www.eaglehill.us/mapweb.html>

<http://www.eaglehill.us/mapprn.html>

Syllabi are available for these and many other fine natural history training seminars on diverse topics.

For more information, please contact the Humboldt Institute, PO Box 9, Steuben, ME 04680-0009. Tel.: 207-546-2821. Fax 207-546-3042

E-mail - <mailto:office@eaglehill.us>

Online general information may be found at <http://www.eaglehill.us>

Natural history seminars

In support of field biologists, modern field naturalists, and students of the natural history sciences, Eagle Hill offers specialty seminars and workshops at different ecological scales for those who are interested in understanding, addressing, and solving complex ecological questions. Seminars topics range from watershed level subjects, and subjects in classical ecology, to highly specialized seminars in advanced biology, taxonomy, and ecological restoration. Eagle Hill has long been recognized as offering hard-to-find seminars and workshops, which provide important opportunities for training and meeting others who are likewise, dedicated to the natural history sciences.

Eagle Hill field seminars are of special interest because they focus on the natural history of one of North America's most spectacular and pristine natural areas, the coast of eastern Maine from Acadia National Park to Petit Manan National Wildlife Refuge and

beyond. Most seminars combine field studies with follow-up lab studies and a review of the literature. Additional information is provided in lectures, slide presentations, and discussions. Seminars are primarily taught for people who already have a reasonable background in a seminar program or in related subjects, or who are keenly interested in learning about a new subject. Prior discussions of personal study objectives are welcome.

Anne Favolise - Stanton, Assistant Editor
Humboldt Field Research Institute
PO Box 9, 59 Eagle Hill Road
Steuben, ME 04680-0009 USA
Phone: 207-546-2821, FAX: 207-546-3042
mailto:office@eaglehill.us

The A. Leroy Andrews Foray

From Friday, September 12 to Sunday September, 14
2008

Frost Valley YMCA, 2000 Frost Valley Road, Claryville,
New York

The A. Leroy Andrews Foray is organized to meet the interests of professional, amateur, and students of Bryology and Lichenology. This years Foray will be

held in the Catskill and Schawangunk Mtns. of eastern New York State. Field trips are planned to highlight general bryophytes, Sphagnum, and lichens. For more information and a registration form please visit the website:

<http://www.cs.rpi.edu/~ingallsr/AndrewsForay.html>
or e-mail to Tom Phillips at mossvet@nycap.rr.com

RESEARCH NEWS

Announcing a new project funded by the Global Biological Information Facility (GBIF).

We are excited to announce the launch of a project entitled Early Land Plants Today: Uniting Liverwort Taxonomy, Nomenclature, & Geography.

Project Summary: Liverworts (Marchantiophyta) are pivotal in our understanding of early land plant evolution. They form a conspicuous and important component in many terrestrial ecosystems throughout the world.

The objective is to unify the vastly scattered biological literature on liverwort taxonomy, nomenclature, and geography. We have already developed a preliminary dataset, derived from over 3000 publications and contributions from the bryological community. This represents the most comprehensive catalogue of liverworts worldwide, including systematic and taxonomic information for approximately 30,000 names and synonyms representing over 9000 taxa, coupled with over 360,000 distribution records derived from almost 450 geo-political units. The unification of nomenclatural, taxonomic, and geographical data has many implications and useful applications, including the study of species richness, patterns of diversity, and conservation. GBIF funding will allow the first phase to be completed and data to be migrated into the Field Museum's Collection Database (KE EMu). New data will be recorded and added as they are synthesized, and, combined with the extensive information already gathered, it will all be made public through the internet. Significantly, our databasing efforts will contribute data

to other international databasing activities such as GBIF, Species 2000, MOST TROPICOS, NSF and other scientific programs, as well as the Encyclopedia of Life project.

Community participation: In recognition that the documentation of synonymies and distribution ranges on a global scale is a massively challenging task, we actively seek and encourage contributions from the bryological community to improve the quality of the data and to reach a consensus on "accepted" taxa. The quality of the data lies strongly on collaboration between institutions and the bryological community in general. Through an earlier phase of the project we received contributions from over 20 colleagues throughout the world, providing valuable feedback and contributing towards synonymy and distributional data. We wish to continue to foster this endeavour, inviting and encouraging community participation. We have a variety of media to provide feedback and the provision of data, including password protected web access to aspects of the data.

If interested in contributing please contact: Matt von Konrat, Ph.D., Department of Botany, The Field Museum, 1400 South Lake Shore Drive, Chicago, IL 60605-2496, U.S.A.
Email: mvonkonrat@fieldmuseum.org

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Matt von Konrat, Ph.D.

Email: mvonkonrat@fieldmuseum.org

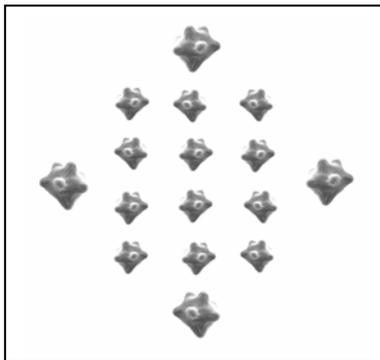
www.liverworts.org

keys: <http://www.discoverlife.org/nh/tx/Plantae/Bryophyta/Collections/>

http://emuweb.fieldmuseum.org/botany/search_bryo.php

Thesis on the population biology of liverworts

Maria Pohjamo has completed her PhD thesis: *Should I Stay or Should I Go – Reproductive and Dispersal Strategies in Site-specific Liverwort Species, which she will formally defend on the 23rd of May, 2008 at the University of Helsinki. The supervisors of the project were Dr. Helena Korpelainen and Dr. Sanna Laaka-Lindberg.*



The general objective of the thesis is to increase knowledge of the reproductive and dispersal strategies in substrate-specific forest bryophytes. The population biology of two substrate-specific liverwort species, *Anastrophyllum hellerianum* and *Trichocolea tomentella*, inhabiting unstable and stable habitat in a forest landscape was examined in detail. Based on the findings, the reproductive and dispersal strategies of two substrate specialist species studied in this thesis vary depending on the adaptation to the prevailing habitat. Since species are considered to be sensitive to fragmentation and other external factors depending on their life history traits and the type of the environment a species is adapted to, the results of the thesis may allow generalisations for conservation strategies in declining and threatened bryophytes sharing similar life history traits. The recommendations for conservation measures for species inhabiting unstable and stable habitats in fragmented forest landscape are introduced in the summary section of the thesis.

The thesis consist of a summary section, which is available as an etthesis in the website <http://www.thesis.helsinki.fi>, and the following research papers:

Pohjamo, M. and Laaka-Lindberg, S. (2004) Demographic population structure of the leafy hepatic *Anastrophyllum hellerianum*. *Plant Ecology* 173, 73-81.

Pohjamo, M. and Laaka-Lindberg, S. (2004) Reproductive modes in a leafy hepatic *Anastrophyllum hellerianum*. *Perspectives in Plant Ecology, Evolution and Systematics* 6, 159-168.

Pohjamo M., Laaka-Lindberg S., Ovaskainen, O. and Korpelainen H. (2006) Dispersal potential of spores and asexual gemmae in a epixylic hepatic *Anastrophyllum hellerianum*. *Evolutionary Ecology* 20, 415-430.

Korpelainen, H., Laitinen, R. and Pohjamo, M. (2004) Lack of intraspecific variation in cpDNA in *Trichocolea tomentella* (Ehrh.) Dumort. *Journal of Bryology* 26, 221-223.

Pohjamo, M., Korpelainen, H. and Kalinauskaitė, N. (2008) Restricted gene flow in the clonal hepatic *Trichocolea tomentella* in fragmented landscape. *Biological Conservation*, in press, doi:10.1016/j.biocon.2008.02.016

Data basing of the Stephani Types

Through the Andrew W. Mellon Foundation (U.S.A.) and GBIF.ch (the Swiss node of GBIF international) I have received funding to database and digitalise the Franz Stephani hornwort and liverwort types in G. Name and label information will be associated with a scan of the herbarium packet and plant material (600dpi) for each type in G. I am hoping that the availability of information on the Stephani types on-line (more details to follow about when and where) will be useful to all of you working on hepatics and will help facilitate your studies, at least, in the medium to long-term.

Firstly I would like to apologise to those who have requested Stephani types on loan over the last 6 months and who have experienced a delay between their request and the receipt of the specimens. It seemed logical that we processed all material before it was sent out on loan but unfortunately some requests got caught up in a backlog of material to be scanned / databased. We have now scanned 4391 types for 3307 of Stephani's approximately 5300 names so the

good news is that we are more than half-way through processing his collection.

Secondly, now that we are more advanced with the project and the back-log has largely been cleared, I would like to ask all those who have Stephani types on loan to consider the following propositions:

- 1) the return of Stephani specimens to G that have been finished with so that they can be databased and scanned as part of this project during 2008.
- 2) the return of Stephani specimens to G that have not been finished with (but which can be spared for a few months during 2008) with a re-request for the material included so that once the specimens are processed (scanned and databased) they can be returned to you so that you can continue with your work on them.

I thank you in advance for your consideration.

Michelle J. Price
michelle.price@ville-ge.ch

CONSERVATION NEWS

Guidelines for the Sustainable Harvest of Forest Moss

Justification for Guidelines

The harvest of forest moss for personal and commercial use is important culturally and economically and is likely to continue into the future. Commercial harvest has been reported from the Pacific Northwest of western North America (Peck 2006), the Appalachians of eastern North America (Studlar & Peck 2007), the Sierra Chincua in southern Mexico (Gómez Peralta & Wolf 2001), the Cordillera Cantábrica in northern Spain (Lara et al. 2006), and elsewhere. Although commercial moss harvest is a comparatively minor threat to bryophyte communities in comparison to land development and mining pressures, we are nevertheless concerned that the harvest of large amounts of forest moss has the potential to adversely impact ecosystem functions (notably hydrological and nutrient cycles) and animal habitats (especially invertebrates). Yet regulations that completely prohibit the harvest of non-timber forest products such as moss often marginalize traditional harvesters, converting previously law-abiding individuals into illegal poachers. This transition is

usually accompanied by the abandonment of traditional, sustainable harvest practices.

By providing guidelines for moss harvest, we hope to reduce the threat of poaching in parks and preserves, increase awareness of the ecological roles of mosses, and promote local community-based industries compatible with long-term economic and ecologic stability.

We do not envision certification as a useful technique for regulating moss harvest at present, since entire plants (colonies) are often harvested, regrowth is slow, and the subsequent long rotation periods make it unlikely that sustainable harvest can be certified through multiple rotations. Because inexpensive alternatives are available for most uses and mosses are generally not value-added commodities, prices are also unlikely to become high enough to generate funds for the controlled access (e.g., gated roads) necessary to meet certification standards (c.f. Shanley et al. 2005).

Guideline Development

These guidelines have been drawn from a variety of sources, including comments from Patricia Muir (muirp@science.oregonstate.edu), Natalie Cleavitt (nlc4@cornell.edu), Alvaro J. Duque M. (ajduque@unalmed.edu.co), Tomas Hallingback, (tomas.hallingback@ArtData.slu.se), Alison Dyke (alison.dyke@blueyonder.co.uk), and the following resources: Muir 2004; Muir et al. 2002; Peck 2006; Peck and McCune 1998; Peck & Moldenke 1999; Studlar & Peck 2007; Ticktin 2004.; Vance et al. 2001.

Although we have presented the following guidelines in a numbered format to facilitate discussion, we recommend that the guidelines prepared for distribution instead be listed in a bulleted format to prevent readers from assigning ranked importance to these lists.

The assumptions behind these general guidelines include:

1. The effective implementation of specific management objectives for moss communities requires active involvement by policy-makers, landowners/managers, harvesters and buyers. Simply posting harvest guidelines is unlikely to achieve these objectives.
2. Regulation thus requires specific actions by those forming policy, those managing the land base, those harvesting the moss, and those purchasing moss.
3. Harvest guidelines relying on self-enforcement are functionally voluntary.
4. Successful voluntary harvest guidelines are those that are perceived as reasonable and easy to follow.
5. Guidelines should encourage long-term product availability and minimize the impact of harvest on bryophyte communities and the ecosystem services they provide.
6. Consideration must be given to the safety of harvesters as well as that of the surrounding habitat.
7. The best hope for sustainable moss harvest may well be educating harvesters, buyers and the general public so that harvest guidelines are willingly followed.
8. Guidelines should evolve over time as new information on harvest intensities or impacts becomes available.

Policy Guidelines

1. Establish a uniform set of guidelines applicable across land ownerships within regions.
2. Authorize local law enforcement to check permits when they are required.
3. Develop an incentive system to encourage buyers to record permit information when permits are required

4. Establish standardized reporting formats and record keeping standards on harvested quantities (including moisture contents) and locations .
5. Assign a unique HTS code to forest moss (separate from clubmosses, lichens, etc.) to facilitate tracking moss sold domestically and internationally.
6. Sterilize all harvested moss prior to export out of the harvest area to prevent exotic invertebrate introductions.
7. Include standards and guidelines for moss harvest in forest planning documents.
8. Explore potential for commercial cultivation and, where feasible, promote cultivation as an alternative to wild harvest

Management Guidelines

1. Conduct inventories to determine appropriate levels of harvest.
2. Determine the ecological requirements of the harvested plants to enable development of tailored guidelines.
3. Determine the ecological impacts of harvest (including the extent to which other organisms, such as invertebrates, are removed from the system through harvest).
4. Work with local harvesters to develop site-specific guidelines that incorporate traditional harvest methods.
5. Monitor harvest impacts regularly and reassess guidelines.
6. Ensure adequate access routes when determining which areas to open for harvest.
7. Consider maintaining written records and maps indicating areas open for harvest to facilitate rotation from year to year.
8. Promote only personal use in areas with low inventories.
9. Promote and coordinate harvest in areas scheduled for road construction, timber harvest, or other disturbance.
10. Promote harvest in high production timber plantations or otherwise highly artificial systems.
11. Clearly mark areas open for harvest and list (with photographs) which mosses can be taken.
12. If issuing permits for harvesting and hauling moss, allow fees to be paid in installments and/or at end of the harvest season and provide incentives for following harvest guidelines (e.g., rebates after spot-checks).
13. Distribute informational posters and materials to buyers on target species identification, guidelines, and resources.
14. Promote moss habitat through forest management that retains both host tree or shrub species of suitable size (diameter or basal area) and also stumps, logs and other coarse woody debris.

Harvest Guidelines

Harvest guidelines must be site-specific and developed in cooperation with the harvester community. Below we

list the types of information that should be provided to harvesters (via pamphlets, permits, posted signs, informational posters, photographs, etc.). We also recommend including a brief of explanation of *why* each guideline is important.

1. **Reason for Guidelines:** Harvesting according to these voluntary guidelines today will ensure many future harvests.
2. **Where to Obtain Permits (if applicable):** Harvest permits can be obtained at the following *locations*, *cost* this much, and are *valid* in these *areas* for this *long*.
3. **What to Harvest:** Buyers in this region will pay for moss that grows on these *substrates*, *looks* like this, and has this *growth form and extent*.
4. **What Not to Harvest:** Buyers will reject or pay less for moss or plants that do not match specifications from #3. It is illegal to collect moss that looks like *this*.
5. **Where to Harvest:** The best legally-available moss is found in this *type of forest*.
6. **Where Not to Harvest:** Moss should not be harvested from 'old-growth' or natural or otherwise protected areas, bogs, springs, rock outcrops, or within a specified distance of streams. Moss should not be harvested from these *substrates* or *locations*.
7. **How to Harvest:** Harvest 1/2 or less of the harvestable moss and do so in small patches rather than big strips when possible so that moss will re-grow quickly. Harvest using these *methods* and these *tools*. Only return to re-harvest the same area after *this many years*.
8. **How Not to Harvest:** Avoid cutting other plants, establishing new trails, or damaging the surrounding habitat.

Example Regional Guidelines

Where required, landowner permission is assumed

Tree moss in the Pacific Northwest of North America (peckj@psu.edu)

Management Guidelines:

Permits are sold for no more than 16,000 lbs/yr, fresh weight.

Harvest areas are open for 12 years and then rotated.

Harvest is only permitted in forests under 110 yrs of age.

Harvest is promoted in conifer forests over mixed/hardwood forests.

Harvest is allowed during peak demand season.

Harvest Guidelines:

Where Not to Harvest: Avoid harvesting within sight of roads, within 61 meters of streams, rock outcrops, protected areas.

How to Harvest: Harvest from understory tree trunks and shrub stems above knee-height to as far as you can reach (i.e., no climbing, using rakes, or harvest from rocks, logs, forest floor) and remove no more than 1/2 of all harvestable material at a site.

How Not to Harvest: Do not cut trees or other vegetation to access moss.

Ground moss in Scotland (www.forestharvest.org.uk/news.htm)

Management Guidelines:

Thin overstory trees or brushy shrub layer to increase light penetration and promote ground moss growth.

Harvest Guidelines:

Where to Collect: conifer woodlands.

Where not to Collect: bogs, streams, springs, rock outcrops, walls, tree trunks, dead wood, protected areas, native woodlands

What to Collect: weft-forming ground mosses, sometimes sphagnum.

What not to Collect: red-listed species.

How to Collect: by hand, hand tools, or rake; only 1/2 of what is present; only take green part; allow at least 5 years before reharvest.

Cushion moss in Sweden (Tomas.Hallingback@ArtData.slu.se)

Harvest Guidelines

What to Collect: moss on cement, roofs, grave stones, greenhouses, etc.

Where Not to Collect: 'old-growth' or natural areas, bogs, springs, rock outcrops, rock walls, tree trunks, dead wood, protected areas, research areas, rare communities, hotspots, or within 15 m of streams.

Log, rock, and tree-base moss in Appalachia, North America (sstudlar@wvu.edu)

Management Guidelines

Encourage forest management practices that generate moss habitat, such as retaining old trees, logs, stumps, coarse woody debris, and decaying logs in seeps.

Discourage harvest from old growth remnants, riparian areas (within c. 15 m of streams), cliff faces, and seeps.

Promote harvest in forests scheduled for clearcuts when accessibility and oversight is available.

Encourage compliance with harvest guidelines by distributing informational posters and brochures on moss harvest impacts to regional buyers and landowners that allow moss harvest; and also by conducting moss harvest workshops for the general public.

Harvest Guidelines

Where to Collect: forest stands scheduled for clear-felling, mesic forests away from streams on rocks, logs with bark, and tree bases.

Where not to Collect: old-growth stands, riparian areas (within 15 m of streams, seeps and moist rock terraces, springs, large trees, highly decayed logs (no bark), cliff faces, high-elevation areas (above 615 m), and protected areas.

What to Collect: contiguous mats of fern-shaped mosses that peel readily; remove no more than 1/3 of the harvestable moss

What not to Collect: other mosses such as loose mats on cliffs and by streams.

How to Collect: use hands to remove moss mats in patches rather than large strips, but stop immediately if log/bark begins to detach with moss.

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J.E. Peck and S.M. Studlar
(<http://www.artdata.slu.se/guest/SSCBryo/SSCBryo.html>)

News from the IUCN/IAB bryophyte conservation group

We are now **22 members** in our joint IAB/IUCN conservation committee, listed on the web page (under "Who we are")

<http://www.artdata.slu.se/guest/SSCBryo/SSCBryo.html>

This website also includes the latest "Harvesting guidelines" (which the editor has also reprinted in this issue of the *Bryological Times*).

In 2007, we celebrated in Uppsala during the whole year with many events, lectures etc. the Tercentenary of Carl Linnaeus' birth. However, it is a pity he did not much in Bryology! In June the new **Head of Species**

Programme at IUCN, Dr Jane Smart, and Julie Griffin visited us in Uppsala and I discussed the use of a new tool, RapidList, a lighter way of making a red list assessment.

At the end of July, 23-27, IAB had its big World Conference of Bryology 2007 in Kuala Lumpur, **Malaysia**. Those who attended the conference participated in our Conservation meeting. We had fruitful discussions regarding how to proceed with our bryophyte conservation work. I stayed a week after the post-conference trip in Cameron Highland and visited Ben Tan in Singapore in order to give a talk about Linnaeus in the Botanical Garden.

In **Europe** there was a bryophyte conservation meeting in Romania 2-4 September, which unfortunately I could not attend. The meeting had a focus on 'Important Bryophyte Areas'. You can get more information from Lars Soderstrom. Lars, together with Edi Urmi and Jiri Vana, has updated the Hepatic checklist of Europe and this PDF can be downloaded from (<http://www.bio.ntnu.no/ECCB/Hepatics.php>). The list is NOT only a checklist but also has much more information, for example about distribution in each European country, official national red list threat status etc. The Hepaticologists are quite ahead of the Muscologists when it comes to checklists (at least in Europe)! Good work!!

Right now, at the end of 2007, I am trying to update the threat status and geographical data of our 83 officially globally redlisted species. I will be in touch with some of you for additional information!

Finally, in December, Benito Tan and I are in full preparation for a workshop- "**Towards the First Red List of Endangered Bryophytes in East, South and Southeast Asia**" that will take place between the 28 February to 2 March 2008 at the Singapore Botanic Gardens. This four-day long conference will witness

the invited participation of 12 of the best authorities on Asian mosses and liverworts. The goal of this workshop is to assess as many species as possible of bryophytes known from E, S & SE Asia by way of group discussions, and by using the tools, RapidList Programme recently proposed by IUCN.

Finally, if you have any ideas of what **we** can do to highlight bryophytes, save bryodiversity etc you are most welcome to write a line...

And just the last day we as specialist group of IUCN participated in a global scan of expert opinions regarding the effects of climate change and our bryophytes. The results you can read at http://www.globescan.com/news_archives/climate_panel/

Tomas Hallingback
Chairman of IUCN SSC Bryophyte Specialist Group & the IAB standing Committee for Endangered Bryophytes

Tomas.Hallingback@ArtData.slu.se

AWARDS

Hattori Prize for Mosses and other bryophytes

The second edition of "Mosses and other bryophytes – An illustrated glossary" by Bill and Nancy Malcolm was awarded the Hattori Prize by the International Association of Bryologists at their recent Kuala Lumpur Conference. The second edition has half again as many pages (over 330) and illustrations (nearly 1400) as the first edition did, and two-thirds of those illustrations are new. Over 530 species of bryophytes are illustrated. Also, an appendix explains how to photograph bryophytes without a camera.

Copies can be purchased from the sole distributor Manaaki Whenua Press in New Zealand. The book is described on Manaaki Whenua Press' web-site (<http://www.mwpress.co.nz>) along with directions on how to order and the cost of shipping.

e-mail address: mwpress@landcareresearch.co.nz
postal address: Manaaki Whenua Press, P.O. Box 40, Lincoln 8152, Canterbury, New Zealand
telephone: +64-3-321-9749 or +64-3-321-9662
facsimile: +64-3-321-9997

JOB OPPORTUNITIES

Master's Degree Program in "Biodiversity in Tropical Areas and its conservation" (MBATC)

The Master's Degree Program in "Biodiversity in Tropical Areas and its conservation" is a one-year MSc program (75 ECTS) offered jointly by the International University Menendez Pelayo (UIMP, Ministry of Science, Spain), the Spanish National Research Council (CSIC, Ministry of Science, Spain), and the Universidad Central del Ecuador (UCE, Ecuador). The

program is fully funded by the CSIC, with a strong emphasis on fellowships for Latinamerican students; the title is an official European MSc degree conceded by the UIMP; and the program will be taught in Ecuador, with an emphasis on practical studies in natural reserves.

The program is international, with a minimum of 15 and a maximum of 30 students, most of them funded by the program.

Route to the PhD degree.

Excellent graduates from the MBATC program have the possibility to continue their PhD studies in CSIC Departments (Real Jardin Botanico, Museo Nacional de Ciencias Naturales, etc.) through separate application calls opened each year. They can also apply to other programs in the Spanish science system (Universidad Complutense de Madrid, etc.), or to any European or American university, as this MSc title is an official European degree.

What do I need to be able to apply to MBATC?

You are eligible to apply to the program if you hold a Bachelor's degree in any suitable field, especially on biosciences: biology, forestry, or agriculture, but also in geography, for example. You must need to be proficient in Spanish language.

Financial support

The CSIC offers 5 full scholarships (6300 euros/student) and 5 for registration fees (1300 euros/student). The program finances 10 additional full scholarships for Latin American applicants. All the information is available at <http://www.rjb.csic.es/fichacurso.php?id=265>

How to apply?

The application period for studies starting in September 2008 begins 19 May 2008 and closes 10 July 2008. You can find all the information and detailed instructions on how to apply at:

<http://www.rjb.csic.es/fichacurso.php?id=265>

or

<http://www.uimp.es>

If you have any questions regarding the program, please contact Director Jesus Munoz
Email: jmunoz@rjb.csic.es

A post-doctoral position vacancy

Assembling the Liverwort Tree of Life project sponsored by NSF, involves several laboratories within the US (<http://www.biology.duke.edu/bryology/LiToL/index.html>). My lab focuses on sequencing complete chloroplast genomes for select taxa, and surveying broad samples of exemplars in search of phylogenetically informative structural changes in the genome.

A post-doctoral position will be available starting Sept. 1st, 2008. Requirements are to have a Ph.D. and research experience in plant phylogenetic systematics. Candidates should also have most of the following qualifications: knowledge of liverwort systematics, experience in phylogenetic and ancestral character-state reconstruction, proficiency in sequencing, experience in genome assembly and annotation, and programming.

The salary will be \$36,000 + benefits. The position would be for two years pending satisfactory progress after the first year. Anyone meeting the requirements and interested in this position should contact me for more information. Electronic applications (CV including names of references) should be sent to the address below, with the subject line reading "Liverwort Tree of Life". Review of applications will begin immediately and continue until the position is filled.

Dr. Bernard Goffinet
Associate Professor
Ecology and Evolutionary Biology
75 North Eagleville road
University of Connecticut
Storrs CT
06269-3043 USA
Ph: 1-860-486-5290
Fax: 1-860-486-6364
<http://www.eeb.uconn.edu/people/goffinet>

EXCURSION REPORT

Wet and sweat – the IAB Mt. Kinabalu field trip

It was with great expectations that we entered the plane from Kuala Lumpur to visit the highest peak in Southeast Asia and one of the hot spots in the world, Mt. Kinabalu. The group of 10 arrived individually or in small groups in Kota Kinabalu. As the last ones to arrive in the evening, we met all the others, Nadya Konstantinova (Russia), Nele Ingerpuu (Estonia) with husband, Kai Vellak (Estonia), Phiangpak “Pak” Sukkharak (Thailand), Elizabeth Brown (Australia), Neil Bell (Finland), Ana S eneca (Portugal), Belen Albertos (Spain), and of course our local hosts, Monica Suleiman and her husband Boni Mosios.

The first day was devoted to culture and nature more than to bryophytes. In the morning we visited the Monosopiad Cultural Village, a traditional head hunter village. When entering the house with the old skulls we hoped that we did pay enough respect so that the collection would not be extended with any bryologist. We also learned that we have to pay all the respect to the mountain and not to disturb its spirits. If you have to make a private visit behind a bush, first ask the mountain spirits for permission. If not you will get their revenge.

After a substantial lunch we headed south to visit a mangrove area with proboscis monkeys. Arriving in the afternoon we entered a boat that should take us down the river looking for monkeys. We were successful enough to see other monkeys than the *H. sapiens* although the latter was the most numerous when other species showed up. We did not leave the boat but we did come so close to the mangrove that we could look a bit for bryophytes. But without finding any. During the return up the river it started to get dark. The sunset was spectacular and afterwards the fire flies came out, in masses!

Next day we started our journey to Mt. Kinabalu National Park. After a 2 hour bus trip we arrived at the park headquarter to pick up our climbing and collecting permits, checked in at the hotel and had lunch before returning to the field. We were taken to the Sila Sila trail, a lowland rain forest trail at 1500 m a.s.l. near the park headquarter. This was our first real contact with Borneo bryophytes. We collected around the path and I managed to see a *Zoopsis* and a *Schistochila* for the first time ever, together with the famous *Dawsonia superba*, the largest self-supporting bryophyte gametophore in the world. However, there was no gigantic specimen around.

Next morning we started our climb to the top. We had been told that the weather is nice in the morning but that it always starts to rain around 4-5 o'clock in the afternoon. It was therefore wise to start early to get the

most out of the trip. So we entered the Timpohong gate at 1860 m when it opened at 9 in the morning for our 7 km and 1500 elevation m walk. The path is a well used, fairly comfortable path, but the first part of the climb was downhill! Still with full strength in the legs this loss in elevation did not seem relevant. The group quickly split into subgroups, some walked faster than others. We went slowly through the lower part finding all kind of nice things only gaining 100 m elevation the first hour.

At about 1 in the afternoon the first sign of fog and rain came! And we were still far down the hill. At 2 o'clock we were half way, i.e. 3,5 km along the path but only 800 m higher than we started. When reaching the true cloud forest the rain poured down, or rather not down but more horizontally. I'm used to this weather from Norway but I did expect the temperature to be a bit higher. However, the elevation made me feel exactly as cold as at home on a October day.



And poor Pak. She started to be cold already at the park headquarter and did probably not get warm again until reaching the steam at Kota Kinabalu next day.

The three last of us reached the Laban Rata restaurant just after 5, wet and very tired. The last km climbing did take its toll on the leg muscles. Here the loss of elevation in the beginning proved to be noticed. We had an early dinner at the restaurant before we went to our cottage to try to dry some of our clothes instead of botanizing in the surroundings.

Next morning it was meant that we should start early to climb the remaining 900 m to the top. The climb should start around 3 in the morning to be at the top to see the spectacular sun rise. Half the group was fit enough to make this trip while the other half chose to sleep a bit longer. The weather had improved a bit. It was, as predicted, not raining any more so the climb started in a normal way. It takes about 3 hours up to the top and the group aimed to be at the top at 6 o'clock to see the sun rise. But what happened? Is Mt Kinabalu predictable? At 5 it started to rain again. Heavily. So, there was no sun rise to see and it was too wet to do some proper collecting at the top or on the way down to Laban Rata. Thus, the 5 brave (Nele with husband, Neil, Pak and Belen) returned at 9 for breakfast, wet, wetter and wettest. The rest of us were thankful for our decision not to take the final climb.

After breakfast we started to climb down. It was scheduled that we should visit the Paka Cave, a

locality where *Takakia* is known to grow. But due to the heavy rain our guide prevented us from that visit. The already wet ones started to walk fast to warm up while some of us made some sort of attempt to botanize in the upper forest. But with foggy specs and lenses our ability was a bit reduced. The rain that should come in the afternoons seemed to have changed habit. It rained until about 1 in the afternoon. The rest of the day was fine but then we were already down to the lower part of the trail, the same part that we botanized well the day before.

Despite the weather conditions the trip was a memorable one and we DID see a lot of nice things. Hopefully something interesting will turn up from the

collecting bags once they have been examined. But I cannot stop wondering. Was there anyone that went behind a bush without first asking the mountain spirits for permission?

Next day was the departure. Walking to breakfast some participants used a funny duck walk. Overusing both the muscles for climbing and for descending within 2 days is not recommended. So when the rest of you visit the mountain, remember two things. Try to make the climb over more than two days to be able to appreciate all the nice nature. And remember to pay respect to the mountain spirits!

Lars Söderström

Personal news

Roy Perry is now retired and was Head of Cryptogams at the National Museum of Wales, later Acting Head of Botany. For the BBS he was Secretary, Membership Secretary & Bulletin Editor, then Herbarium Curator. In 1996-7 he served as BBS President. He was elected a BBS Honorary Member in 2002. He has travelled widely, visiting most continents on bryological collecting expeditions. His collections are mostly in NMW. Since his retirement he has specialised in bryological books. A.R. Perry AlanRPerry@aol.com

TECHNOQUES COLUMN

Color charts for botanical research

A few years ago I created a color chart for use in online commerce so buyers and sellers would have a common point of reference to communicate about color. Over the years, The Online Auction Color Chart® has become popular among amateur and professional mycologists and other scientists who use it to communicate with one another about the color of plants and other organic matter. I sell the color chart at a profit to industry, but offer it at cost to educators, scientists, and other individuals who use it for non-profit purposes. Selling it at cost to those who use it for scientific purposes makes me feel good, and I can never lose when my product gets additional exposure (even if this is within non-profit settings). I sell my color charts individually, but it is most economical if they are shipped in bulk. I sell them at \$5.25 retail, but would drop this to \$2.00 for you or any scientists or students you know. If purchased in bulk, I'd drop the price to \$1.00 each. They cannot be resold for profit.

If you are interested in taking a look at the color chart, check out my website at www.OnlineAuctionColorChart.com
Lisa A. Kramer, Ph.D.
P.O. Box 20491
Stanford, CA 94309
650.736.8192
Email: kramerl@sbcglobal.net

There is also a "Munsell (R) colour chart for plant tissues" (similar to the one for soils) that works very well for unambiguous description of bryophyte colours. It designates each colour unit by three dimensions (hue, value and chroma). It is a small binder-style with hard plastic cover, colour "chips" on heavy card with a plastic sheet over each page, and is quite a bit more expensive than the Online Auction Colour Chart (about \$200 US).

As far as I can tell, the citation is: Wilde, S.A. and G.K. Voigt. 1977. Munsell Color Chart for Plant Tissues. (revised) Munsell Color. Macbeth Division of Kollmorgen Instruments Corp. 405 Little Britain Road. New Windsor, NY USA 12553-6148

There is no ISBN, but more details at: <http://usa.gretagmacbethstore.com/>

We've used this successfully to detect herbicide effects, among other things.

Kate Frego
Dept. of Biology, University of New Brunswick
P.O. Box 5050, Saint John, NB, Canada E2L 4L5
506-648-5566 (FAX 506-648-5811)
Email: frego@unbsj.ca

Bryophyte mapping

Mapping is the basis of phytogeography, the only way to get ideas about distribution of species and knowledge of their ranges. Mapping is usually done on the basis of different grid systems. This method is inaccurate: one dot stands for an area of 50x50 km (UTM) or 11x11 km (German grid), even if one is using quadrants. Since 25 years, we have the facility to make use of the Global Positioning system to get the localities fixed, more and more accurate, formerly as exact as 60 or 80 m, now as exact as 3-6 meters.

Coordinate mapping makes sense if one is using a mapping program which can make use of the coordinates (such as the free program BIOMAPS, see *Bryological Times* 116). Such dot maps are looking much more exact than grid maps. The exact location of a species allows also you to forward the information easily, or to visualize the record with Google maps.

For recording coordinates of species, the coordinates had to be noted in the fieldbook for every species and later retyped in a database program. Years ago I developed the idea to make use of Pocket PCs, part of which have the GPS built in. They are commonly used for navigation. In countries where digital maps are available, part of the maps can be downloaded into the Pocket PC and the arrow in the map (even in the scale 1:25000) tells you always where you are.

Writing down the coordinates is, however, circumstantial. So I usually noted only one coordinate for the whole fieldtrip, and by this way the inaccuracy could be 1 km. It would be much easier if you could

store the records of every single species in your Pocket PC. However, there are no programs for this purpose. Over the years I made many attempts to get such a program written, without success, until I got the address of Stephan Hennekens, a Dutch programmer, who had developed a program for vegetation mapping with the help of a Pocket PC. Within a few days he developed such a program according to my needs:

You start the program on your Pocket PC and open the connection to the built-in GPS. If the connection works (which is indicated), you scroll in a list of species to select your species. The list can be exchanged for a list of lichens, grasshoppers or what else. When you press the safe button, the species name, together with the actual coordinates (plus date and time) are stored in an Excel file. Then you go around and click this species and the other. The complete list can be displayed in a separate window. At home you load the file down on your PC and import the data in your database.

Although programmed for me and paid by me privately, I arranged with the programmer that he is selling his tool so that everybody can make use of it. Bryologists interested may contact Stephan Hennekens at the following email address:

stephan.hennekens@gmail.com

Jan Peter Frahm

Upgraded Guide to Genera

Diane Lucas and I would like to announce a significant upgrade to our "Perspective Oriented Guide for the Identification of North American Moss Genera" at the following website:

<http://www.life.uiuc.edu/moss-guide/>.

A section of the Guide now includes downloadable files for the North American liverworts and hornworts, thus all North American bryophyte genera are covered.

In addition, downloadable files for regional, downsized

versions of the Moss Guide are now posted for: a) New England & New York; b) the "MidWest"; and c) the "West Coast".

Further upgrades, revisions and corrections are in progress, so comments, suggestions and constructive criticisms are most welcome.

Malcolm L. Sargent
email: malcolms@life.uiuc.edu

WEBSITE NEWS

Website news from Spain

The new Bryophyte website of our group <http://www.pottiaceae.com/> is now available. The website includes information concerning the genera of Pottiaceae in which we are presently working. We

would like to put out all the published data about the genera of Pottiaceae. If you miss anything on the site or if you have any suggestions to improve it, do not hesitate to write directly to us.

In addition, the Flora Briofítica Ibérica website (<http://www.florabriofiticaiberica.com/>) renewed its webpage half way through 2007. Now, it includes a section entitled *Borradores* where the contributions from authors on their taxa are put out before a formal submission of their treatments. The author of a work in progress expects and welcomes comments on the

contribution. Users should send their comments directly to the author or editor of the taxon. Recent updates, which will form part of volume IV, includes the genera *Pohlia* and *Plagiomnium*.

María Jesús Cano
 Facultad de Biología, Universidad de Murcia, Spain
 E-mail: mcano@um.es

Bryological collections - Leiden

The herbaria of F. Dozy, J.H. Molkenboer, R.B. van den Bosch, and C.M. van der Sande Lacoste are preserved in the Nationaal Herbarium Nederland (Leiden branch, formerly: Rijksherbarium). A catalogue relating to original material of the 332 new species and infraspecific taxa they based on specimens from Indonesia, Japan, Surinam, and Venezuela can be consulted and downloaded from the website of the National Herbarium Nederland:

<http://www.nationaalherbarium.nl/CatalogueMossSpecimens.pdf>

The catalogue contains data relating to the original specimens of their new taxa present in Leiden, together with data on additional material considered relevant to the interpretation of these taxa. Included are references to the original publications; specimens present or lacking; collecting data from the protologue and other relevant sources; nomenclatural status; label data, and comments. A list has been added with the current name and exact location of the Indonesian collecting localities. Biographical data on these bryologists, their research, and problems involved in

the typification of the new taxa have been published separately (Touw 2006), and so are 65 new, revised, or emended lectotypifications (Touw 2007). The typification of species described by Dozy and Molkenboer is no easy matter, because the labels of their specimens are often incomplete, incorrect or confusing, and collecting data are lacking from their first publication.

Touw, A. 2006. *Bryologia javanica*: An outline of Dutch nineteenth century research on Asian mosses and guidelines for the typification of species described by Reinwardt, Molkenboer, and Dozy. *J. Hattori Bot. Lab.* 100: 494--515.

Touw, A. 2007. New, amended, or revised typifications of Indonesian and Malaysian mosses described as new by F. Dozy, J.H. Molkenboer, R.B. van den Bosch, and C.M. van der Sande Lacoste. *Tropical Bryology* 28: 79--90.

Dries Touw
 E-mail: touw@nhn.leidenuniv.nl

Country contacts

Country	Name	E-mail address
Austria	Harald Zechmeister	harald.zechmeister@univie.ac.at
Australia	Rod Seppelt	Rod.Seppelt@aad.gov.au
Belgium	Herman Stieperaere	herman@br.fgov.be
Canada	René Belland Michael Simpson	Rene.belland@ualberta.ca mjs14@ualberta.ca
China	Cao Tong	CT1946@263.net
Colombia	Jaime M. Uribe	juribem@ciencias.unal.edu.co
Czech Republic	Jiri Vana	vana@natur.cuni.cz
Estonia	Kai Vellak	kvellak@ut.ee
Finland	Viivi Virtanen	viivi.virtanen@helsinki.fi
France	Denis Lamy	lamy@mnhn.fr
Germany	Volker Buchbender	Volker.buchbender@planet-interkom.de
Hungary	Tamas Pócs	colura@chello.hu
India	Virendra Nath	drvirendranath2001@rediffmail.com

Japan	Tomio Yamaguchi	yamatom@hiroshima-u.ac.jp
Kenya	Min S. Chuah-Pétiot	petiot@wananchi.com
Lithuania	Ilona Jukonieme	llonet@botanika.lt
Malaysia	Benito Tan	Dbstct@nus.ed.sg
Netherlands	Laurens Sparrus	sparrus@blwg.nl
Norway	Kristian Hassel	Kristian.Hassel@bio.ntnu.no
Panama	Noris Salazar Allen	SALAZARN@si.edu
Poland	Ryszard Ochyra	Ryszard.Ochyra@ib-pan.krakow.pl
Spain	Javier Martinez-Abaigar	javier.martinez@daa.unirioja.es
Slovakia	Jiri Vana	vana@natur.cuni.cz
Sweden	Tomas Hallingbäck	Tomas.Hallingback@ArtData.slu.se
Switzerland	Michelle Price	Michelle.price@cjb.ville-ge.ch mjprice_cjb@yahoo.co.uk
Turkey	Mesut Kirmaci	mkirmaci@adu.edu.tr
USA	Matt von Konrat	mvonkonrat@fieldmuseum.org
USA – Puerto Rico	Ines Sastre-De Jesus	I_sastre@rumac.upr.clu.edu
Venezuela	Yelitza Leon	yeltleon@ula.ve

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Editor

Geert Raeymaekers, Ecosystems LTD, Generaal Wahislaan 21, B-1030 Brussels, Belgium. FAX + 32 2 646 84 66 or E-mail: Geert.Raeymaekers@ecosystems.be

Column Editors

Conservation Column: Tomas Hallingback, Swedish Species Information Centre, Swedish University of Agricultural Sciences, P.O. Box 7007, SE-750 07 Uppsala, Sweden, Fax: +46 18 67 34 80. E-mail: Tomas.Hallingback@ArtData.slu.se

Literature Column: Johannes Enroth, Dept. Ecol. & System., P.O. Box 7, FIN-0014 University of Helsinki, Finland, Fax: + 358 9 191 8656. E-mail: Johannes.enroth@helsinki.fi

Theses in Bryology: William R. Buck, Institute of Systematic Botany, NY Botanical Garden, Bronx, NY 10458-5126, U.S.A. E-mail: bbuck@nybg.org

Tropical Bryology Column: Tamás Pócs, Eszterházy Teacher's College, Dept. of Botany, Eger, Pf. 43, H—3301, Hungary. E-mail: colura@ektf.hu

Production: Geert Raeymaekers, Ecosystems LTD

UPCOMING MEETINGS

2008

May 29 – 1 June: Annual meeting Bryolich (Swiss bryological and Lichenological Society), Freiburg im Breisgau. See www.bryoloch.ch

June 29 – July 7: Eagle Hill Seminar Acrocarpous Mosses of the North Woods dd - dd: title, place, contact, website
July 5 – 19: BBS Summer field meetings to Aberdeenshire and Shetland Isles

July 13 – 19: ABLs Annual meeting. Asilomar, California

July 6 – 12: Eagle Hill Seminar. Bryophytes for Naturalists

July 16 – 20: Nordic Bryological Society annual excursion to the Trillemarka / Rollag area ub Buskerud Cty, SE Norway. See: www.sbf.c.se

July 27 – 5 August: 'Summer Camp' Dutch Bryological Society, Austria. www.blwg.nl

July 27 – 5 August. Bryological and Lichenological excursion in Salzburger Land, Austria.

<http://www.blam.privat.t-online.de/veran08.html>

August 2 – 11: 4th International Meeting on the Biology of Sphagnum. Alaska,

August 3 – 9: Eagle Hill Seminar. Ecology of Liverworts and Mosses

September 12 – 14: A. Leroy Foray, Claryville, NY.

<http://www.cs.rpi.edu/~ingallsr/AndrewsForay.html>

or e-mail to Tom Phillips at mossvet@nycap.rr.com

October 10-12: BBS Annual General Meeting and Paper-reading session. Preston Montford. Contact: martinandrosie@aol.com

August 27 – 31; Annual excursion of BLAM. Vorarlberg & Liechtenstein.

<http://www.blam.privat.t-online.de/veran08.html>

2009

April 29 – 3 May: excursion Dutch Bryological Society, Northern French coastal area. www.blwg.nl

September 23 – 26: XVII Symposio de Botanica Criptogamica, Tomar, Portugal. Contact: criptogamica@fc.ul.pt

For Eagle Hill Seminars, mentioned above, go to: <http://www.eaglehill.us/mssemides.html>