

The Bryological Times

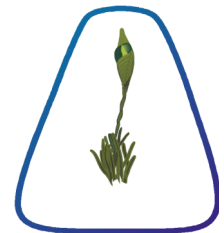
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MARCH 2013

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IAB



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From your Treasurer

by Matt VonKonrat

By now, all members should have been contacted in regards to current membership status through the new system at MemberManager.net/iab. We have had success with many members updating their own profile and paying subscription fees to obtain an 'Active' status. We thank you for your feedback as this has allowed us to streamline and centralize our database. This will enable us to better serve the IAB community. It will also provide another means of accessing newsletters

such as *The Bryological Times*. For those of you who believe you are members and have NOT received any message from us about your membership status, please contact me directly so we can sort out any issues. If you have any questions whatsoever, please do not hesitate to contact me at iab@fieldmuseum.org. We will continue to improve our services. Ultimately, we would like to move to a "one stop shop" with a membership database and website with multiple functionality all in one. That is our

medium to long-term objective as an association. For those who are unable to access the online database, or who do not wish to use it for whatever reason can continue to work with me individually. This does not replace www.bryology.org (which redirects you to <http://iab-bryologists-website.blogspot.com>). The system we have in place is to only help us administer membership.

Thank you for your ongoing support of IAB.

IAB in London in 2013

from Jeff Duckett, Silvia Pressel, and Jo Wilbraham

We are pleased to announce that the next meeting of the International Association of Bryologists will be held in London, UK at the Natural History Museum (<http://www.nhm.ac.uk>). The Natural History Museum is one of the world's foremost centres for biodiversity research and hosts one of the largest bryophyte herbaria in the world, incorporating more than 900,000 specimens (with some 32,000 type specimens).

The NHM is situated in South Kensington, central London (<http://www.nhm.ac.uk/visit-us/getting-here/index.html>). To the west, the beautiful Royal Botanic Gardens, Kew are only a 30min underground ride away; to the north, and less than 5 miles from Central London, is Hampstead Heath with a mosaic of semi natural habitats. The Heath offers not only some of the best views of the City of London but also plenty of scope for urban bryology with nearly 150 recorded bryophyte species.

The dates for the event are July 15th – 19th. These dates have been chosen to avoid, as far as possible, clashes with other bryological meetings across the world and at a time when most members are free from essential university duties.

For those wishing to stay on after the Congress we are arranging a field excursion to North Wales, leaving London on 20th July and returning on 26th July. North Wales offers a variety of exciting bryological habitats including mountain cliffs with a range of arctic-alpines, ravines rich in Atlantic species, mine sites, and coastal habitats with extensive sand dune systems. For each excursion, we will try and cater for different fitness levels.

Additional details and a call for registration will be circulated soon. In the meantime we would be very grateful for expressions of interest and an indication about a possible oral presentation or a poster that you might like to contribute.

This information will give us an indication of possible attendance levels (for both the conference and the post-conference field trip) and thus help us to finalize our plans for specific symposia at the Congress.

Expressions of interest, questions and comments should be directed to Jeffrey Duckett (j.g.duckett@qmul.ac.uk).

Alpine Snowbed Studies and Rare Liverworts and Mosses on Mt. Washington, NH (US)

by Nancy G. Slack, Biology Department The Sage Colleges, Troy, NY 12180 US and
Jeffrey G. Duckett, Department of Life Sciences, Plants Division, Natural History Museum, Cromwell Road, London SW75BD, UK

Nancy G. Slack received a research grant from the Waterman Fund to do a quantitative study of alpine snowbed communities on Mt. Washington, New Hampshire, the highest mountain in Northeastern United States, in relation to future climate change. These communities, especially the bryophyte component, have been shown in Europe to be highly vulnerable to rising temperatures. (Tuba et al 2011) The snowbed study includes both bryophytes and lichens in addition to vascular plants. Jeffrey Duckett, Robert Capers, and Allison Bell are members of her research group. In addition to the snowbed component of the grant, we are also searching for and mapping rare mosses and liverworts as well as several Arctic lichens.

A number of rare mosses, including *Aulacomnium turgidum*, *Dicranum elongatum*, *Kiaeria starkii*, *K. blyttii*, *Arctoa fulvella*, *Conostomum tetragonum* and *Pseudocalliergon trifarium* have been found, the first three species as significant components of the snowbird communities. Most exciting, Jeff Duckett found *Haplomitrium hookeri* in Tuckerman Ravine on Mt. Washington, the first collection on the mountain since A.W. Evans' in 1917. Schuster later found it at the base of Mt. Katahdin but further searches by him and by Verdoorn yielded no further localities. It is not uncommon in the mountains on the western edge of North America, and was collected once in the Rocky Mountains, but is extremely rare on the East coast of North America.

Haplomitrium together with its sister genus *Treubia* are at the base of the land plant tree of life, dating back to about 470-480 million years ago (Crandall-Stotler et al 2009). This

new *Haplomitrium hookeri* population was found at 1300m. on vertical wet rocks. It had extensive subterranean leafless fungus-containing axes. Molecular studies are now underway; the endophyte is expected to be a member of the Mucoromycotina, the earliest fungal lineage known to form associations with these earliest of land plants (Bidartondo et al. 2011; Pressel et al. 2010) In the course of this study we were able to prepare samples from 18 leafy liverwort species in six genera common to North America and Europe for the first comparative molecular analyses of their endophytic fungi (Bidartondo and Duckett 2010). Jeff Duckett currently holds a Leverhulme Trust Emeritus Fellowship for work on fungal endophytes in liverworts and hornworts and on the role and evolution of stomata in bryophytes.

The ecology of this *Haplomitrium hookeri* population is quite different from all others found elsewhere in the northern hemisphere. It is frequent in Scotland and found in other areas of Britain and Ireland and in Spain, the Alps and Tatra mountains north to Iceland and Fennoscandia, and east to the Himalayas and Japan. It is Red Listed in many countries. It is often found in wet gravelly, sandy or peaty ground along streamsides, lake shores, flush margins and dune slacks with, in Britain, an altitudinal range from near sea level to 1300m. Our population was found growing with liverworts in the genera *Cephalozia*, *Scapania*, and *Solenostoma*, and with the moss genera *Blindia*, *Philonotis*, *Pohlia*, and *Racomitrium*, quite different from the associated species elsewhere. This research project is ongoing; we may well find additional sites for *Haplomitrium* and other rare bryophytes. For

Alpine Snowbed (continued from p. 3)

further information see Duckett and Slack, Evansia (in press).

Bidartondo, M.I. and Duckett, J.G. 2010. Conservative ecological and evolutionary patterns in liverwort-fungal symbioses. *Proceedings of the Royal Society B*. 277. 485-492.

Bidartondo, M.I., Read, D.J., Trappe, J.M., Merckx, M., Ligrone, R. & Duckett, J.G. 2011. The dawn of symbiosis between plants and fungi. *Biology Letters*. Published online DOI: 10.1098/rsbl.2010.1203

Crandall-Stotler, B., Stotler, R.E., and Long, D.G. 2009. Phylogeny and classification of Marchantiophyta. *Edinburgh Journal of Botany* 66. 155-198.

Pressel, S., Bidartondo, M.I., Ligrone, R. and Duckett, J.G. 2010. Fungal symbioses in bryophytes: New insights in the twenty first century. *Phytotaxa* 9: 238-253.

Tuba, Z., Slack, N.G. and Stark, L.R. (eds). 2011. *Bryophyte Ecology and Climate Change*. Cambridge University Press, Cambridge, United Kingdom

Bryological News from Spain

by Javier Martinez-Abaigar

2012 was a very busy year for Spanish bryologists, plenty of events, activities... and demands. This is just a brief summary not only of what has already happened but also of things to come. The consequences of the economic crisis on Spanish science in general and on Spanish bryology in particular are unfortunately present in many aspects of this summary.

Bryological controversy

The year began with a strong bryological controversy in the press, caused by the design of the street sculpture that the town council of Vitoria-Gasteiz (northern Spain) decided to install to celebrate its appointment by the European Commission as European Green Capital 2012. This prize had been given because of the outstanding environmental concern of the town. The sculpture consisted of a metal frame filled and covered by two plants: *Dymondia margaretae* (Asteraceae), a very drought tolerant ground cover, and lots of *Sphagnum magellanicum*. The moss had been purchased from a Spanish distributor, but originally came from the unsustainable exploitation of Chilean bogs. Two local bryologists (Patxi Heras and Marta Infante) had previously warned the council that using such moss material was highly inappropriate, especially if the aim was to highlight the Green Capitality of the town (our colleagues called this incongruity "the Green Paradox"). However, the council did not listen to this recommendation, and finally the controversy

reached the regional press (<http://www.elcorreo.com/alava/v/20120319/alava/cientificos-prueban-musgo-logo-20120319.html>), where the Sociedad Española de Briología supported the reputed and eco-friendly Patxi and Marta's opinion (<http://www.elcorreo.com/alava/v/20120319/alava/despropósito-notable-repercusión-ambiental-20120319.html>). To make matters worse, the moss in the sculpture had artificially been dyed green and was physiologically dead as deduced from *in situ* chlorophyll fluorescence measurements, so that its function in the sculpture was just to serve as a (environmentally unacceptable) sponge. The council also ignored other requirements to remove the sculpture that were presented by ecologist groups, the political opposition and even the Environmental Commission of the own council. Thus, the "green" sculpture has progressively languished in the streets of Vitoria-Gasteiz during the year, representing rather the unnecessary destruction of one of the most endangered environments in the world than the good environmental practices for which Vitoria-Gasteiz has been awarded.

Activities of the Sociedad Española de Briología (SEB)

In June, the 23rd Meeting of the Sociedad Española de Briología (SEB) took place in Rascafría (Madrid), with the aim of exploring Peñalara Natural Park and other localities of the river Lozoya valley, belonging to the recently created Guadarrama National Park. A total of 23 bryologists from six universities attended the meeting, which was organized by Paco Lara and Isabel Draper

(Universidad Autónoma de Madrid). Samples were collected during four days in diverse environments: bogs, mountain streams, subalpine meadows, forests of *Pinus sylvestris*, *Quercus pyrenaica* and *Juniperus thurifera*, etc. In addition to the collection activities, in the meeting seven Ph.D. students gave talks about their research, covering taxonomy, biogeography, ecology and ecophysiology. The General Assembly of the SEB was also celebrated during the Rascafría meeting. The most outstanding decision of the Assembly was to dedicate the SEB's journal (Boletín of the SEB: <http://www.uam.es/informacion/asociaciones/SEB/boletines.html>) to Dr. Creu Casas (1913-2007), by her crucial contribution to the development of bryology in Spain.

A new volume of the Boletín of the SEB consisting of more than 100 printed pages, together with the following fascicle of the Project Flora Briofítica Ibérica (Iberian Bryophyte Flora: <http://www.florabriofiticaiberica.com>), corresponding to the genus *Brachythecium*, have been recently distributed to SEB's members. If you want to be a member of the SEB and enjoy its advantages and services, please consult our webpage (<http://www.uam.es/informacion/asociaciones/SEB/suscripciones.html>).

The SEB criticizes the planning of research in Spain

The SEB, together with other 41 scientific associations representing 25000 people, has criticized the future planning of research in Spain as shaped by the Ministry of Economy and Competitiveness in its official document "Spanish Strategy for Science, Technology and Innovation 2013-2020". In particular, scientists criticize the foreseeable disappearance of basic research (the real basis of all the science, technology and innovation, as its own name suggests) in benefit of strictly applied research linked to patents exploitation. Also, the excessive weight of the document concedes to private companies in the design of public research plans and formation of researchers (even at universities) is strongly criticized. These measurements would convert research in a market producing benefits to companies instead of a tool to get social welfare. Globally, in the opinion of the scientific societies, the Strategy will not serve to balance the present decompensation which exists in Spain between scientific research on one hand and technology and innovation on the other hand. Rather the contrary, the Strategy will put at risk the 10th world ranking position that Spain occupies in scientific production (number of papers in top journals) after the strong investment in science that took place since the mid 80's until the present economic crisis. The complete criticism (in Spanish) can be consulted in the SEB's webpage (<http://www.uam.es/informacion/asociaciones/SEB/Analisis%20I+D+i.pdf>).

Bryological projects ongoing

Two new 3-year bryological research projects have recently

been financed by the Spanish Ministry of Economy and Competitiveness within the Spanish National Plan of R+D+i: "Bryophytes as models for the study of climate change" (led by Rosa M. Ros-Espín, Universidad de Murcia) and "Generalization of the use of hydroxycinnamic acids as UV radiation biomarkers in bryophytes" (led by Javier Martínez-Abaigar, Universidad de La Rioja). In addition, the Ecotoxicology Group of the Universidad de Santiago de Compostela, led by José Ángel Fernández-Escribano, is developing the European project "MOSSCLONE: Creating and testing for controlling the air quality based on a new biotechnological tool. Use of a devitalized moss clone as passive contaminant sensor" (<http://mossclone.eu/>), with the participation of 10 universities, research centres and private companies. Finally, a new phase of the Project Flora Briofítica Ibérica (Iberian Bryophyte Flora: <http://www.florabriofiticaiberica.com>), led by Juan Guerra (Universidad de Murcia), has been recently approved by the abovementioned Spanish Ministry and will begin in January 2013.

Bryological theses

Five new doctoral theses have recently been defended in Spain:

- "Taxonomic revision of the genera *Brachytheciastrum* Ignatov & Huttunen, *Brachythecium* Schimp. and *Sciuro-Hypnum* (Hampe) Hampe (Brachytheciaceae, Bryophyta) in the circum-mediterranean area", defended by José David Orgaz-Álvarez in the Universidad de Murcia on 20 September 2011. Supervisors: María Jesús Cano and Juan Guerra.
- "Ultraviolet radiation and aquatic bryophytes: physiological damage and protection mechanisms under laboratory and field conditions", defended by Gabriel Fabón-Anchelergues in the Universidad de La Rioja on 20 April 2012. Supervisors: Encarnación Núñez-Olivera and Javier Martínez-Abaigar.
- "Integrative taxonomy studies in the genus *Orthotrichum* Hedw., subgenus *Pulchella* (Schimp.) Vitt (Bryophyta)", defended by Rafael Medina-Bujalance in the Universidad Autónoma de Madrid on 16 May 2012. Supervisors: Vicente Mazimpaka, Francisco Lara and Ricardo Garilleti.
- "Floristic and ecological characterization of the Sphagnum bogs in the Isla Grande de Chiloé (Chile): a tool for conservation and sustainable development", defended by Carolina León-Valdebenito in the Universidad Complutense de Madrid on 4 July 2012. Supervisors: Gisela Oliván-Martínez and Esther Fuertes-Lasala.
- "Temporal changes in bryophyte biodiversity in *Fagus sylvatica* forests from Navarra and their relationship with some environmental parameters", defended by Verónica Delgado-Huarte in the Universidad de Navarra on 13 De-

Recent Bryological Activities at Chonbuk National University in the Republic of Korea

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The Chonbuk National University in Jeonju City has now a small group of active, young bryologists doing study of bryoflora of South Korea under the leadership of Prof. Sun Byung-Yun of the Department of Life Science. The group has actively engaged for four years in the investigation of the biodiversity of both mosses and hepatics of Korean Peninsula, with close collaboration with bryologists from the Botanical Garden-Institute and Far Eastern University at Vladivostok of Russia Far East, and lately, the National University of Singapore. The group includes Mr. Yoon Young-Jun who studies the moss flora of the Korean Peninsula, focusing mainly on the moss diversity of Jeju Island, and Mr. Choi Seung-Se, who has worked diligently documenting the diversity of the country's hepatics and hornworts for his Ph D dissertational degree. These two young and energetic bryologists had visited nearly all the national parks in the Republic of Korea and many of its offshore islands in the past four years to collect bryophytes for their scientific study.

Until now, the Republic of Korea has not had active bryological activity for nearly two decades after the publication of the bryoflora in the *Illustrated Flora and Fauna of Korea* by Prof. Du-Mun Choe in 1980. To date, recent research activities by the group of bryologists based at Chonbuk National University have found new taxa and many interesting records of mosses and hepatics for the country's bryoflora. A list of

their publications reporting on the new findings is shown below for information reference:

Bakalin, V. A. S.-S. Choi and B.-Y. Sun. 2009. A new species of Tritomaria (Lophoziaceae) from the Korean Peninsula. *Arctoa* 18: 163-166.

Choi, S.-S., V. A. Bakalin and B.-Y. Sun. 2010. Unrecorded liverwort species from Deogyu, Korea. *Korean Journal of Plant Taxonomy* 40: 218-225.

Choi, S.-S., V. A. Bakalin, C.-H. Kim and B.-Y. Sun. 2011. Unrecorded liverwort species from Korean flora: *Alobiellopsis parvifolius* (Cephaloziaceae), *Calypogeia japonica* (Calypogeiaceae), *Hattoria yakushimensis* (Lophoziaceae), *Nardia subclavata* (Solenostomataceae). *Korean Journal of Plant Taxonomy* 41: 230-234.

Choi, S.-S., V. A. Bakalin, C.-H. Kim and B.-Y. Sun. 2012. Six unrecorded species from the family Lejeuneaceae (Marchantiophyta) in Korea. *Korean Journal of Plant Taxonomy* 42: 150-156.

Choi, S.-S., V. A. Bakalin, C.-H. Kim and B.-Y. Sun. 2012. Unrecorded liverwort species from Korean flora. *Korean Journal of Plant Taxonomy* 42: 80-90.

Choi, S.-S., V. A. Bakalin, C.-H. Kim and B.-Y. Sun. 2012. Unrecorded liverwort species from Korean flora II. *Journal of Species Research* 1: 218-223.

Yoon, Y.-J. and B.-Y. Sun. 2010. Four unrecorded moss species from the Korean flora. *Korean Journal of Plant Taxonomy* 40: 186-191.

Yoon, Y.-J., C.-H. Kim, K. V. Gorobets and B.-Y. Sun. 2011. Unrecorded moss species from Korean flora II. *Korean Journal of Plant Taxonomy* 41: 235-241.

Yoon, Y.-J., C.-H. Kim, K. V. Gorobets and B.-Y. Sun. 2011. The moss flora of Mt. Deogyu in Korea. *Korean Journal of Plant Taxonomy* 41: 287-297.

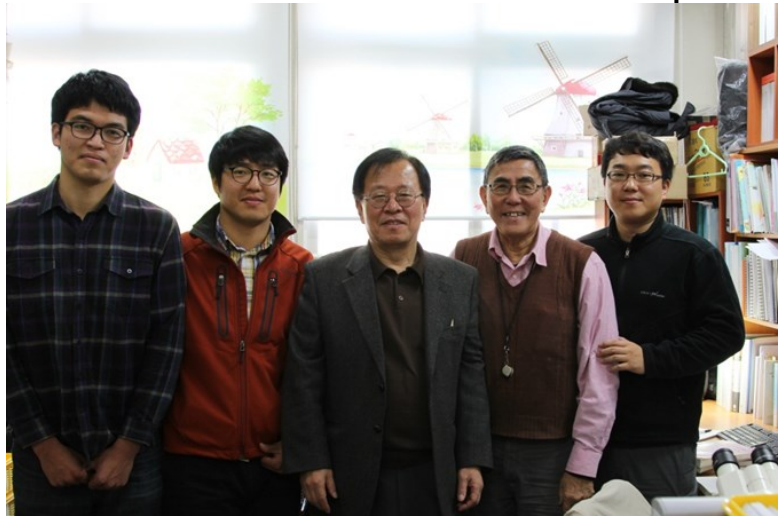


Figure 1: The group of bryophyte workers and visitor at the Department of Life Science at Chonbuk National University. From left to right: Mr. Park S.-J. (undergraduate student), Mr. Choi S.-S. (Ph. D. student in Korean hepatic flora), Prof. Sun Byung-Yun (group leader), Dr. Benito C. Tan (visitor from Singapore) and Mr. Yoon Y.-J. (Ph. D. student in Korean moss flora).

Loss of Bryologist: A.J.E. Smith

submitted by Sam Bosanquet

It is with sadness that I have to inform the bryophyte community that one of the leading lights of British and European Bryology, Dr A.J.E. Smith, died last December. His Moss Flora of Britain and Ireland (1st & 2nd editions) is our primary moss reference and is likely to remain so for decades more, like its predecessor by H.N. Dixon. He coordinated recording for the Atlas of the Bryophytes of Britain and Ireland for 30 years, and was Editor of *Journal of Bryology* for 14 years. His examination of British species in genera as varied as *Bryum*, *Fissidens*, *Grimmia*, *Hypnum*, *Pohlia*, *Orthotrichum* and *Schistidium* shaped British understanding of much of our moss flora. It is difficult to write up any bryophyte studies in Britain without several mentions of Smith, A.J.E. in the references.

A full obituary will appear in *Journal of Bryology*.

Return to the roots. A Gedenkschrift dedicated to the memory of Marian Kuc.

K. Wolowski, G. Godzik & J. J. Wójcicki (eds.): Return to the roots. A Gedenkschrift dedicated to the memory of Marian Kuc. Polish Botanical Journal 57(1): 1–293. ISSN 1641-8190, e-ISSN 2084-4352.

<http://www.ib-pan.krakow.pl/ibwyd/pol-b-j/pol-b-j.htm>. Available from W. Szafer Institute of Botany, e-mail: j.wojcicki@botany.pl. Advertised price 55 € (institutions), 40 € (individuals), plus postage.

This memorial issue contains a total of 32 papers written by friends and colleagues of Dr. Marian Kuc (1932–2011). The titles are as follows:

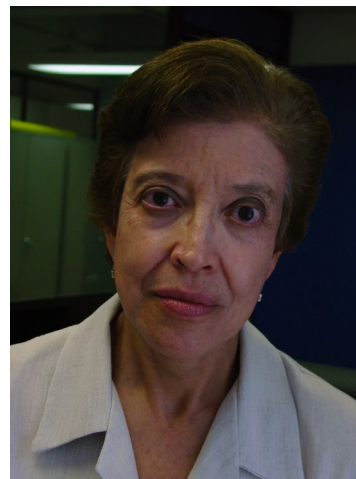
- R. Ochrya: A tribute to Marian Piotr Kuc (1932–2011). Pp. 3–20.
- M. Kuc: An autobiography. Pp. 21–33.
- R. R. Ireland: My memories of Dr. Marian Kuc. Pp. 35–36.
- K. Birkenmajer: Dr. Marian Kuc (1932–2011): student and colleague. Pp. 37–41.
- P. Sollman: Bryological memories on Marian Kuc. Pp. 43–44.
- P. Grzegorzec: The contributions of Marian Kuc to the natural history knowledge of Chrzanów. Pp. 45–49.
- T. Pócs & A. Schäfer-Verwimp: *Cololejeunea kuciana* (Lejeuneaceae, Marchantiophyta), another new species from southern Ecuador. Pp. 51–53.
- W. R. Buck & B. Allen: A new species of *Ectropothecium* subgenus *Trachyphyllaria* (Hypnaceae) from Suriname: another Asian-South American disjunct. Pp. 55–58.
- S. He: *Gollania adunca* (Musci: Hypnaceae), a new species from Vietnam and a genus new to Indochina. Pp. 59–62.
- J. Enroth: *Neckera inopinata* (Neckeraceae, Bryophyta), a new species from Hunan and Zhejiang, China. Pp. 63–68.
- S. R. Gradstein: An overview of the genus *Marchesia* (Marchantiophyta: Lejeuneaceae), with special attention to the species described from Asia and Oceania. Pp. 69–79.
- H. Akiyama, T. Matsuoka & T. Yamaguchi: Biosystematic studies of the *Dumortiera hirsuta* complex (Dumortieraceae, Hepaticae), 2. Monoploid and diploid diversification in the Hawaiian Islands. Pp. 81–93.
- K. Buczkowska, J. Sawicki, M. Szczecińska, H. Klama & A. Bączkiewicz: Isozyme and DNA markers reveal a new genetically distinct taxon of *Calypogeia sphagnicola* (Jungermanniopsida, Calypogeiaceae). Pp. 95–107.
- J. van Rooy & A. E. van Wyk: Phytogeographical and ecological affinities of the bryofloristic regions of Southern Africa. Pp. 109–118.
- A. Stebel, V. M. Virchenko, V. Plášek, R. Ochrya & H. Bednarek-Ochrya: Range extension of *Orthodicranum tauricum* (Bryophyta, Dicranaceae) in central-east Europe. Pp. 119–128.
- L. Söderström, A. Hagborg & M. von Konrat: The Friendly Islands – A checklist of hornworts and liverworts of Tonga. Pp. 129–135.
- V. A. Bakalin: *Solenostoma fusiforme*: an addition to the North American liverwort flora and a review of the genus *Solenostoma* in North America, north of Mexico. Pp. 137–143.
- T. Koponen: Notes on *Philonotis* (Bartramiaceae, Musci). 10. *Philonotis fontana* added to, and *P. thwaitesii* excluded from South American flora. Pp. 145–148.
- T. Koponen: Notes on *Philonotis* (Bartramiaceae, Musci). 11. The range of *Philonotis seriata* with confirmation of its occurrence in Greenland. Pp. 149–152.
- T. Koponen: Notes on *Philonotis* (Bartramiaceae, Musci). 12. *Philonotis laxitexta* is *P. falcata*, new to Iran. Pp. 153–155.
- P. Sollman: Taxonomic and phytogeographical notes on some pottiaceous mosses from China and India. Pp. 157–160.
- M. J. Cano & J. A. Jiménez: New records of Pottiaceae (Bryophyta) for Venezuela. Pp. 161–166.
- C. Hesse, L. M. Jalink, M. Stech & H. (J.D.) Kruijer: Contributions to the moss flora of Edgeøya and Barentsøya, Svalbard (Norway). Pp. 167–179.
- N. Konstantinova & A. Savchenko: Contribution to the hepatic flora of the Nordaustlandet (Svalbard). I. Hepatics of the north coast of Murchison Fjorden. Pp. 181–195.
- F. Müller: Additions to the moss flora of Taveuni Island (Fiji, South Pacific). Pp. 197–203.
- B. Papp & P. Erzberger: Contribution to the bryophyte flora of the former Yugoslav Republic of Macedonia. Pp. 205–221.
- A. Rusińska & P. Górski: *Microbryum davallianum* (Bryophyta, Pottiaceae) in Poland: distribution and ecology. Pp. 223–229.
- E. Fudali: Recent tendencies in distribution of epiphytic bryophytes in urban areas: a Wrocław case study (south-west Poland). Pp. 231–241.
- M. Kukwa, K. Bach, H. J. M. Sipman & A. Flakus: Thirty-six species of the lichen genus *Parmotrema* (Lecanorales, Ascomycota) new to Bolivia. Pp. 243–257.
- L. Śliwa & M. Kukwa: New distribution data for sterile crustose lichens in the Polish Tatra Mts and its surroundings. Pp. 259–278.
- K. Szczepańska & M. Staniaszek-Kik: New lichenized fungi of the Polish Karkonosze Mountains. Pp. 279–283.
- M. Piątek, J. Piątek & D. C. Mossebo: Recently discovered collections extend the geographical range of the smut fungus *Sphacelotheca polygoni-serrulati* to Cameroon and Zambia. Pp. 285–29.

Communicated by Johannes Enroth, Helsinki, Finland.

RETIREMENT OF A MEXICAN BRYOLOGIST by Claudio Delgadillo-Moya

In early October 2012, María de los Ángeles Cárdenas Soriano, retired from the Botany staff in the National Herbarium at the National University of Mexico (MEXU) after 34 years of service. She was the first woman to work on Mexican bryophytes and only the second individual to become interested in the study mosses in the country. She is known for her floristic work in the Valley of Mexico on which, in addition to articles in scientific journals, she jointly published an illustrated manual of the mosses of that region in 2009. Her collections are deposited at MEXU, and comprise more than 6,000 samples from various Mexican localities including important additions to state moss floras. Because of her interest in teaching, in 1990 she co-authored a "Manual de Briofitas" that presented a general review of bryophyte biology, with lab exercises and keys to common genera in Mexico. She now

lives in the city of Cuautla in the state of Morelos, Mexico.



Flora of North America north of Mexico, Vol. 28 Needs YOU

I'm writing to let you know that the editorial team for Flora of North America north of Mexico, Volume 28, the second volume of mosses, is hard at work putting finishing touches on it to get it to Oxford University Press before the end of the year. Right now we are seeking urgently needed funds to finish the project.

Although most work on FNA is done on a volunteer basis, we do pay technical editors and botanical illustrators. We are inviting people to sponsor artwork as a way to raise some much needed support. The species illustrated in Volumes 27 and 28 (taxa haven't been selected for most of Volume 29 yet) are listed on the attached brochures. Sponsors for both volumes will be recognized in the front section of Volume 28 if we receive their donation or pledge by November 10. You might select, for example, species that you like, or that you have worked on, or to honor or remember a friend or colleague, or on behalf of an organization. Some lovely southeastern mosses are among those illustrated.

The bryophyte illustrations, all done by Patricia Eckel, are lovely and scientifically accurate. Sponsors receive a high quality reproduction of the illustration(s) they sponsored in addition to being acknowledged in the book. The donation requested to sponsor one bryophyte plate is \$200 (less than half the actual cost). If you are willing to sponsor one or more illustrations, please check which ones and mail it with payment to the FNAA Business Office, P. O. Box

716, Point Arena, California, 95468. I'll put out a call later for sponsors of illustrations in Volume 29, but let me know if you think you would like to do this. Feel free to call me (707/882-2528) or email me (nancy.morin@nau.edu) if you have questions or suggestions. The Flora of North America Association is a 501(c)3 organization and donations are tax deductible.

You can see illustrations from Volume 27 on the FNA Website (www.floranorthamerica.org). The treatments (but not the illustrations) are also available on JSTOR (<http://plants.jstor.org>). Many provisional treatments for Volume 28, along with some artwork, are available on the BFNA website:

<http://www.mobot.org/plantscience/bfna/bfnamenu.htm>. You may also be interested to know that the Global Plants Initiative funded by the Andrew W. Mellon Foundation to capture high resolution images of type specimens has now started imaging bryophyte type specimens. Those images are available through JSTOR Plant Sciences: <http://plants.jstor.org>. If you are interested in purchasing any of the FNA Volumes (1—5, 7, 8, 19—27 have been published), please contact Oxford University Press (www.oup.com/us).

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The First National Workshop of Sri Lankan Bryophyte Diversity in 2012

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The first national workshop of Sri Lankan Bryophyte Diversity was held at the Royal Botanic Gardens of Peradeniya from Aug. 6-11 of 2012. The workshop was organized by the Biodiversity Secretariat of the Ministry of Environment of Sri Lanka in collaboration with the National Herbarium of the Department of National Botanic Gardens. It was attended by 10 participants who are mostly biology teachers and thesis students from various universities in the country (Figs. 1 & 2). With a small token sum of registration fees, the participants attended two days full of lectures on Sri Lankan bryophytes, went on a field trip to botanize a high montane forest and visit the Botanical Gardens at Hakgala, and spent two and a half days working, under guidance, on a small project on selected groups of mosses, liverworts and hornworts (Fig. 3). To enable the participants to spend more time at the workshop, the organizers provided the participants comfortable lodging accommodation near the Peradeniya Botanical Gardens.



Fig. 1. Group photo of participants and invited guests at the opening day of the first national workshop on Sri Lankan bryophytes.

The workshop was ceremonially inaugurated at the Education Centre of Royal Botanic Gardens of Peradeniya on Aug. 6. The opening of the workshop was highlighted with the Sri Lankan traditional ceremony of lighting an oil lamp by invited VIP guests and workshop lecturers (Fig. 4). Each guest lighted a wick placed in a brass oil lamp topped by an image of a rooster symbolizing the dawning of light, dispelling of ignorance (darkness), and good fortune.



Fig. 2. Workshop participants examining the bryophyte specimens collected during the field trip.



Fig. 3. Participants learning to identify the mosses *in situ* and outdoor at the Royal Botanic Gardens of Peradeniya in Sri Lanka.

The lecture topics of the workshop included a special lecture on the short history of the study of Sri Lankan bryophyte flora given by Prof. Nimal Gunatilleke from the University of Peradeniya. The other relevant topics dealt with were the morphology and ecology of bryophytes, evolution and



Fig. 4. The lighting ceremony of oil lamp at the opening day of the workshop participated by the VIPs and the workshop lecturers.

phylogeny of bryophytes based on molecular studies, the IUCN criteria used in red listing of endangered bryophytes, and the procedural identification of hot spots of bryophytes for conservation. The three resource specialists invited to handle and lead the topical discussions at workshop were Dr. Benito C. Tan from the National University of Singapore (mosses), Dr. Ye Wen from Zhejiang University in China (leafy liverworts), and Dr. Sumudu C.K. Rubasinghe from the University of Peradeniya in Sri Lanka (thalloid liverworts and hornworts).

The small research projects undertaken and completed by the workshop participants were (1) A study of *Fissidens* floras of the botanical gardens in Peradeniya and Hakgala in Sri Lanka, (2) A key to the moss genera found at the botanical gardens in Peradeniya and Hakgala in Sri Lanka, (3) A key to the genera of leafy liverworts found at the botanical garden in Hakgala of Sri Lanka; (4) A key to the genera of thalloid liverworts found at the botanical gardens of Peradeniya and Hakgala in Sri Lanka; and (5) A coloured pamphlet showing the bryophyte diversities of the two botanical gardens of Peradeniya and Hakgala in Sri Lanka.

Bryological Theses 29

by Bill Buck

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As reported in a previous issue of The Bryological Times (99: 17, 1999), the International Association of Bryologists has decided to begin a repository of bryological theses. These theses are being housed in the Library of The New York Botanical Garden. They are available via interlibrary loan. The NYBG Library online catalog (CATALPA) may be viewed at: <http://opac.nybg.org/screens/opacmenu.html>. As theses arrive, bibliographic data and a brief synopsis will be published in this column (see examples below). Bryological theses for any degree, covering any aspect of bryology, in any language, will be included. Please send theses to Bill Buck at the address above. Please refer to the preliminary notice (cited above) for information on financial assistance from IAB for reproduction of theses. The current IAB Treasurer is Matt von Konrat (mkonrat@fieldmuseum.org).

Briscoe, Laura R. E. 2012. Untangling *Tylimanthus*: using molecules and morphology to better understand the liverwort family Acrobolbaceae. E. A. Hodgson (Marchantiophyta). M.S. thesis, Northwestern University, Chicago, IL, U.S.A. 90 pp. In English. Current address of author:

This master's thesis focuses on the three genera of the Acrobolboideae (Acrobolbaceae s.str.), *Acrobolbus*, *Marsupidium* and *Tylimanthus*. Previous workers have had different ideas on relationships and some of the genera have been synonymized with one another. Sequence data from five chloroplast loci indicate that the group is monophyletic, but that each of the genera is polyphyletic. Morphological characters traditionally used to separate the genera are plastic and unreliable and new morphological features are needed. It seems likely that all three genera will be retained, but many members of *Marsupidium* and *Tylimanthus* need to be transferred to *Acrobolbus*.

Carter, Benjamin Elias. 2012. Systematics and ecology of the moss genus *Scleropodium* (Brachytheciaceae). Ph.D. dissertation, University of California, Berkeley, CA, U.S.A. 2 + viii + 96 pp. In English. Current address of author: Catalina Island Conservancy, P.O. Box 2739, Avalon, CA 90704, U.S.A. E-mail: benjamin125@gmail.com.

In this doctoral dissertation, six species of *Scleropodium* are recognized, *S. californicum*, *S. cespitans*, *S. julaceum*, *S. obtusifolium*, *S. touretii* and *S. occidentale*. *Scleropodium brachyphyllum* and *S. coreense*, both described from Korea, are excluded from the genus, but not placed elsewhere. A molecular phylogeny was conducted using ITS, *rps4*, *bsbA2* and *trnG*, with maximum parsimony and Bayesian phylogenetic analyses used. Six clear molecular groups were found, corresponding to the species recognized. *Scleropodium australe*, described from Tasmania, is synonymized with *S. touretii*, and *S. colpophyllum* is placed in synonymy with *S. cespitans*. A study of niche differences among five of the six species was conducted in the coast ranges of California. Differences could be found in all species

pairs except for *S. obtusifolium* and *S. occidentale*, both of which are restricted to seasonal drainages. Environmental factors that were important at broad spatial scales included slope and tree canopy cover. Niche differences among sexes within species were also investigated, but results were mostly not significant.

Schuette, Scott William. 2012. Ultrastructure, immunocytochemistry, and bioinformatics of spore development in the moss *Physcomitrella* and the hornwort *Dendroceros*. Ph.D. dissertation, Southern Illinois University, Carbondale, IL, U.S.A. ii + xviii + 164 pp. In English. Current address of author: Pennsylvania Natural Heritage Program, Western Pennsylvania Conservancy, 800 Waterfront Drive, Pittsburgh, PA 15222, U.S.A. E-mail: SSchuette@paconserv.org.

In this doctoral dissertation, spore development is described in *Physcomitrella patens*, a moss with single-celled spores, and *Dendroceros*, a hornwort with multicellular spores. Correlated light, fluorescence and immune-electron microscopy localizes callose in the aperture of developing spores of *Physcomitrella*. Copies of the callose synthase genes were annotated bioinformatically and compared with homologous genes in *Arabidopsis*. This study identifies a suspect gene involved in moss spore exine development. Unicellular spores of *Dendroceros* following meiosis remain in tetrads, fill the intercapsular space, and are surrounded by a convoluted, homogeneous electron-opaque outer wall and narrow fibrillar inner wall. No precise pattern of cell division leads to multicellular spores of variable shape and cell number. Evolution of precocious endospory in epiphytic hornworts is a means to protect nascent spores while they develop biochemical and structural machinery to withstand drying. Phylogenomic analysis of callose synthases in land plants with sequenced genomes revealed a single moss callose synthase basal in a clade containing the only *Arabidopsis* callose synthase implicated in exine development of pollen walls as well as two clades of moss-specific callose synthase proteins. A predicted protein-protein interactome was constructed to investigate the protein landscape in *Physcomitrella* for proteins involved in sporogenesis. The *Physcomitrella* predicted protein-protein interactome contains 41,936 unique interactions for 4062 different proteins, none of which is associated with sporogenesis. Rather, the most conserved interactions among proteins were those associated with metabolic processes.

Sukkharak, Phiangphak. 2012. Taxonomy and phylogeny of the liverwort genus *Thysananthus* (Marchantiophyta: Lejeuneaceae). Ph.D. dissertation, University of Göttingen, Untere Karspüle 2, 37073 Göttingen, Germany. [iv] v + 189 pp. In English with German abstract. Current address of author: Department of Biology, Faculty of Science, Burapha University, 169 Long-Hard Bangsaen Road, Saen Sook Sub-district, Mueang District, 20131 Chonburi, Thailand. E-mail: ppsukk@gmail.com

In this doctoral dissertation, a systematic monograph is presented of *Thysananthus*, based on the results of morphological-anatomical, phytochemical and molecular phylogenetic analyses. The monograph recognizes 15 species in the genus, in two

Theses (continued from p. 13)

sections: sect. *Thysananthus* (11 spp.) and sect. *Dendrolejeunea* (Spruce) Sukkharak (4 spp.). Based on the morphological-anatomical study, two new species and several new or little known morphological characters are recognized. The chemical heterogeneity of *T. convolutus*, which is congruent with variation in the dentation of leaves, underleaves and female bracts in this species, supports resurrection of *T. gottschei*, previously considered a synonym of *T. convolutus*, as a separate taxon. The results of a molecular phylogenetic analysis confirm the placement of *Mastigolejeunea pancheri* in *Thysananthus* and provide evidence

for a broader circumscription of the genus *Thysananthus*, including the genera *Dendrolejeunea* and *Mastigolejeunea*. The molecular evidence also supports the status of *T. gottschei* and *M. humilis* as separate species and reveals the existence of a putative hybrid, the first one detected in the Lejeuneaceae. An artificial key to the species of *Thysananthus* is provided and each species of the genus is fully described and illustrated, with extensive synonymy and detailed data on habitat and distribution. An annotated list of the 14 species in *Mastigolejeunea* is also provided.

Spain (continued from p. 5)

cember 2012. Supervisor: Alicia Ederra-Induráin.

Next Symposium of Cryptogamic Botany in the Canary Islands

The 19th Symposium of Cryptogamic Botany (SCB) will be held in Las Palmas de Gran Canaria from the 24th to the 28th of June 2013. SCBs are celebrated every two years. The Honorary President and General Secretary of the 19th SCB are, respectively, the phycologists Guillermo García-Reina and Emilio Soler-Onís. This will be the second time that the Canary Islands are hosting this event, since the 10th Symposium was held at Santa Cruz de Tenerife in 1993. Registration on line is already available at the Symposium website

(<http://www.criptogamia2013.org/>), with reduced fee until the 30th of April. SCBs are open to every cryptogamist all over the world: phycologists, mycologists, lichenologists, pterydologists and of course bryologists.

Bryology, economic crisis, and evaluation of research projects

The great advance of bryological research that has taken place in Spain during the last decades has suffered a severe stop in the last call for projects within the National Plan of R+D+i, the most important financial source for Spanish research. In particular, the Project Flora Briofítica Ibérica (FBI:

<http://www.florabriofiticaiberica.com>) was partially rejected and its budget strongly diminished. This decision is not consistent at all with the strategic importance of such Project, even considering the eco-

nomic crisis that Spain is experiencing in the last years. Several reasons support this opinion: 1) the FBI Project, together with other similar floristic projects dealing with flowering plants, lichens, algae and fungi that are also currently ongoing, is basic for a country such as Spain, in which an adequate knowledge of its outstanding biodiversity and natural heritage is crucial for the establishment of a reasonable model of sustainable development; 2) the FBI Project has international impact and thus contributes to the promotion and visibility of Spanish science and nature all over the world; 3) the FBI Project is obtaining significant results within the expected times, as demonstrated by the three volumes (out of the six planned) and several fascicles that have already been published, the two additional volumes that will be published in due course, the drafts of still unpublished genera that are available in the webpage, and tens of international papers derived from the work carried out until now; 4) the FBI project involves most of the senior bryologists of Spain and several Ph.D. students, being a model of collaborative research between very diverse groups and coordinating the Spanish bryology as a whole, together with the other big bryological project in Spain (the Atlas and Red List of Threatened Bryophytes, led by Ricardo Garilleti: <http://www.uv.es/abraesp>); 5) the FBI project is being recognized by the international bryological community as an excellent contribution to fill the gap of knowledge existing in such an outstanding bryological hotspot as the Iberian Peninsula; and 6) the FBI Project has fortunately been financed since its very beginning (1996) within the Spanish National Plan of R+D+i, something indispensable for the success of this kind of complex,

Bryology in Brazil!

By Andrea Pereira Luiz-Ponzo

Each year, the Brazilian Botanical Society (Sociedade Botânica do Brasil) promotes a National Congress, with a scientific program that consists of oral and poster sessions focusing on different topics on Botany, and society meetings.

This year, the LXIII Brazilian National Botanical Congress (Congresso Nacional de Botânica) held in Joinville (Santa Catarina, Brazil), on November, included a Round Table Symposium on Bryophytes, and two bryological meetings.

The presentations on Symposium were conducted by Dr. Olga Yano (Instituto de Botânica de São Paulo), Dr. Kátia Cavalcanti Pôrto (Universidade Federal de Pernambuco), Dr. Claudio Delgadillo Moya (Universidad Autónoma de México) and Dr. Andrea Pereira Luiz-Ponzo (Universidade Federal de Juiz de Fora), coordinator.

The bryological meetings were related to: 1. the elaboration of the Brazilian Moss Guide, coordinated by Dr. Kátia Cavalcanti Pôrto (Universidade Federal de Pernambuco), and Dr. Denise Pinheiro da Costa (Instituto de

Pesquisas Jardim Botânico do Rio de Janeiro), with about ten participants, and 2. the Bryophytes Specialists Meeting (Núcleo de Especialistas em Briófitas – NEB, Sociedade Botânica do Brasil), coordinated by Dr. Andrea Pereira Luiz-Ponzo (Universidade Federal de Juiz de Fora), and Dr. Denilson Fernandes Peralta (Instituto de Botânica de São Paulo), with about 30 participants. At the end of this second meeting, there was an oral presentation by Dr. Michael Stech (University of Leiden, Netherlands).

On the Web: Bryophytes, Meetings, and More

The electronic publication *Carnets de bryologie* can be found at the following website:

<http://www.societequebecoisedebryologie.org/lescarnets.html>

MOSS 2013 site: <http://moss2013.ueb.cas.cz>

California Moss eFlora now online!: A new online flora of California mosses has just been posted, at: http://ucjeps.berkeley.edu/CA_moss_eflora/



IAB on the Web: NEW ADDRESS

The new IAB site would be: <http://iab-bryologists-website.blogspot.com/> Change those bookmarks!

Free IAB-membership for students

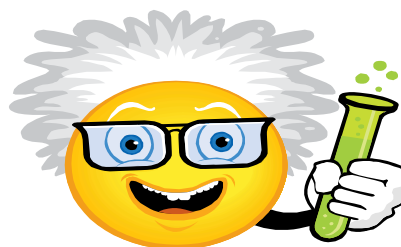
This is just a reminder that students can join the International Association of Bryologists (IAB) free for one year. Full information is on the website <http://www.bryology.org/> under the “How to Join” button. The new treasurer is Matt von Konrat. Email him at mvonkonrat@fieldmuseum.org



ATTENTION All Bryological Societies...

IAB would like to keep up with all of the Bryological Societies that exist. Please help report your information in *The Bryological Times* by supplying the editors with a contact for your society. Column space is available and we would love to showcase what your group is doing. Report local

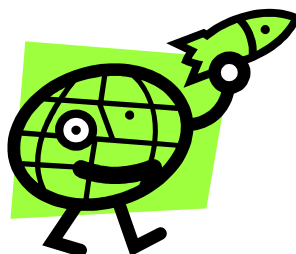
meetings, field trips, grants and awards, etc. If you have a BT country contact (see the last page), please have them communicate with DB Poli at poli@roanoke.edu to ensure all contact information is up-to-date. We look forward to hearing from you! Thank you!



Country Contacts Help: Speak up for your part of the World

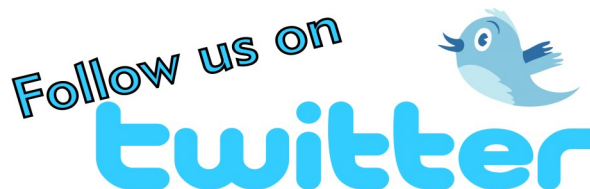
IAB and *The Bryological Times* is asking all of you to take on a leadership role to help all bryologists! Help us learn what the world's bryologists are doing by helping to communicate your country's news to DorothyBelle Poli at poli@roanoke.edu. DorothyBelle is looking to learn which countries are still not represented on our back page and then would like to find people to help with those bryological “holes.” Volunteer to help fill-in the world!

If your country is not listed on our list, please let DorothyBelle know. If you would be interested in being your country's contact or would like to find a replacement, again, please contact DorothyBelle today!



IAB on Twitter: Follow us TODAY!

You have TWO ways to follow IAB on Twitter...look for IAB by following @IAB_Bryology and by following @TheBryoTimes. Following these two accounts will keep you up-to-date on the latest happenings, society news, latest issues of *The Bryological Times*, and other bryophyte internet leads. We follow back, so follow us today!



Continued from P. 12

The outcomes of research projects conducted by the workshop participants were fruitful (Fig. 4). The efforts yielded several new species records for the country's bryoflora, namely *Fissidens hyalinus*, *F. bryoides*, *F. crenulatus*, *Stereophyllum confusum* and *Glossadelphus bilobatus*. More interestingly, uncommon and rare mosses, such as *Erpodium biseriatum* and *Orthorrhynchium elegans*, were found locally in large populations on several tree trunks at the vicinity of two botanical gardens.

A post-workshop meeting was convened in consultation with the three invited bryologist-lecturers and with the participation of Prof. Drs. Nimal and Savithri (now retired) Gunatilleke from the University of Peradeniya who are two world recognized forest botanists and conservation ecologists in the country. The meeting came to a conclusion to initiate the preparation of a bryoflora of Sri Lanka as a supplement volume to the now completed Revised Handbook to the (Vascular) Flora of Ceylon edited by Prof. M.D. Dassanayake, F.R. Fosberg and W.D. Clayton.

The overall feedback given by the participants at the first national workshop of Sri Lanka bryoflora was both positive and encouraging. The Biodiversity Secretariat of the Ministry of Environment and the National Herbarium of the

Department of National Botanic Gardens are now planning to hold the second workshop in a year time to train more young bryologists in the country in support of the bryological manpower needed by the newly conceived project of a bryoflora of Sri Lanka.



Fig. 4. Participant presenting the results of the small project study at the end of the workshop.

Research funding opportunity for European natural history scientists



Europe's leading centres for systematics-related research invite scientists based at European institutes to access their collections and facilities with support from in-house researchers and curators.

Nineteen partner institutions collaborate to create an integrated European resource for researchers in the natural sciences in Europe and globally. As one important element, **SYNTHESYS** comprises a visiting scientist programme: Ten national Taxonomic **Access Facilities** (TAF; consisting of 16 of the partners) offer access – both physical and digital – to

- Collections comprising more than half of the world's natural history specimens
- World class libraries
- Facilities for state-of-the-art microscopy, chemical and isotope analysis and molecular laboratories, including qualified support
- Internationally renowned competence in the research fields of the participating institutions.

The institutions also collaborate in **Network activities** aiming to improve the management and preservation of and to advance the information network for European natural history collections.

A **Joint research activity** will develop non-invasive tools for optimal extraction of ancient and more modern DNA from natural history specimens.

The SYNTHESYS visiting scientist programme covers the costs for access to the facilities and logistical support at the host institution, international travel, local accommodation and provides a per diem to contribute towards living costs during short visits (maximum of 60 working days) at one or more TAF.

Please visit www.synthesys.info for full details on how to apply for funding, the list of all SYNTHESYS partners and their facilities, applicant eligibility criteria, and the application form.

**Call 4 for applications is open. Deadline
5 October 2012 (5 pm GMT)**

Please note that the project ends 31 August 2013 and all visits need to be finalized by **3 August 2013**.

SYNTHESYS was initiated by the Consortium of European Taxonomic Facilities (CETAF).

SYNTHESYS2 is a four-year, EC-funded Research Infrastructure Activity under the FP7 "Capacities" scheme.

Spain (continued from p. 14)

long-lasting and wide-scope research projects.

Given the above reasons, it is incomprehensible that this project has been drastically reduced, especially considering that this reduction starts from a surprisingly scientific evaluation that qualifies the project as “continuist and poorly modern”. This opinion seems to ignore the real meaning of a flora: a basic work for the knowledge of the diversity of a certain type of organisms inhabiting a specific territory, which solves some taxonomic (and/or other types of) problems but, at the same time, contributes to arise other ones that will be solved (or not) in the future, strongly dynamizing subsequent studies on taxonomy, biogeography, conservation, ecology, evolution, ecophysiology, etc., that in absence of a basic flora would be extremely difficult or simply impossible to carry out. In addition, qualifying a flora as continuist implies ignoring that this kind of projects need a relatively long period of time to be completed, due to its own nature and complexity of aims, people coordination, material means, funding, etc. Moreover, qualifying the FBI project as poorly modern is absurd in the light of the great number of bryological floras that have recently been published or are currently ongoing (British Isles, California, the Antarctic, south-eastern Asia, China, North America, New Zealand, Russia...). Are bryologists all over the world suffering an

epidemy of poor modernity, or rather modernity is being confused with fashion? If this criticism of poor modernity is only based on the fact that molecular techniques are not being applied to every taxon in the flora, this would be ignoring that the molecular approach would make the project unfeasible due to a prohibitive enlargement of both the time and funds needed.

The FBI Project is at risk of being unfinished, not only by the economic crisis but also by the incomprehensible evaluation that has experienced, together with the natural aging of important pillars of the project and the deplorable stagnation of generational renewal at Spanish universities and research centers. It would be desirable that the agencies and administrative organs taking care of the evaluation of research projects in Spain can be receptive to these comments, because there are few things as sad and incongruous, both scientifically and economically (and even personally), as an unfinished flora.

Javier Martinez-Abaigar

President of the Sociedad Española de Briología/Spanish Bryological Society

(Universidad de La Rioja, Spain:
javier.martinez@unirioja.es)

Sphagnum in Estonia

by Kai Vellak

Researchers around the world gathered to discuss biology and ecology of *Sphagnum* for the fifth time already. The conference was held in Tartu, Estonia, August 14-15, 2012. Altogether 14 oral presentations and 16 posters were presented. The key speakers were Dr. J. Shaw from Duke University (USA), Dr. K.I.Flatberg, Museum of Natural History and Archeology, NTNU (Norway) and Dr. Ü. Mander, University of Tartu (Estonia). During a two-day excursion before the conference participants had possibilities to see different mire types in North Latvia. After the conference the excursion continued in Estonian mires. Participants had possibilities to see common as well as rare for Estonia *Sphagnum* and other bryophyte species in many mire communities. Among peat mosses two species described in Estonia was possible to see - *Sphagnum wulfianum* Girg., a species described in a forest not far from the conference site in Tartu *S. girgensohni* Russ., described also near Tartu, was found with triploid sporophytes.



Obituary: Jeanne Florschütz– de Waard (1924-2012)



Jeanne Florschütz – de Waard, a specialist of neotropical mosses and author of the Moss Flora of the Guianas, died on 13 November 2012. Jeanne was the wife of the well-known bryologist Peter Florschütz (1923-1976), author of the first volume of the Moss Flora of Suriname and a co-author of the Index Muscorum. Like her husband, Jeanne had been trained as a botanist at the University of Utrecht. In 1950/1951 the newlywed couple went on a major bryological collecting trip to Suriname in the framework of the Flora of Suriname project. These collections were the basis for Peter Florschütz's dissertation on the acrocarpous mosses of Suriname. In the years following the trip to South America, taking care of the family allowed Jeanne little time for bryological work but after the three children had grown up she began catching up with research again.

After Peter's untimely death in 1976, Jeanne undertook the task of completing the various research projects left unfinished by her husband, including the Moss Flora of Suriname of which the first part had appeared in 1964. She became an honorary researcher at the herbarium of the University of Utrecht and dedicated herself with great vigor to the study of neotropical mosses, especially those of northern South America. Following the launching in 1985 of the Flora of the Guianas series, a joint publication of the herbaria of Utrecht, Berlin, Kew, New York, Washington, etc., she became an active collaborator of the new Flora project, made several collecting trips to French Guiana, Suriname and Guyana, and took care of the identification of the every-increasing flow of moss collections sent to Utrecht in the framework of the project. The second volume of the Moss Flora of Suriname appeared in 1986, the third one (published in the Flora of the Guianas series) in 1996 and the fourth and final volume, a major work of more than 400 pages, in 2011 just one year before her death. The work provides keys, full descriptions and illustrations to the more than 300 species of mosses recorded from the Guianas.

The Guianas are one of the world's few areas still covered by vast tracts of moist tropical lowland forest. Jeanne Florschütz's work is a fundamental contribution to our knowledge of the mosses of this part of the world and her books are an essential reference to neotropical bryology. Those who knew her will remember her by her profound knowledge of neotropical mosses and her full dedication to complete the work begun by her husband. To her colleagues in the cryptogamic herbarium in Utrecht she has been a dear colleague and friend, always with a warm interest in the well-being of the members of the research group.

Selected bryological publications by Jeanne Florschütz - de Waard

Florschütz P. & Florschütz – de Waard J. 1974. Studies on Colombian Cryptogams I. Variation of characters in South American species of *Campylopus*. *Journal of the Hattori Botanical Laboratory* 38: 111-114.

Florschütz P. & Florschütz – de Waard J. 1979. Studies on Colombian Cryptogams I. Variation of characters in South American species of *Campylopus*. *The Bryologist* 82: 215-259.

Florschütz – de Waard J. & Worrell – Schets M. 1980. Studies on Colombian Cryptogams VII. Culture studies on the taxonomic relevance of costal anatomy in the *Campylopus leucognodes* -subconcolor complex and

in *Campylopus pittieri*. Proceedings van de Koninklijke Nederlandse Akademie van Wetenschappen, Series C, 83(1): 37-45.

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S. Robbert Gradstein (Museum National d'Histoire Naturelle, Paris; formerly herbarium Utrecht)

Bryophytes in pictures: *Funaria hygrometrica*

by Vitaliy Virchenko



Tools, Tips & Techniques: Imaging

by David Wagner

The use of stacking methodology to combine images taken at sequential depths of field to create a single image with sharp top to bottom focus requires that the object and camera remain in good alignment during the photography session. This means not just on the X and Y axes, but--critical to this technique--by maintaining regular, discrete increments of focus adjustments so that appropriately overlapping planes of focus are sampled.

This process can be particularly challenging when attempting to create a stacked image using photos taken using an oil immersion objective. Using the highest magnification of light microscopes typically involves placing a drop of oil on a coverslip and immersing a 100X objective into the drop of oil for viewing. The immersion oil has a refractive index very close to that of glass, so that refraction from cover slip to air and air to objective lens is minimized. This is important for optimal resolution.

Problems crop up when the slide mount is not vertically stable, as in water mounts of fresh specimens. Immersion oil is much more viscous than water. With oil between objective nose and coverslip, the coverslip will stick to a microscope

objective strongly. Therefore, the coverslip will move up and down with the nose of the objective while focusing and is likely to cause the object in the water mount to be sloshed around. Its up or down position is most drastically affected but lateral slippage is also frequent.

I have found that using a large coverslip on a large slide uses the

have a refractive index close to spore coat and obscures details of spore ornamentation. The main guideline for effectiveness is to keep the specimen small and centered under the large coverslip. The technical challenge is to avoid breaking the coverslip during cleaning. Unlike standard 22 mm square coverslips, it is dangerous to handle the large coverslips by their edges while cleaning. I place a large coverslip on absorbent tissue on a flat bench top and clean with alcohol and wetting agent while holding the corners flat. I handle the coverslip by edges only when preparing the specimen mount.

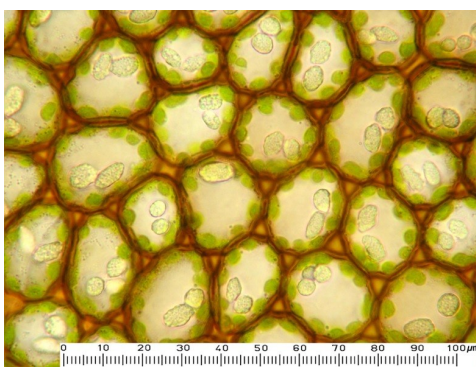


Figure 2. *Marsipella sphacelata*. Cells with oil-bodies.

wide area of contact adhesion by surface tension of water to counteract the effects of immersion oil in the small area of contact between coverslip and objective. I use 48 x 60 mm coverslips on 3 x 2 inch (~ 76 x 51 mm) slides. Mounting a small object, such as a single liverwort leaf, in the center of this kind of mount provides good vertical stability at the center of the coverslip because of the large area held to the slide by surface tension. A suitably large coverslip resists deformation by movement of an objective lens immersed in oil.

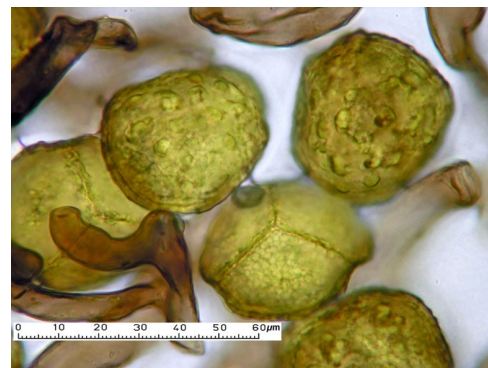


Figure 3. *Phaeoceros pearsonii*. Spores and pseudoe-laters.



Figure 1 | Leaf mounted under big coverslip.

I have used this method for photographing liverwort oil-bodies and hornwort spores. I find it works very well. I like water mounts for spore photography because other mounting media, such as glycerine,

British Bryological Society 2013 Events

Below is a list of forthcoming meetings of the British Bryological Society in 2013. Please go to the meetings page of the BBS website for more details on any of the meetings: <http://www.britishbryologicalsociety.org.uk/>

Meeting	Location	Organiser/ trainer	From
BBS Spring meeting	Normandy, France	Jeff Bates	Saturday 16th to Saturday 23rd March 2013
Brecog (Bryophyte Ecology) meeting	Drapers Field Centre (Betws y coed, Wales)	Jeff Bates/ Martin Godfrey	Friday 26 th to Sunday 28 th April 2013
BBS Summer meeting	Kinlochewe, Scotland	Oliver Moore	Saturday 22nd to Saturday 29 th June 2013
BBS Summer meeting	Raasay, Scotland	Nick Hodgetts	Saturday 29th June to Saturday 6 th July 2013
BBS Annual meeting	London	Jeff Duckett/ Silvia Pressel/ Jo Wilbraham	Saturday 7 th to Sunday 8 th September

Stanley Greene Award

The International Association of Bryologists is pleased to announce it is now accepting research proposals in bryology for the Stanley Greene Award. The award will be presented during the IAB London meeting later this year during July 15th-July 19th.. The award is chaired by the Secretary-Treasurer (Dr. Matt von Konrat), and two members that were appointed by the IAB council, Dr. Dietmar

Quandt and Dr. Denise Pinheiro da Costa. The award amount is for \$1000USD. The proposal should be brief and no longer than two pages. The proposal should include the objectives, the significance and its impact on bryology as well as its urgency. Priority will be given to those bryologists early in their career.

Please send proposals

to iab@fieldmuseum.org.

Please contact any of the Stanley Greene Award committee members for further details or questions. Contact details: Matt von Konrat (iab@fieldmuseum.org), Dietmar Quandt (quandt@uni-bonn.de), Denise Pinheiro da Costa (denisepinheirodacosta@gmail.com).

YOUTUBE lecture on Bogmosses and the Iceman!

Jim Dickon's lecture on Bogmosses and the Iceman (delivered at NASA and the Beaty Museum UBC) is now on YOUTUBE. And also you can see a fuller Iceman lecture on the Goddard Space Flight Center Science Colloquium Series June 2012. Check it out today!

For more information, email Jim at James Dickson <prof.j.h.dickson@gmail.com>.



At the other end of the earth: Cape Horn – a bryological paradise in the mists of the Magellanic rainforest

by Xiaolan He

Cape Horn, situated at the southernmost point of the American continent, is famous for being an important navigation landmark between the Pacific and Atlantic Oceans and for its tempestuous waters, impetuous winds, strong currents, narrow passages, and icebergs. It is also the place where Charles Darwin experi-



enced his most unsettling encounter on the Beagle voyage, his meeting with the indigenous inhabitants of Tierra del Fuego, the Yahgan. The meeting left a lasting impression and was significant in the development of his concepts of human evolution. While almost two centuries have passed since Darwin's visit, the weather-beaten Cape Horn still remains its astonishing natural beauty. The Cape Horn archipelago is one of the few areas in the world where forests remain largely unfragmented and unaffected by human settlement. Its bryophyte diversity is especially high, far greater than the vascular flora due to high precipitation (> 4000 mm), continual low temperature, thin organic soils which limit the growth of many

vascular plants, and other geoclimatic conditions. About 60% of the liverworts and mosses are endemic to the temperate rainforests of southern South America. As bryologist, I was truly fortunate to have the opportunity to sail through these southern channels and fjords, and to step ashore to explore the diversity of this pristine temperate and sub-Antarctic ecosystem.

In January 2012, I participated in a five week bryological expedition to the Cape Horn Archipelago. The aim of the expedition was to investigate bryophyte diversity for the preparation of a Bryophyte Flora of the Cape Horn Archipelago (Prov. Antártica Chilena, excluding Antarctica). This is a four year collaborative research



project led by Bill Buck (New York Botanical Garden), and John Engel and Matt von Konrat

(Chicago Field Museum). I was invited to join the project, taking part in specimen collecting and research. After arrival on the 15th of January in Punta Arenas, the capital of the Magallanes and Antártica Chilena Region, I met up with Bill, Matt and the other members of the expedition; we were altogether eleven biologists, mostly bryologists, from Chile, Finland, Spain, the United States and Uruguay. After final preparations, we boarded a rented commercial crab-fishing boat crewed by five Chileans, the Don José Miguel, at Punta Arenas harbour and entered the famous Strait of Magellan. The boat was available for our use as the austral summer is breeding time for king crabs and harvesting is strictly forbidden. On board there was also an inflatable "zodiac", by means of which we would be able to go onto shore and thus into the forests and mountains. We planned to sail along both the northern and southern arms of the Beagle

Channel, exploring extensively Isla Gordon, the northern and central western parts of Isla Hoste, and also the area southwest of Isla Grande de Tierra del Fuego. These areas belong to the Alberto de Agostini National Park of Chile, one of the two core zones of the

Cape Horn Biosphere Reserve, designated by UNESCO's "Man and the Biosphere" Program in 2005.

The landscape along our route was diverse and it often changed dramatically within just a few minutes. Interrupted by many unnamed sounds and fjords, the mountainous land is covered with short evergreen and deciduous forests on shallow or steep slopes rising straight from the water's edge, the low treeline rapidly giving way to moorlands and peat bogs harbouring alpine plant communities, lakes, lagoons, bare rocks, ice fields and glaciers; this in turn being succeeded by the perpetual snow line on the higher mountains. The dense, gloomy and wet forests are dominated by a single species, *Nothofagus betuloides*, the evergreen southern beech. In the coastal areas, another tree species, winter's bark, *Drimys winteri*, with its beautiful white flowers, is associated with the beech tree. Although the diversity of tree species and other vascular plants is rather low, the vegetation is significantly enriched by non-vascular plants, the bryophytes, as well as by other cryptogams such as lichens. The tree trunks and branches, fallen and rotten logs, and cliff faces are covered by a thick layer of epiphytes,

including liverworts, mosses, ferns and lichens growing in abundance, and dense, spongy mats containing a mixture of liverworts, hornworts and mosses carpet the forest floor. Bryophyte mounds of various sizes have become a major part of the



architecture of the forests. Ascending through the forests to reach the higher alpine altitudes our progress was frequently barricaded by great mouldering trunks, which had fallen in every direction. Several times I sud-



denly sunk into deep rotten wood up to my knees, and I quickly learned that branches and standing logs that initially seemed to be strong enough to support my body weight while

climbing might be completely rotten. Falls and slips happened often in this extraordinary mossy jungle. Everywhere was wet. Bryophytes were all around. I could not think of any other place that could be better for a bryologist! Overwhelmed by the wonder of this bryophyte kingdom, on the very first day I collected more than two hundred of specimens; many of them Southern Hemisphere species that I was seeing alive for the first time in my life. How exciting! As we had been warned about the weather conditions before the trip, I had prepared myself with durable collecting packages and rain gear, as well as warm clothes. I had no problems being surrounded by a wet forest, or enduring storms of rain, hail or sleet. The austral summer in these extreme southern oceanic regions is truly cool, rainy and windy.

The understory of the evergreen *Nothofagus* forests is dominated by liverworts; common species include, for example, *Gackstroemia magellanica*, *Schistochila lamellata*, *S. laminigera*, *S. guyana*, *Lepicolea chordulifera*, *Blepharidophyllum densifolium*, and members of *Adelanthus*, *Cryptochila*, *Plagiochila*, *Riccardia* and *Lepidoziaceae*. Species of *Clasmatocolea*, *Isotachis* and *Balantiopsis* are often seen in stream banks and shaded cliff bases. *Paraschistochila spegazziana* and *Pachyschistochila splachnophylla* of *Schistochilaceae* occur often on cliff sur-

Cape Horn (continued from p. 25)

faces and also in rock crevices of cliffs. A large hornwort, *Nothoceros endiviifolius*, is also a prominent member of the forest floor communities, while the mosses *Dicranoloma robustum*, *Leptostomum menziesii*, *Ptychomnion cygnisetum*, *Hypopterygium didictyon*, *Lepyrodion lagarus*, *Hymenodopsis mnioides* and the very large den-

Noteroclada confluens and a species of *Metzgeria* were collected on dwarf shrub heath under cover of *Gunnera magellanica*, while *Marchantia berteriana* was found on soil under large boulders. The range of many of the liverwort species mentioned above also extends to higher altitudes. A few species of *Clasmatocolea* occur submerged in

pools on moorland, while submerged *Herzogeria teres* and various species of *Riccardia* grow along the stream banks. *Frullania*, *Radula*, *Herbertus* and *Triandrophyllum* were also present on the Magellanic tundra.

The peatland is

dominated by the moss *Sphagnum magellanicum*, forming soft, compact cushions. During the entire trip we were able to collect at 29 sites in a range of different habitats. According to published records, the sub-Ant-

arctic Magellanic archipelago contains nearly 70% of the 549 liverworts and 60% of the 890 moss species known to Chile. The identification of my 1400 collections made during this trip has progressed steadily, and our on-going work suggests that the species richness of this group in the region may likely to grow.

One of my on-going research projects is on the Southern Hemisphere liverwort family *Schistochilaceae*, aiming at a better understanding of the modern distribution of its biodiversity and biogeographical histories relating to its origin, persistence, and dispersal. I was happy that during this expedition I was able to collect many specimens from the family, including the key taxa *Pleurocladopsis simulans*, *Paraschistochila spegazziniana*, and *Pachyschistochila splachnophylla* that had been missing from my dataset. The *Schistochilaceae* encompasses approximately 80 species and more than two-thirds of the extant species of the family occurs in southern South America and temperate to subantarctic Aus-



droid *Dendrocladus den-droides* were also often present, as well as a number of species belonging to the families *Orthotrichaceae*, *Daltoniaceae*, and *Bartramiaceae* amongst others. At extensive rock outcrops and large boulders near the glaciers, mosses became dominant, with a range of *Andreaea*, *Orthotrichum* and *Racomitrium* species as well as distinctive endemics to these regions such as *Notoligotrichum compressum*, *N. tapes* and *Conostomum magellanicum*. However, I was also able to find many liverwort species on the surfaces of the rocks, in crevices of rocky outcrops and on ground sheltered by the boulders. For example,



traliasia. Morphologically, the family is distinctive in having gametophytes with complicated bilobed and winged leaves, undifferentiated bracts of androecia amongst vegetative leaves, long stalked antheridia, shoot calyptrae, and cylindrical sporophyte capsules with straight valves.



Unlike other leafy liverworts which are bisexual, the Schistochilaceae is the only family in which the sexual system is solely dioecious. The phylogenetic position of the Schistochilaceae based on recent analyses of molecular data remains controversial. Based on the extant distribution pattern of the family and macrofossil evidence of *Nothofagus*, it has been assumed that the Schistochilaceae originated in Gondwanaland and its dispersal has been predicated on continental drift events. Therefore the family has been thought to be extremely old, the extant taxa possibly being survivors from the

start of Mesozoic that have undergone little change since the beginning of the Tertiary due to being associated with relatively stable higher plant communities. So far, these assumptions have remained untested. Reconstructing historical events within the family would shed light on its dis-

junct distribution pattern, speciation and dispersal. *Nothofagus* forms extensive forests in land masses that were once united in the continent of Gondwana; genetic evidence is building up to suggest that the cold-tolerant *Nothofagus* survived locally in multiple glacial refugia through-



out its current distributional range, indicating that the extant taxa are probably members of a pre-Pleistocene flora and that their genetic structure may reflect a more ancient evolutionary history. As the Schistochilaceae represents one of the major forest components in these areas, understanding the biogeographical history of the family would provide valuable knowledge of evolutionary process for liverworts as well as for other plant groups. The phylogenetic analyses of this project are under way, and we will soon discover whether the current hypotheses have withstood our testing.

While sailing in the Beagle Channel, Charles Darwin and his "Origin of Species" naturally come to mind. More than that, one may realise that the legacy of Darwin's work is far from complete with respect to the conservation of biodiversity. The establishment of the Cape Horn Biosphere Reserve, protecting 5% of world's bryophyte diversity, is truly significant. This Chilean trip was the experience of a lifetime for me, one that, besides enabling me to observe spectacular botanical diversity,

is a better understanding of our humans as cohabitants of a diverse ecosystem.

Special Acknowledgment:
Thanks to Neil Bell for revising the English.

2013 Eagle Hill Seminars: Bryology and Lichenology

For more details: www.eaglehill.us, office@eaglehill.us

Bryology

Bryophytes and Bryophyte Ecology June 2 - 8

Nancy G. Slack, Professor, Sage Colleges (NY) (retired)

Jeffrey G. Duckett, Researcher, Natural History Museum, London

Liverworts and Liverwort Ecology June 9 - 15

Blanka Shaw, Res. Assoc. Duke U. (NC), Duke Herbarium Data

Mgr. & A. Jon Shaw, Professor, Duke University (NC)

Bryophylous Fungi July 7 - 13

Peter Döbbeler, Researcher, Ludwig-Maximilian Univ., Munich, Germany

Lichenology

Lecideoid Lichens: Saxicolous and Corticolous Species

June 16 – 22

Alan Fryday, Dir., Herbarium, Prof., Michigan State University

Lichens and Lichen Ecology June 23 – 29

David H.S. Richardson, Professor, St. Mary's Univ., Halifax (NS)

Mark R.D. Seaward, Professor, Bradford University (England)

Lichens, Biofilms, and Stone July 14 – 20

Judy Jacob, Senior Conservator, National Park Service (NY)

Michaela Schmult, Research Assoc., Farlow Herbarium, Harvard U.

Calicioid Lichens and Fungi and Old Growth Forest Ecology

July 21 - 27

Steven Selva, Prof., University of Maine at Fort Kent

How To Use Spot Tests and TLC To Help in Lichen Identification August 4 – 10

Scott S. LaGreca, Herbarium Curator, Cornell University (NY)

H. Thorsten Lumbsch, Researcher, Botany Dept., Field Museum Nat. Hist (IL)

Bogmoss in the Iceman's Stomach

by James Dickson

No less than about 80 bryophytes have been recovered from the Iceman site at the great altitude of 3,210m above sea-level in the Ötztal Alps just south of the frontier between Austria and Italy. Six species came from the innards (stomach sensu stricto, small intestine, colon and rectum). All the rest came from his clothes and gear and from the coarse mineral sediments on which the frozen mummy had lain for some 5,200 years.

A microscopic scrap of a Sphagnum leaf was found on a pollen sample made up from the colon contents. Because of the long comb fibrils, indisputably it is *S. imbricatum* s.l. On grounds of bryogeography it is likely to be *S. affine*, not *S. austinii*. That has been known for some time but now there is more Sphagnum from a different part of the gut. Only in the last few years did the medical men realise that the Iceman's stomach, previously thought empty, was indeed full and samples have been made available for various scientific studies.

I have for long collaborated with Professor Klaus Oeggl of the University of Innsbruck, Austria. Klaus has carried out a variety of very telling archaeobotanical studies of the Iceman and I always deal with any bryophytes that are found. A sample from the stomach arrived in Innsbruck and soon after I was there scanning the pollen slides for moss remains. I expected to find *Neckera complanata* because I had identified it from all the other gut samples. However no luck but "bingo!" there was a scrap of Sphagnum. It's very unlikely to be the same species (there being no sign of comb fibrils) and so a second species probably. See photo 1.

My explanation for the presence of the *S. affine* is that it was part of a dressing for the Iceman's badly cut right palm, that trauma having happened shortly before the murder by the arrow shot in the back. Bloody fingers with

little fragments adhering led to the ingestion of the Bogmoss.

But the Sphagnum in the stomach? The same explanation perhaps? The stomach was largely full of the meat of Alpine Ibex. It makes a tasty meal, as I can testify. Long may the fun continue.

Dickson JH, Oeggl K, Handley LL (2005) The Iceman Reconsidered. Scientific American Special Archaeology Volume 15, 4-13.

Dickson JH, Hofbauer W, Porley R, Schmidl A, Kofler W. and Oeggl K (2009) Six Mosses from the Tyrolean Iceman's Alimentary Tract and their Significance for his Ethnobotany and Events of his Last Days. Vegetation History and Archaeobotany 18, 13-22.

Dickson JH (2011) Ancient Ice Mummies. Stroud; The History Press.



Figure 1. The scrap clearly shows differentiation of hyaline and green cells and cross fibrils.

Jim Dickson, December 2012

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Establishment of the Bryological Group of Thailand

By Phiangphak Sukkharak

The very diverse bryophyte flora of Thailand has been collected and studied since 1899. In the beginning, most of the studies were done by foreign botanists/bryologists. While the vascular plants of Thailand have been gathering momentum in the last few years and has now reached a well-advanced stage under the Flora of Thailand project, non-vascular plants have been neglected.

During the 6th Botanical Conference of Thailand at Prince of Songkhla University, Songkhla province, a small group of Thai bryologists met spontaneously. This meeting, attended by 9 individuals, resulted in the initiation of the Bryological Group of Thailand. The aim of the group is to encourage the study and floristic treatment of the bryophyte flora of Thailand as a contribution to the Flora of Thailand project and promote cooperation and communication among Thai bryologists. The appointed head and secretary are Sahut Chantanaorrapint and Phiangphak Sukkharak, respectively.

The planned activities of the group include the treatment of bryophytes in Thailand, annual meetings and excursions. For the treatment of bryophytes in Thailand, keys to families of liverworts and hornworts of Thailand by Chantanaorrapint and Sukkharak and keys to families of mosses of Thailand by Pollawatn and Wongkuna are now in preparation. In addition, a list of bryophytes specimens kept in BKF, an updated checklist Bryophytes in Thailand and treatments of the many genera in Thailand that need taxonomic work will be done. We plan to have regularly meetings every year to plan the work ahead for the treatments. Moreover, the excursions to bryophyte hot spots in Thailand will be arranged in the near future.

For more information contact Phiangphak Sukkharak, Department of Biology, Faculty of Science, Burapha University, 169 Long-Hard Bangsaen Road, Saen Sook Sub-district, Mueang District, 20131 Chonburi, Thailand



Fig. 1. The first Bryological Group of Thailand meeting, 19 March 2012 at Prince of Songkhla University, Songkhla province. (Photograph taken by Phiangphak Sukkharak).

Bryology in China

By Philip E Hyatt

Bryology is alive and well in China. How do I know? I chat with Chinese bryologists in China every few days in English. I don't know them well and I'm not a bryologist myself so please let me explain.

In 2004, I decided to teach myself Chinese. My background lies in caricology, botany and floristics, and ecology. One reason I started to learn Chinese was to be able to communicate with Chinese biologists. My native language is English and I assumed that if I became fluent in Chinese I could communicate with the majority of people on the planet quite easily. I didn't expect to turn my use of Chinese into a full-time job. In 2008, I retired from the United States Forest Service and over time became a full-time writer and editor. I found my Chinese friends wanted help improving their English while at the same time they were very willing to help me learn Chinese.

A series of events led me to a very popular Chinese website called QQ (www.imqq.com, for the English version of the website). QQ is, in some ways, the combination of Facebook, Twitter, and an instant messaging system such as MSN or YahooIM. It is extremely popular in China where Facebook and other social networking websites are not generally available. On QQ people use numbers instead of names to identify both themselves and their groups. My number is 2536313199. But more importantly, if you want to talk to Chinese bryologists you can communicate them in the QQ groups 43387205 and 12235220. The latter group has 99 members and some groups are limited

to 100 members so I'd suggest contacting the former group if you want to join.

You don't have to speak Chinese, although some of the group members cannot read English. I was pleasantly surprised to discover most people under the age of 30 in China have been taught English in school. Their English skills vary widely, of course, but if you have difficulty with Chinese electronic translation works quite well for short passages of text and your Chinese friends will be glad to help you with more complex translations. If you have an interest in *Carex* you can join our small group of sedgeheads, 182642300, and you can find me as Sedgehead in several places on QQ as well as the internet. I was lucky enough to claim that name in many places on the internet in 1995 and beyond, although someone beat me to the name on Skype so I use the name Headsedge on Skype where I teach English for free once a week to people all over the world. Don't confuse the *Carex* group with the *Carex* business company group, 105427327. That company makes products to help handicapped people such as grab bars.

I found using QQ and talking to botanist in China extremely enlightening. My Chinese friends are very helpful and I find the exchange of information delightful. I invite you to join us.

--

pH

www.sedgehead.com Philip E. Hyatt



Hylocomnium splendens

by Shawna Whelan (vedsha31@evergreen.edu)
(taken in Washington State USA on the South Fork of the Skokomish River)



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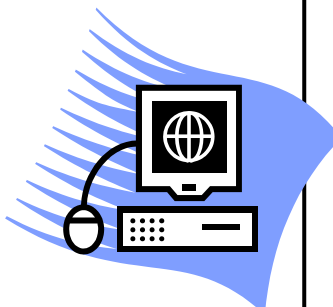
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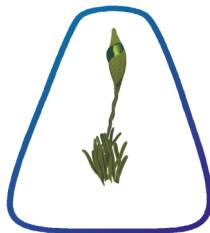
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The International Association of Bryologists (IAB) is an organization open for all interested in bryophytes. For membership contact Matt von Konrat at mvonkonrat@fieldmuseum.org. Visit the IAB website: <http://bryology.org> for further information or to pay using PayPal.

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