

The Bryological Times

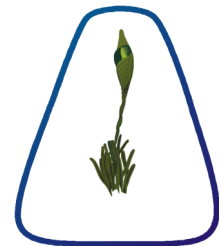
ISSUE 134

NOV/DEC 2011

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IAB



The Bryological Times

ISSUE 134

NOV/DEC 2011

Editor's Note: One wish during the season

By DorothyBelle Poli

Happy Winter to all of *The Bryological Times* subscribers. I do hope that this season is bringing joy and peace to you and your loved ones.

Several people have asked me why this issue of the BT has been delayed, and

the response is simply that I did not have enough to report. For those contributors who contact me regularly, Thank You! Therefore, I want to make a plea that asks for all bryological societies, PIs, and even graduate students to send in their latest and

greatest (and even minor) announcements, meetings, and forays. This community is made up of all of you and the BT needs you to let us know what is occurring.

Please enjoy this delayed but now full issue.

SPECIAL POINTS OF INTEREST:

- *Book reviews*
- *Websites that keep us up-to-date are announced*
- *Workshops and meetings*
- *Tips, Tools, and Techniques*

Thank you Jim Shevock for your service; Welcome Matt von Konrat

We wish to announce that Matt von Konrat has been appointed, by the President and the Executive Committee, as the new treasurer of IAB. Matt replaces James Shevock who recently stood down from the position. We wish to take this opportunity to thank James for his outstanding contributions and efforts as treasurer over the last couple of years. New contact details for the treasurer are: Matt von Konrat, 1400 South Lake Shore Drive, Chicago, Illinois 60605, U.S.A. Phone: (312) 665-7864 Email: iab@fieldmuseum.org or mvonkonrat@fieldmuseum.org

Going Digital...BT becomes searchable

Matt vonKonrat and Kevin Havener, both from the Field Muesum, have worked many hours going through the historical documents of IAB and *The Bryological Times* to digitize the collections. IAB is currently in the process of getting their work up onto the IAB website so that all of the documents will be able to be searched from the Google search engine. Years 1980-1989 are their recent accomplishment. Needless to say, we are thankful to have such dedication to our society!

Seasons
Greetings



Bryology at International Botanical Congress XVIII, 2011, Melbourne, Australia

by Brent Mishler

Bryology made quite a splash at IBC 2011, where the International Association of Bryologists (IAB) met concurrently, with five symposia devoted entirely to these most interesting of all plants, and a number of additional talks presented in other symposia. Approximately 90 bryologists attended from every part of the world. I heard many comments from non-bryologists impressed with how organized, enthusiastic, and scientifically advanced the bryology part of the Congress was. The five official IAB symposia were: 158 "Ecology, environment, and conservation of bryophytes," organized by Lars Söderström; 155 "Liverwort phylogeny and evolution: a window into early land plant diversification," organized by Jon Shaw; 087 "Hornworts: evolution, biology, and biodiversity," organized by Chris Cargill and Jeff Duckett; 122 "The bryophyte tree of life (BryoToL): towards a bryophyte phylogeny group (BPG)," organized by Dietmar Quandt; and 098 "Fine-scale phylogenetics and biogeography in mosses," organized by Brent Mishler. There were talks in other symposia on such topics as: *Marchantia* genomics and development, fungal symbioses, paleoecology, arctic moss ecology, and proteomics in *Physcomitrella*, as well as many interesting posters (both hard copy and electronic). Titles and abstracts of the talks and posters can be seen at: <http://www.ibc2011.com/> (the symposium numbers given above makes them easier to find).

No official bryophyte field trips were held, but several informal trips were taken, led by local bryologists, to get out and see the rich bryophyte flora of south Victoria. A special sight to see for many of us foreigners was the giant *Dawsonia superba* -- "this is a moss," as Crocodile Dundee would say!

The social program was equally outstanding, thanks to an energetic local organizing committee consisting of Paddy Dalton, Chris Cargill, Pina Milne, Niels Klazenga, Helen Jolley, and Allan Fife. Early in the meeting there was a fine Meet & Greet mixer at the National Herbarium at the Royal Botanic Gardens Melbourne, highlighted by an excellent selection of cheeses and wines accompanied by an automated Powerpoint presentation of photographs from past IAB meetings, some from long ago that showed certain members of the audience in much younger days! Near the end of the meeting was an elegant IAB banquet at University House, University of Melbourne, with fine wine and food followed by mercifully short yet interesting and funny speeches by IAB President Jeff Duckett and local organizing committee chair Paddy Dalton. Groups of bryologists could be found at restaurants around town each evening (and in pubs also, rumor has it...).

Good fun was had by all: old friends were reconnected, new friends were made, and foundations laid for many stimulating future collaborations. Thanks much to our Australian hosts, and to all the bryologists who traveled far to attend.

Brent D. Mishler, University and Jepson Herbaria, 1001 Valley Life Sciences Building, University of California, Berkeley, CA 94720-2465, U.S.A. bmishler@calmail.berkeley.edu

[June-December 2011: Visiting Scientist, Centre for Australian National Biodiversity Research, Canberra, Australia]

Follow IAB and *The Bryological Times* on Twitter

By DorothyBelle Poli

Recently the world has been exploding in ways to digitally stay in touch with the latest news and happenings. Many people have heard of Twitter, but several are still unfamiliar with it. Therefore, we will do our best to explain this media type, especially because IAB is going to try to use it!

Twitter is an online social media and microblog that was started in 2006; it is similar to Facebook except Twitter messages (tweets) only go one way and are not always from people you personally know or would consider friends. Currently, over 300 million users (followers) are on Twitter - it is made up of people, organizations, celebrities, etc that you follow or who are following you. For example, groups like NSF and TIME have Twitter accounts to help relay articles and important deadlines.

Tweets are at most 140 characters long and can be announcements, quotes, links to websites, and even pictures and video from the Twitter account holder. If you particularly like a tweet's message, there is no "like" button or a share feature as in Facebook, but you can re-tweet it (shown as RT in a tweet!) to your own followers.

IAB has decided to take a chance on this "new" way of communicating to possibly increase IAB's exposure and membership. We will use Twitter to tweet deadlines for *The Bryological Times*, any grants we learn about, and anything else bryological that crosses our path. This media will NOT replace bryonet or *The Bryological Times*, so don't worry about that. But Twitter is a way to keep up with up-to-the-moment news, make announcements, and to increase a sense of community among a population.

To request to follow IAB and *The Bryological Times* on Twitter, find us at @TheBryoTimes. Our mission is to help connect the bryological world and therefore @TheBryoTimes will follow you too. We will re-tweet (RT) news as it pertains to bryophytes.



Book Review: Tropical Montane Cloud Forests

by Johannes Enroth

L. A. Bruijnzeel, F. N. Scatena & L. S. Hamilton (Eds.): Tropical Montane Cloud Forests: Science for Conservation and Management. 740 pp., illustrated. Hardback, ISBN 978-0-521-76035-5. International Hydrology Series, Cambridge University Press 2010. Advertised price £ 65, web page www.cambridge.org/9780521760355.

Probably well known among *The Bryological Times* readers, tropical montane rain forests represent one of the most exuberant and species-rich terrestrial habitats and ecosystems. As such they are also highly vulnerable especially due to human impact, invasive species and climate change etc. As we learn from this book the estimated global area of tropical cloud forests is 215,000 km², approximately half the area of California and just 1.4 % of all tropical forest and approximately 0.14 % of the Earth's land surface. Although they have been fairly intensively and systematically studied, especially from 1993 onwards, knowledge of many of their physical and biological aspects is still seriously insufficient – it is still “decision time” for our precious tropical cloud forests (see www.activeremedy.org.uk/pages/files/other/Cloud_forests.pdf)!

This truly international joint-effort of no less than 173 contributors is an astounding volume condensing a vast amount of information of these forests. As Maarten Kappelle states in the Foreword, it is indeed a holistic approach to the topic. The book contains a total of 72 articles, which are divided into seven main parts entitled (I) General perspectives, (II) Regional floristic and animal diversity, (III) Hydrometeorology of tropical montane cloud forest, (IV) Nutrient dynamics in tropical montane cloud forests, (V) Cloud forest water use, photosynthesis, and effects of forest conversion, (VI) Effects of climate variability and climate change, and (VII) Cloud forest conservation, restoration, and management issues.

The first part deals with topics such as the methods for monitoring the distribution of cloud forests and its loss; conservation status of the forests; cloud forest climate; ecology and ecophysiology of epiphytes; global and local variation in the soils; nutrient cycling; and the state of cloud forest restoration. The second part focuses on the general biodiversity in Malaysia, French Polynesia, Mount Kilimanjaro in Tanzania, sub-

tropical laurel forests of Tenerife (and similar ones in Japan), Bhutan, and the Albertine Rift in East Africa. There is also an article of the lowland tropical cloud forests (“a neglected forest type”) and some articles focus on certain species or higher taxa.

The hydrological patterns and general water dynamics – central themes in this context – are of course treated in several articles, as are the nutrient cycling and water chemistry. Especially interesting for us bryologists should be articles such as “Water dynamics of epiphytic vegetation in a lower montane cloud forest: fog interception, storage, and evaporation” and “Epiphyte biomass in Costa Rican old-growth and secondary montane rain forests and its hydrological significance”. I found it also highly interesting – and alarming – to read about the hydrological consequences of climate change (which are partly very surprising and even counter-intuitive) and those of disturbing (felling) or conversing the forests to pasture; the book contains case studies from Mt. Kilimanjaro and Costa Rica and a more general article but with a particular reference to Colombia.

Continued on page 27

Hugo Sjörs in memoriam

August 1st 1915 to February 28th 2010

by Gillis Een

In the early spring of 1945 I was planning for a botanical holiday but had no money. I wrote to Gunnar Wistrand and asked him if he needed a field assistant the coming summer. He replied in April that year and said that he had no need for my help but recommended me to write to Professor G. Einar du Rietz at Växtbio in Uppsala, which I did, and asked him if he knew somebody who could give me an outdoor job against travel costs plus food and lodging. I received a positive reply from Hugo Sjörs.

In June that summer we met in Skattlösberg in the province of Dalarna, the parish of Grangärde, where Hugo did fieldwork for his doctor's thesis (Sjörs 1948). We worked every day on a mire complex called Skattlösberg Storrösse. My job was to assist in measuring the water level, with a rather high degree of accuracy, in order to find out in which direction the water was flowing. I also assisted in analysing the vegetation in the mire and for that reason Hugo taught me to recognise some of the wetland bryophytes. That is how it all started.

Hugo also taught me which species of *Carex* you could trust without falling through, when walking over a carpet of them. The rumour says that Hugo over the years developed webbed feet from his wetland walking and wading, but I cannot confirm that.

Skattlösberg is a very special place for Swedes of my generation. The poet Dan Andersson lived there and wrote about people and places, often with Finnish names. In the seventeenth century, when Finland was a province of Sweden, the government "imported" to this part of Sweden, people skilled in "slice and burn" agriculture. The big forests had no other value at that time except as a source of charcoal to feed the blast-furnaces for the production of pig-iron.

That summer I collected a number of bryophytes, which Hugo determined in the field. I kept that little herbarium as a reference apart from my other bryophytes. Some of them came from the

forest, which we cycled through every day. Forestry was a very different type of business at that time. A man and his horse in wintertime fell the timber and dragged it to the nearest river in which it was floated down to the saw mills at the river mouth at the Baltic Sea. Another difference from present time is that this part of Sweden then was full of small farms with a few cows, sheep and goats, which were grazing in the rather open forest in summertime. One effect of that was e.g. an abundance of mosses belonging to the family Splachnaceae. Today the cow dung has been replaced by an abundance of droppings from elks (Moose) and roebucks.



Hugo collected bryophytes but mainly in the form of ecological samples containing more than one species. When I organized my own herbarium I followed his example. I stored the samples in a geographical order, supplemented by a card index to find the species.

Hugo had a very broad knowledge of cryptogams in general and especially bryophytes. As he was a specialist in wetland plant societies he studied the genus *Sphagnum* more deeply and he described a new species, i.e. *Sphagnum subfulvum* (Sjörs 1945).

Hugo taught me how to make a very special bryological tool. It is constructed from a piece of rather thick copper wire plus an ordinary cork. One end of the wire is hammered flat and made emarginate. It is used for scraping off leaves from a *Sphagnum* stem.

The next time we met in the field was in 1947 in the newly established national park of Muddus in Lule lappmark in the far north of Sweden. This turned out to be a rather tough expedition. The maps over the area were not very reliable and Hugo had arranged with the military airbase in Luleå that we would be flown over the area in order to orientate ourselves. Two light dive-bombers with place for one passenger each were at our disposal. We were given five minutes instructions about how to use the parachutes - and off we went. All would have been well if our pilots had not discovered a forest fire. One of them wrote a message about the fire on a

Obituary: Zang Mu

ZANG Mu, one of the greatest well-known Chinese mycologists, born on Dec. 28th, 1930 passed away on Nov. 10th 2011 at age 81.

ZANG Mu graduated from Soochow University, after graduation, he worked at Nanjing Normal University as a teacher in 1954-1973, then moved to Kunming in 1973. After 1973, he worked at Kunming Institute of Botany (KIB) of the Chinese Academy of Sciences (CAS). As a research fellow in both mycology and bryology, his major interests focused on systematics, ecology, and geography of fungi. He also studied mycorrhiza and

its application in afforestation. He established the cryptogamic herbarium of KIB, and was the curator of the herbarium for a long time. He was Vice President of the Mycological Society of China, and Vice Director of the Key Laboratory of Mycology and Lichenology of CAS. He published several monographic works and more than 150 papers on fungi in China, with emphasis on Basidiomycetes and Ascomycetes. He received the second-class Award in National Scientific and Technological Progress twice (1993, 1995), a second class prize in China's State Natural Science Award (2003), and

N. Hiratsuka Award 2003 of the Mycological Society of Japan. Besides mycology and bryology, he was also very interested in Chinese calligraphy, paintings, and collecting stamps.

He contributed his full energy to the development of mycology and relative research fields in China. We lost a great mycologist, and we express our grief and mourning for the dead.

Kunming Institute of Botany (KIB), Chinese Academy of Sciences (CAS)

Nov. 10th 2011

Meetings All Over the World: Summer 2012

8th Conference of the European Committee for Conservation of Bryophytes will hold their meeting in Budapest (Hungary) April 18-21, 2012. Deadline for submissions is January 31, 2012. For more information or to register please visit http://eccb_bryo8.nhmus.hu

MOSS 2012 and the 3rd International Symposium on Molecular Systematics of Bryophytes will host a joint meeting at the New York Botanical Garden, Bronx NY USA from June 16-23, 2012. For more information please visit <http://www.regonline.com/moss2012>.

International Russian Bryological Conference will be held in Kirovsk, Murmansk Prov at the Polar Alpine Botanical Garden-Institute from June 24-30, 2012. This conference will focus on "Bryophytes of the Subarctic" and celebrate the 100 year anniversary of R. N. Shljakov. Email bryo.kpabg@list.ru for more information.

5th International Meeting on Biology of Sphagnum will take place in North-Latvia and Estonia on August 10-19, 2012. To learn more please visit <http://natmuseum.ut.ee/Sphagnum2012>.



Computers and Bryophytes: Look Here

Efrain DeLuna has posted his work on the **Marchantia in Mexico** at his blog. Check it out at: <http://briofitasdemexico.blogspot.com/>

Mishler, Norris, and Shevock have begun a web flora of Cali-

fornia mosses. Descriptions, line drawings, and photos are available at <https://www.csun.edu/~hcbio028> and to the moss specimens at http://ucjeps.berkeley.edu/bryolab/UC_bryoph

Check out the **IAB Blogspot** at <http://internationalassociationofbryologists.blogspot.com/>

Don't forget about the **Archive for Bryology** at www.archive-for-bryology.com.

Tools, Tips, and Techniques: New Light source for the lab and field

by David Wagner

Development of LED lamps has resulted in amazing products appearing on the market. I have been most impressed with the intensity of the new lights now marketed as headlamps for bicyclists. These are intended to be mounted on handlebars or the top of helmets. Not only do they alert oncoming traffic to the rider, they are bright enough to serve as truly effective headlights, as bright as those for automobiles.

These lamps are compact (10cm long, 4 cm diameter) with a rechargeable battery that plugs into either a wall receptacle or a computer's USB port. The latter is very useful because it means it can recharge on a bench without looking for the wall outlet. Once charged, it can be moved from dissecting scope to compound microscope easily because no wires tether it. The battery are rated to have a five hour working time per charge, making the light useful for extended field work. The light can be directed on a colony of bryophytes in a dark forest. Having a steady light source, an image can be composed in a way not possible with a flash.



Figure 1: Cygolite 10 cm

is as cool as fiber optic sources. It is useful in adding reflected light to images made with compound microscope thanks to stacking software. Compare the two images of *Jungermannia atrovirens* androecia, one with transmitted light and the second supplemented by reflected light from a LED headlamp.

Because the light is bright enough to be mounted some distance from the object, the light doesn't cause the glare of fiber optic sources, yet

Although these lights may be expensive, they are not as expensive as a ring flash. The 250 lumen Cygolite I am experimenting with cost \$130. Some of the models I've seen in cycling stores have up to a 400 lumen rating, but cost about a dollar per lumen. Eventually, as production volume increases the costs should come down.



Figure 2: Cygolite on a mount for practical work in the laboratory.

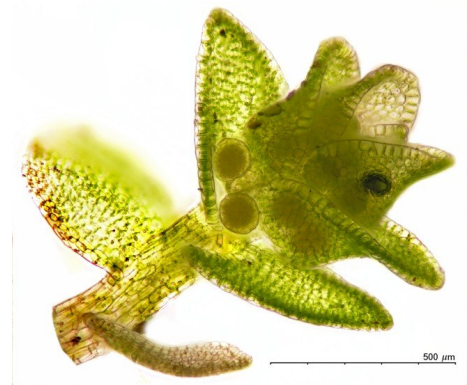


Figure 3: *Jungermannia atrovirens* androecia with transmitted light



Figure 4: *Jungermannia atrovirens* androecia with transmitted light and supplemented with reflected light from a LED headlamp.



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International bryological meetings - june 2012

Dear Colleague,

The bryological department of the Centre Marie-Victorin in Vierves-sur-Viroin (C.M.V./ Research and Education Centre for Nature conservation associated with the University of Gembloux, Belgium) successfully organised his first international bryological meeting in 2005.

The meetings that took place in 2007 and 2009 were more successful because nearly 20 participants came to our Nature Park Viroin-Hermeton and were seduced by the proposed program.

Most of them suggested to renew this initiative in 2012 and promised to massively diffuse the information in order to get a larger participation.

The bryological department invites you to participate to the Fourth International Bryological Meeting, from 5th to 9th June 2012, which will be hold in a nice place to stay, namely the Centre Marie-Victorin.

The program remains appreciably the same as the three previous editions.

We don't impose any particular theme for the various communications that you would make. These should not exceed 10 minutes and, afterwards 5 minutes questions and answers.

Besides, you can still benefit from a lot of advantages mentioned on your inscription form and of various services from the staff of the Centre Marie-Victorin during work time. Some have to be paid (telephone, fax, internet,...), other are free of charge (consultation in the library, laboratory use, etc).

The lodging cost in the Gîte pour l'Environnement (Vierves' old station) is 175 € all inclusive or 195 € with the publication of the rules.

If you prefer to stay in «The Coup de Coeur», cost will be 210 € all inclusive or 230 € with the publication of the rules.

Please find in attachment all information concerning the lodging, your inscription form to be quickly sent back and the temporary program (Titles of the communications to be mentioned).

We would like to register your formal inscription before the 1st March 2012 at the latest, knowing **we need the participation of at least 20 people**.

The Parc naturel Viroin-Hermeton will be in charge of the publication of the rules of the International Bryological Meeting, available between October and December 2012.

We look forward to seeing you again in June 2012. We thank you in advance to diffuse our announcement.

Kind bryological regards

Camille Cassimans

Secretary

Philippe De Zuttere

Promoter

Léon Woué

President of the C.N.B.

ATTENTION :

• end of the enrollments the 01/03/2012



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International bryological meetings - june 2012

Participation sheet to complete and to send back to the above address

Name and first names: male / female

Complete address:

Institution:

Mobile : E-mail :

Telephone: 00 / Fax. : 00/.....

doesn't want to participate to the bryological meetings for the following reason(s):

takes part to the bryological meetings in Vierves-sur-Viroin (Belgium) in June 2012 and chooses:

* I will arrive the June 05, 2012 at the end of day June 06, 2012 early in the morning

* I participate to

- the totality of the symposium with meals and lodging
- the totality of the symposium with lunch only
- the totality of the symposium with lunch and evening meal (without lodging)
- I wish a large comfort room in the «Coup de Coeur»

Total price without publication : 175 € Total price WITH publication : 195 €

4 nights in the "Coup de Coeur" : 210 € or WITH publication : 230 €

* I intend to do a communication of 10 minutes maximum with following theme :

* this communication will be done in French English

* I will provide the text of my intervention (In Word for PC)

1 month in advance 2 months in advance 3 months in advance in language

* I request to use the technical system :

- slides projection 24x36 (right basket - 50 views) overhead projector
- panel-supports for my posters VHS video recorder with (standard PAL) projection on big screen
- spotlight numeric LCD (I bring my portable PC!) other (please describe - according to our possibilities):

* for the meals I am meat eater vegetarian without pork other (to specify)

* I am non-smoking I am a smoker but will respect the interdiction to smoke in the buildings (including rooms).

*** I intend to pay my involvement to the bryological meetings**

by bank transfer to the account 652-8062445-81 with name «Cellule Bryophytes Viroinval»

IBAN: BE36.6528.0624.4581 BIC: HKBABE22

by VISA card on arrival cash on arrival

* I will have a vehicle I won't have a vehicle

* I leave the symposium at the end (08/06) I leave the following day (09/06)

* Various wishes (to be specified):

Date:

Signature:



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International bryological meetings - june 2012

Relative information to the lodging

For the lodging and the meal, we confided the logistics to the Cercles des Naturalistes de Belgique a.s.b.l. to Vierves-sur-Viroin. It is near the old railroad station of the village of Vierves, completely restored and modernized «Gîte des Jeunes pour l'Environnement» as well as the building «Coup de Coeur».

You will find a restaurant with a specialized kitchen staff, an audience of 92, a TV-room, the nature-shop, a botanical garden, a garden for medicinal plants, a «hyménoptères» course, a land for sport. ...

All rooms have central heating, sinks (hot and cold water), toilets and showers on the same floor.

We have following rooms at the «Gîte des Jeunes pour l'Environnement» :

- 6 rooms with 2 beds of a person (superposed)
- 10 rooms with 4 beds of a person (superposed by 2)
- 2 rooms with 3 beds of a person (superposed by 2 or 3)

We have also 5 rooms «large comfort», (toilet, shower, sink,) in the building «Coup de Coeur» and this for a **supplement of 15 €** by night and by person.

The rooms are distributed in two adjoining buildings having each the same level of comfort. We shall try the most rational manner for distribution of the rooms, but if you wish to share the room with one particular participant, please let us know in advance.

We shall do our best to satisfy your demand.

Hoping to see you in Belgium.

Best regards.

Léon Woué and Philippe De Zuttere

ADDRESS : Rue de la Chapelle, 1 - BE 5670 Vierves-sur-Viroin BELGIQUE



Correction from Issue 133

Anil Sharma contacted *The Bryological Times* and would like to add Yash Paul as second author to their article titled “*Stephensoniella brevipedunculata* rediscovered” as published in issue 133 of *The Bryological Times* (June–July 2012). Therefore the authorship to that piece should be Anil Sharma, Yash Paul, and Anima Langer.

Bryophytes and scientific illustration at the IBC 2011

By Alison Downing

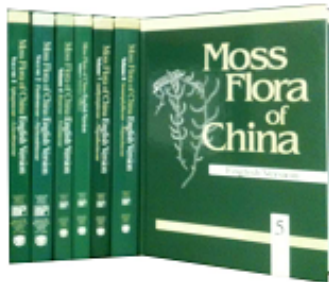
The International Botanical Congress held in Melbourne in July was an ideal backdrop to a magnificent exhibition of scientific illustrations, *The Eternal Order in Nature: The Science of Botanical Illustration*. This display, presented by the Friends of the Royal Botanic Gardens in Melbourne, was planned to showcase leading Australian botanical artists, both past and present. At a time when many universities and government organisations are relinquishing positions for scientific illustrators, it seems that in Australia there has been a refreshing revival of interest in this field from both professional and amateur artists. In Sydney, for example, the National Herbarium of New South Wales plays host each year to the Margaret Flockton Award and the Friends of the Royal Botanic Gardens host Botanica. Similarly, Melbourne has the biennial exhibition *The Art of Botanical Illustration*, and has also hosted *Hidden in Plain View – The Forgotten Flora* and now *The Eternal Order of Nature*.

In this exhibition, I viewed with awe the ‘higher plants’, Celia Rosser’s *Banksia robur*, Jenny Philips’ *Plectorrhiza tridentata*, David Mackay’s *Acacia Ingramii*, Gillian Scott’s *Amyema quandong* and a plethora of orchid genera. Lauren Black exhibited two lovely works showcasing conifers, *Dacrycarpus imbricatus* and *Phyllocladus aspleniifolius*, both fossils and extant plants. Ferns, too, such as Laurie Andrews *Blechnum wattsii* and *Pteris umbrosa*, slowed my progress through the gallery. However it was with greatest delight that I encountered illustrations of ‘lower plants’ – algae, lichens, mosses, liverworts, and hornworts. In Australia, bryologists have long learned their trade from George Scott and Ilma Stone’s *The Mosses of Southern Australia* and George Scott’s *Southern Australian Liverworts*. We have long been accustomed to beautiful work, as the former has exquisite illustrations by Celia Rosser, of *The Banksias* fame, the latter, featuring illustrations of many liverworts of extraordinary complexity, by Rod Seppelt and photographs by Bruce Fuhrer.

The contributions to the cryptogamic display in Melbourne did not disappoint. There were lichens (*Ramalina celsi* and *Ramalina glaucescens* and *Usnea*), by Merle McIntyre and marine algae (*Codium fragile* and *Jania adherans*) by Christine Rockley. Fungi were beautifully depicted by Katrina Syme (*Dermocybe*

erythrocephala) and a marvellous *Phallus multicolour* by Kate Vlcek – so vibrant you could almost smell it. Bryophytes were also well represented. I was intrigued with the variety of botanical artist Diane Emery’s three contributions: two orchids, *Chiloglottis x pescottiana* and *Caladenia tentaculata* and a hornwort, *Phaeoceros carolinianus*. In contrast, Niels Klazenga’s drawings of *Campylopus appressifolius* displayed the diagnostic characteristics of leaves, including leaf shape, leaf cross sections and patterns of cells within the leaves. Karen Beckman’s work differs too, in that she combines her artistic talents and her botanical training, so that her *Frullania clavata* includes both a coloured image of the whole plant in its natural habitat and microscopic technical detail in pencil. I have left the best until last. Rod Seppelt’s four contributions, *Syntrichia anderssonii*, *Tayloria tasmanica*, *Stonea oleaginosa* and *Calyptopogon mnioides* are exquisite. I have no idea how Rod manages to combine drawings of the whole plant together with detail of leaves, capsules, leaf cells and cross sections of stems, onto a single sheet in such a way that it is scientifically accurate, to scale and also unbelievably beautiful. The detail in the *Calyptopogon mnioides* is extraordinary, particularly the incurved leaves of the dehydrated stem. One wonders how is it possible to draw *Stonea oleaginosa* when the plants are minute, –barely 1 millimetre high? However, Rod’s smallest challenge has been a minute Pottiaceous moss (*Weisiopsis sp.*) only 0.3 millimeters tall for Helen Jolley and Pina Milne for the Flora of Australia. Rod seems to thrive on such challenges!

I have long thought that botanical illustration competitions, such as the Margaret Flockton Award, are weighted very much in favour of those illustrating vascular plants and against those illustrating bryophytes. Bryological work can only be done under a microscope, an even more difficult and time consuming process than that for vascular plants. Perhaps it is time for the bryological community to consider funding an international bryological illustration competition? And perhaps it is time to look for appropriate galleries, perhaps within herbaria or museums, to serve as repositories for the exquisite work of both past and present bryological illustrators. My thanks go to all the *Eternal Order in Nature* artists whose illustrations have given me so much pleasure.



NOW COMPLETE

Moss Flora of China, vols. 1-8

China has about 2,500 species of mosses, constituting the richest and most diverse moss flora in the North Temperate zone. Knowledge of the Chinese moss flora, like that of the vascular plant flora, is of

importance to the understanding of the underlying dynamics of plant migrations, vegetational history, and the significance of local refugia in Asia. In some instances, the bryophytes (mosses and liverworts) are better species indicators for the past vegetational changes or directions of plant migration than vascular plants, because they survive in sheltered microhabitats after the macroenvironments have been altered or destroyed.

The Chinese moss flora is also significant to the understanding of the floristic composition and geographical distribution of the bryophytes of North American, Europe, and temperate Asia, since many Chinese taxa have evolved disjunctive ranges either between eastern Asia and eastern North America or between eastern Asia and western Europe. The *Moss Flora of China, English Version* is a series of eight volumes dealing with all mosses known to be native to or naturalized in China.

The aim of the *Moss Flora of China, English Version*, is to publish the first modern floristic treatment of all mosses of China within five to ten years. Eight books are planned (with six already published), dealing with basic, authoritative, and up-to-date information on the names, relationships, characteristics, and geographical distributions of approximately 2,500 species of mosses that grow in China. Illustrations of the plants and distribution maps are provided.

The *Moss Flora of China, English Version*, is a product of the Bryophyte Flora of China project, supported by the Chinese Academy of Sciences and the Missouri Botanical Garden. The editorial committee includes five Chinese bryologists and five non-Chinese bryologists.

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The National Symposium of the Bryological Society of China (BSC) in 2011

By Yue Sun, Ying Xue and Rui-Liang Zhu

The National Symposium of the Bryological Society of China (BSC) was held in Urumqi, Xinjiang on August 23-25, 2011. The sponsors of the workshop was the Key Laboratory of Biogeography and Bioresource in Arid Land, Xinjiang Institute of Ecology and Geography, CAS. More than 60 participants from 23 universities and institutes in China attended the symposium.

The symposium received 40 abstracts. A total of 26 participants were invited to present their research findings.

The symposium began with "Introduction of history and prospect of liverwort and hornwort taxonomy" given by Rui-Liang Zhu. Then Li Zhang introduced different reproduction strategies of bryophytes. Following talks were "Various adaptation of bryophytes in different ecosystems" by Yuan-Xin Xiong and "On important roles of historical specimens at the herbaria for bryological researches" by Tong Cao. A series of research reports followed: "The drought resistant characters and adaptation of moss *Syntrichia caninervis* Mitt. in biological soil crusts" by Yuan-Ming Zhang; "Taxonomic revision of Geocalyceaceae of China" by



Yu-Huan Wu; "Computer simulation of distribution of epiphyllous liverworts in China" by Xiao-Ming Shao; "Taxonomic and molecular phylogenetic study on Ptychanthoideae (Lejeuneaceae) in China" by Jian Wang; "Auxin plays important roles in *Physcomitrella* regeneration" by Yue Sun; "Effects of environmental changes on

viability and germination of bryophyte spores in a peatland" by Zhao-Jun Bu; "The physiological and biochemical situation of *Bryum argenteum* Hedw. and *Bidymodon vinealis* (Brid.) Zander in gradually drought stress" by Xi Zhao.

In closing ceremony Prof. Rui-Liang Zhu, the president of Bryological Society of China (BSC) announced that six students merited receipt of the Best Postgraduate Presentation Award.



Drs. Tong Cao and Rui-Liang Zhu as well as six winners of the Best Postgraduate Presentation Award (Left to right: Tong Cao, Yu-Mei Wei, Qin Zuo, Mei-Juan Zhang, Ai Ze Zi, Qiong He, Zheng-Li Huang, Rui-Liang Zhu).

After the symposium two field trips to Kanasi Nature Reserve and Tianshan Nature Reserve were organized. All participants would like to thank Dr. Yuan-Ming Zhang and his group for nice organization of conferences and fieldtrips.

Continued on page 15...see BSC 2011 Meeting

Czech Republic – Bryological and Lichenological Section of the CBS

Czech bryologist and lichenologist work together in Bryological and Lichenological Section which runs under Czech Botanical Society. Czech Botanical Society (CBS) is the only national organization that joins citizens with botanical interests in broadest sense (floristics, systematics, vegetation botany, plant ecology, plant protection etc.).

Bryological and Lichenological Section of the CBS joins professionals and amateurs with particular interest in bryophytes and/or lichens. It offers help to non-professionals and supports their professional growth. Aim of the section is promoting knowledge about the global development in bryology and lichenology, new trends, literature, professional meetings etc. Within the Czech Republic, the B-L Section strives to boost both disciplines, co-ordinate research and international co-operation. In order to realize its goals, it organizes various excursions, determination courses, lectures, meetings etc. The linking matter for the section members and the information source is the bulletin BRYONORA, issued twice a year. The Section currently joins some 100 members from both the Czech Republic and abroad.

Selected activities held by the B-L Section of the CBS:

Bryological and Lichenological Days (non-formal autumn meetings with excursions, lectures etc.)
Spring Meetings (focused at the outdoor excursions)

one-day excursions

determination courses for both beginners and advanced

Our website:

<http://botanika.bf.jcu.cz/bls/index.html> (in Czech)

<http://botanika.bf.jcu.cz/bls/english/index.html>
(English version)

Contact:

Ivana Marková – National Park Bohemian Switzerland Administrations, Pražská 52, 407 46 Krásná Lípa, Czech Republic, e-mail: i.markova (at) npcs (dot) cz; Chairperson of the B-L Section

Eva Mikulášková – Department of Botany and Zoology, Kotlářská 2, CZ-611 37 Brno, Czech Republic, e-mail: evamikul (at) gmail (dot) com; Vice-chairperson of the B-L Section

Recent event:

24th Autumn Meeting of the B-L Section, Krkonoše (Giant Mountains), September 22-25, 2011, close the town of Špindlerův mlýn (north part of the Czech Republic).

Continued: BSC 2011 Meeting (from page 14)

The local bryologist Mamtimin Sulayman (left) and two postgraduates (Qiong He and Yu-Mei Wei) in Tianshan Nature Reserve, Xinjiang.



Free IAB-membership for students

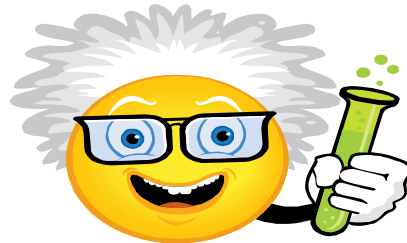
This is just a reminder that students can join the International Association of Bryologists (IAB) free for one year. Full information is on the website <http://www.bryology.org/> under the “How to Join” button. The new treasurer is Matt von Konrat. Email him at mvonkonrat@fieldmuseum.org



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!



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Check out the latest way to communicate with the plant community : My-Plant.org. This is a facebook-like social network that has been designed and implemented by the iPlant Collaboration. Signing up is FREE and connects you to people with similar plant interests because you pick the families you want to hear about.

Bryological Theses 26

by Bill Buck

William R. 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).

Čihál, Lukáš. 2010. Kritické zhodnocení výskytu epifytických mechorostů na území Hrubého Jeseníku [Data analysis of epiphytic bryophytes in Hrubý Jeseník Mts.]. Master's thesis, Ostravská Univerzita, Ostrava, Czech Republic. [vii] 47 pp. In Czech with English abstract. Address of author: unknown. E-mail: cihallukas@email.cz.

This thesis compares historical and recent records of epiphytic bryophytes within the Orthotrichaceae in the Hrubý Jeseník Mountains of northern Moravia in the Czech Republic. A field survey was conducted between 2006 and 2009 and 252 GPS-tracked localities were visited. A total of nine species of *Orthotrichum* and two of *Ulota* were recorded. Current collections were compared against historical ones. In general, ecological data from historical collections is very poor and so the data from the recent collections were analyzed.

Franková, Hana. 2010. Srovnání ekologických nároků epifytických zástupců čeledi Orthotrichaceae [Comparison of ecological requirements of the epiphytic species within Orthotrichaceae family]. Master's thesis, Univerzita Karlova, Prague, Czech Republic. 59 pp. In Czech with English abstract. Address of author: Technical University of Ostrava, 708 33 Ostrava, Czech Republic. E-mail: hanny.frankova@seznam.cz.

This thesis is part of an ongoing research project on the taxonomy, ecology and distribution of epiphytic bryophytes, especially Orthotrichaceae, based on bryofloristic records. The author analyzed interspecific differences in habitat preferences between species, in particular their associations with particular phorophytes, pH of phorophyte bark, altitude, and the position of the phorophyte. Individual species differed in their occurrence according to altitude, phorophyte and pH, although altitude was the most important parameter. All analyzed species are obligate epiphytes. Some species had a tendency to occur preferentially on the north or west side of their phorophyte, but it is not a universal tendency.

Oyesiku, Olubukunola O. 1999. The ecophysiology and biology of mosses in Upper Ogun, a savanna area of Oyo State, Nigeria. Ph.D. thesis, University of Ibadan, Ibadan, Nigeria. Xxiv + 179 pp. In English. Address of author: Department of Plant Science and Applied Zoology, Olabisi Onabanjo University, Ago-Iwoye, Ogun State, Nigeria. E-mail: busik1000@yahoo.com.

The study was conducted in southwestern Nigeria. *Bryum eatonii*, *Stereophyllum conterminum*, *Fissidens pachyloides* and *Trichosteleum papillosum* are reported new to the country and *Jonesiobryum sphaerocarpum* is new to southern Nigeria. The cyclic succession involving *Archidium acanthophyllum*, *Bryum coronatum* and *Riccia* sp. was monitored for a year on an inselberg. Soil nutrients were measured and potassium content in the *Archidium* was found to be five times higher than that of the soil. Water relations of five mosses were studied and it was found that among the species studied, *Calymperes erosum* and *Thuidium gratum* had the highest water content at field capacity. Growth rates of the *Archidium* were determined under both field and controlled conditions. The growth rate in culture (5.7 mm/mo) was higher than that found in nature (0.11 mm/mo). No spore germination in either the field or in culture was observed and a conceptual model of an asexual life cycle is proposed. A phenological study over two years showed that gametangial and sporophyte development occurred between June and December and spores were discharged from November to March in *Erythrodontium barteri*, *T. gratum* and *C. erosum*. Concentrations of Mn, Zn, Cu and Pb were compared between *E. barteri* and its host tree, *Vitex doniana*. Manganese was high in both the moss and the phorophyte; lead emissions from automobiles were accumulated by the moss.

Yoon, Young Jun. 2008. Moss flora on the mountain area of Mt. Deogyu in Korea. M.S. thesis, Chonbuk National University, Jeonju, Korea. v + 281 pp. In Korean with English abstract. Address of author: Division of Biological Sciences, Chonbuk National University, Jeonju 561-756, Korea. E-mail: liebejun@lycos.co.kr.

This master's thesis focuses on the characteristics of the moss flora of Mt. Deogyu, located on the border of Jeonbuk and Kyungnam provinces in South Korea. A total of 21 field trips resulted in 157 taxa of mosses for the mountain. *Bucklandiella laeta*, *Didymodon rigidulus*, *Anomobryum filiforme* var. *concinatum*, *Herzogiella turfacea*, *Brachythecium rutabulum*, *Eurhynchium angustirete* and *Campylidium hispidulum* are new from South Korea, previously being known from North Korea.

Bryophytes on Postage Stamps

by Tomoyuki Katagiri

Many thousands of bryophyte species have been recognized living on the earth, but unfortunately very few of them have been able to colonize postage stamps. There are a few fortunate mosses and liverworts published on philatelic substrates (Fig.1), giving these taxa a potentially unique advantage in dispersal and colonization. I am not sure if these six bryophytes are all of them, but they can each be reliably identified with scientific names. Let us share the information on bryophyte postage stamps! I would appreciate it if anyone could let me know about the existence of other bryophyte postage stamps. I thank Prof. Gradstein for suggesting for me to write about my collection, which includes the following bryophytes. Their country of origin and issue year and their local currency value are included.

Amblystegium serpens (Hedw.) Schimp.
[Liechtenstein 1981, 80 centimes]

Sphagnum palustre L. [Liechtenstein 1981, 70 centimes]

Mnium punctatum Hedw. [Switzerland 1993, 100+50 centimes]

Dicranum scoparium Hedw. [Saint-Pierre et Miquelon 1995, 3.70 francs]

Polytrichum juniperinum Hedw. [Saint-Pierre et Miquelon 1996, 3.70 francs]

Marchantia polymorpha L. [The United Nations Postal Administration (New York) 2010, 1.50 dollars].

The illustration was taken from “Tafel 82: Marchantia” of Ernst Haeckel’s “Kunstformen der Natur” (= Art forms of Nature).

Tomoyuki Katagiri, is a PhD student of Hiroshima University



Figure 1: Bryophytes on postage stamps. bar = 1 cm.

Continued: Sjörs memorial (page 4)

piece of paper and then they started a kind of air circus over a railway station until the station attendant came out to see what it was all about. Then the message was dropped. I managed but Hugo had to pay 10 crowns to the airbase for cleaning up in the aeroplane. This was my first experience of flying.

Muddus is a vast wetland area. Hugo was a tough hiker and wanted to walk straight over the mires in order to find out what was growing there. Sometimes we got stuck and had to build primitive bridges out of small half dead pines in order to advance. Food was rationed and we lost our bacon because it was not salted enough for the summer heat. We tried three different types of oil against the mosquitoes before we found out that a new American kind, called jungle oil, was the only one that worked. When we fried pancakes over our campfire, they became covered with singed insects, which added to the nutritional value, we thought.

We were joined by Edward von Krusenstjerna for a few days on higher ground. He was working from Porjus on an investigation of the bryophyte vegetation around the waterfall Harsprånget before the building of a new dam with a hydroelectric power plant.

We rounded off the excursions in 1947 with a touristier trip up the source lakes of the river Lule Älv. A small boat in regular summer traffic took us from Luspebryggan to Saltoluokta. After two nights in the tourist hotel and one day in the field, we continued to Akka and

Ritsemjokk via the then intact waterfall Stora Sjöfallet, where we changed to a smaller boat. On the return journey we put our rather heavy packs on the trolley on rail, which served the bypass at Stora Sjöfallet. We were surprised by a very heavy rainstorm and became wet through and had to spend the night on the train to Stockholm dressed in pyjamas and rain clothes.

Hugo Sjörs has published a report in Swedish on the vascular plant flora of Muddus (Sjörs 1997)

Hugo Sjörs has, over the years, collected a large number of bryophytes in Muddus, especially in the wetlands. He has determined all the *Sphagna* but not much more. In 1995 he contacted me and asked if I could help him with the determination of this very rich material. As I had access to a place at Riksmuseet as a guest researcher I was in a position to accept his offer of cooperation. Another deciding factor was that I could solicit assistance from Thor-Björn Engelman and Lars Hedenäs.

It has taken a long time to complete this work. Most of the samples were "ecological" in the sense that they were collected with the purpose of recording all the bryophytes in a particular ecological niche. Our result was first published in Swedish (Sjörs & Een 1999) and somewhat later in English (Sjörs & Een 2000)

The third time Hugo and I took to the field together was in 1965. Hugo had the task of studying the flora and vegetation around the river Vapstälven that

flows towards Norway - where there were plans for building a dam. Vapstälven is situated in Åsele Lappmark and Lycksele Lappmark in northern Sweden. I collected bryophytes mainly in those parts of the area, which would be affected by the dam. I made a summary for Hugo's report but this was not published until much later (Een 1994). The remaining samples, from drier areas, I identified many years later. All data from the 1965 fieldwork have now been recorded in the herbarium S database.

Gillis Een

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Sjörs, Hugo & Een, Gillis 2000: Wetland bryophytes in Muddus National Park, North Sweden. – *Journal of Bryology* 22: 223-236.

A celebration of a decade of studying and teaching of Malesian bryophytes and lichens at SEAMEO-BIOTROP in Indonesia

In 2001, SEAMEO-BIOTROP in Bogor, Indonesia, the regional head office of the Ministries of Education of ASEAN countries, undertook a pioneering effort to conduct a 10-day workshop aiming to impart the knowledge of two lesser known groups of plants, namely bryophytes and lichens, to students, professionals and government officials in SE Asian countries.

Twelve participants from five ASEAN countries came for the first workshop held from September 25 to October 4 of 2001. The first workshop, which included a field trip and project works, was handled and taught by the three of us, plus Dr. H. Sipman from the Botanical Garden and Museum of Berlin-Dahlem, and Dr. Haji Mohamed from the University of Malaya in Kuala Lumpur. The coverage of topics included taxonomy, ecology, economic importance and conservation of the biodiversity of bryophytes and lichens in Malesia. Additional topics, such as Malesian biogeography vis-à-vis the Wallace's Line and the various categories of species endangerment of IUCN, were also introduced. A detailed report of this workshop appeared in *The Bryological Times* 105: 4-5, 2002.

Since, a decade has passed. Due to the relevance of the pro-

gramme and the growing regional need for specialists trained to



Figure 1: Participants and lecturers of the 6th BIOTROP workshop on Malesian bryophytes and lichens held from July 11-19, 2001, in Bogor of Indonesia.

recognize and manage bryophytes and lichens in nature, the BIOTROP workshops, with the same topic content and similar format, have been biennially offered in 2003, 2005, 2007, 2009 (see *The Bryological Times* 111: 3-4, 2003, etc.). Over the period, all six workshops were taught by S.R. Gradstein, three by B.C. Tan, H. Sipman and Dr. W. Saipunkaew from Chiang Mai University in Thailand, and one or two by a variety of teachers invited locally and from overseas, including T. Hallingbäck (Sweden), H. van Melick (The Netherlands), A. Newton (U.K.), and M. Suleiman and Yong K.-T. (Malaysia).

This year BIOTROP offered its 6th (and probably last) workshop in Bogor from July 11-19, 2011. A total of 19 participants consisting of university lecturers,

post-graduate students, park administrators, and government officers in charge of plant protection, from six ASEAN countries, namely Indonesia (11 participants), Malaysia (2), the Philippines (2), Thailand (1), East Timor (1) and Vietnam (2), attended the workshop.

The 6th BIOTROP workshop started with two whole days of lectures and practicals on the biology and classification of bryophytes and lichens conducted in the classroom, followed by a two-days field trip to Mt. Halimum-Salak National Park and Nirmala Tea Plantation in West Java. The workshop closed with three days of intensive identification works done in the laboratory, plus an afternoon of group reporting on the results of mini research projects, either on mosses, liverworts, hornworts, or on lichens by the participants. The three main lecturers at the workshop this year were S.R. Gradstein, B.C. Tan and W. Saipunkaew. Additional invited lecturers were Dr. Harry Wiriadinata from Herbarium Bogoriense, and Dr. Nunik S. Ariyanti and Dr. Lisdar Sudirman from Bogor Agricultural University (IPB). The senior researcher and supporting staff of BIOTROP, namely, Dr. Sri S. Tjitrosoedirdjo, Mr. Imam Mawardi, Mr. Setiabudi, Ms. Sri Widayanti and Ms. Indah Wahyuni, contributed to the successful holding of this training workshop.

Continued: SEAMEO (from page 20)

A one-day special symposium with the theme “A Decade of Study of Bryophytes and Lichens at SEAMEO-BIOTROP” was organized on July 18, the day after the conclusion of the 6th workshop. The symposium was attended by 50 participants from 9 countries. The attendees were mostly graduates of the six workshops; many of them are today professional bryologists or lichenologists residing and working in various SE Asian countries.

The one-day special symposium aimed to review the impact of the BIOTROP training programme in building the interest and capacities of young researchers in the Southeast Asian region to study Malesian bryophytes and lichens. It also served as a fitting occasion to express appreciation to Dr. S. S. Tjitrosoedirdjo at the BIOTROP headquarter for her untiring work and persistent effort spent in organizing and coordinating the six regional training workshops from 2001 to 2011.

The special symposium featured 3 poster presentations and 15 paper presentations delivered by invited guest and lecturers and alumni/alumnae of BIOTROP workshops. The invited guest, Prof. Erik Smets from the Netherlands Center for Biodiversity Naturalis & Leiden University in Netherlands, gave his special lecture on “Plant Systematics: Past and Future Perspectives”, while

Prof. S.R. Gradstein (Paris) gave the plenary talk on “What do we know about the Liverworts and Hornworts of Java?” Other presentations included the “Lichens.” Participants at the



Figure 2: Participants at the one day symposium held on July 18, 2011 at Bogor of Indonesia.

one day symposium on “A Decade of Study of Bryophytes and Lichens at SEAMEO-BIOTROP” held on July 18, 2011 at Bogor of Indonesia. Indicators for Environmental Quality Monitoring in Northern Thailand” by W. Saipunkaew (Thailand), “How is Moss Biodiversity affected by the Climate Changes?” by B.C. Tan (Singapore/USA), “Moss Flora of Borneo: A Review from 1966-2011” by M. Suleiman (Malaysia), “Testing Correlation of selected Morphologies with Epiphytism in the Moss Family Daltoniaceae (Hookeriales)” by Ho B.-C. (Singapore), “Moss Diversity in the Endau-Rompin, a Lowland Forest of Peninsular Malaysia”

by Yong K.-T. (Malaysia), “Bryophytes Diversity at Gunung Mas and Nirmala Tea Plantation, West Java, Indonesia” by Hilda Akmal et al. (Indonesia), “Taxonomy of Lejeuneaceae sub-family Ptychanthoideae in Thailand” by S. Kornochalert et al. (Thailand), “Taxonomic Revision of Fissidens Hedw. in Thailand” by K. Wongkuna (Thailand), “Antibacterial Activity of Aqueous, Methanol and Diethyl Ether Extracts of 5 selected Bryophyte Species” by Luong T. T. (Vietnam), “Species Richness, Distribution and Status

of Mosses in selected Mountains in Mindanao, The Philippines” by L.C. Lubos (Philippines), “New Records of Sumatran Moss Flora with a Focus on Fissidentaceae” by Nana Hernawati et al. (Indonesia), “Diversity of Epiphytic Macrolichens on Bark of Eucalyptus, Pinus and Altingia at Cibodas Botanical Garden, West Java, Indonesia” by Rindita (Indonesia), and “Beauty of Mosses, from the Eyes of Aesthete” by Ng Y.-M. (Singapore).

The following day (July 19) saw all symposium participants taken for an enjoyable day trip to see an outdoor bryophyte garden (see Damayanti & Gradstein, 2006) at the famous Cibodas Botanic Gardens, and to conduct a foray of bryophytes and lichens at Mount

Continued: SAMEO (from page 21)

Gede-Pangerango National Park. It was a perfect sunny day of exchange of pleasantries and updates, and renewal of camaraderie among past and current workshop participants and lecturers. The feeling of seeing a growing, active community of bryologists and lichenologists from SE Asia laughing together, albeit still small in number, is heart warming and encouraging.

Thus, came the end of a long decade of support of SEAMEO-BIOTROP given to a unique workshop in the world - teaching the Malesian bryophytes and lichens to young botanists in the region. Due to a shortage of funds and office manpower, BIOTROP has decided to give up its privilege to continue to host the workshop in Bogor in the years to come. **Instead, BIOTROP is looking for a local organization or a university in the region to jointly co-host and organize the future workshops.**

Looking back, the 10 years of BIOTROP-sponsored workshop programme has produced a very positive and impressive impact on the advancement of bryology and lichenology in SE Asia through the development of manpower. It also contributed in terms of scientific publications and local guidebooks written

about the diversity of bryophytes and lichens for a number of local national parks and forest reserves across the region.

Overall, in its 10 years of existence, the six workshops of BIOTROP have trained a hundred participants from 9 ASEAN

workshop lecturers and participants (see Appendix 1) for use at the workshops.

In addition, an internet discussion group (malesian_bryophyte@yahoo.com) was established as a forum for the BIOTROP workshop

members and other workers on Malesian bryophytes and lichens, to exchange information on research findings, expedition news and recent bryological and lichenological publications. No doubt, the BIOTROP workshop and programme on Malesian bryophytes and lichens is a big success and has greatly enlivened the present day scenario of bryological and lichenological study and investigation in the region.

The past and present administrations of the principal organization, SEAMEO-BIOTROP, deserve a high applause from the community of bryologists and lichenologists worldwide for this outstanding and concrete accomplishment achieved in hosting a unique workshop cum training programme for six times in a decade. Similarly, all foreign and local funding agencies and offices that had provided financial supports to the holding of the six BIOTROP workshops deserve equally our deep appreciation.

Appendix 1. List of publications prepared for and used by the BIOTROP workshop participants and teachers from 2001-2011.

Table 1. Number of participants and their country of origin

	Brunei	Kamp.	Indon	Mal.	Phil.	Sing.	Thai.	Timor Leste	Viet.	Total
2001	-	-	7	1	1	2	1	-	-	12
2003	-	-	9	1	1	2	2	-	1	16
2005	-	-	13	2	1	2	2	-	-	20
2007	-	-	10	2	-	2	-	-	-	14
2009	1	1	6	3	1	3	2	-	2	19
2010	-	-	11	2	2	-	1	1	2	19
Total	1	1	56	11	6	11	8	1	5	100

countries (see Table 1). Among the workshop participants, twelve have pursued their study interest and obtained a PhD degree in Bryology, and five an MSc degree. Another interesting fact that emerges is that some of the participants of the 6th workshop are themselves students of workshop alumni trained during the 1st workshop.

Three scientific articles, based on the workshop research outputs, have been published in international scientific journals. Likewise, five popular guidebooks written in English and Indonesian Bahasa languages, with identification keys to local species and color pictures of indigenous bryophytes and lichens, have been produced by

Renovation of the Cryptogamic herbarium building in Geneva

by Michelle Price

The Console, situated in the Botanical Garden on the lake-front in Geneva, was built in 1904 specifically to house the newly relocated herbarium collection, botanical library and staff. It was enlarged in 1911-1912 and again in 1923-1924. In 1929 it was already becoming too small for the growing collections and some restructuring of the interior was necessary to create further space for the specimens. In 1973 two buildings (Bot. II and Bot. III) built within the grounds of the Botanical Garden were inaugurated. Two-thirds of the herbarium collections from the Console and the non-cryptogamic library holdings were transferred to these new facilities leaving the Cryptogamic library and Cryptogamic collections (algae, ferns, fungi, hornworts, lichens, liverworts, mosses) as well as the gymnosperms and collections related to the Flora of Corsica project in the Console. The Cryptogamic collection, with over 1 million specimens has now over-reached the maximum capacity of the Console.

Given its age, the Console building has been subject to several evaluations which all showed the necessity of a full renovation. After the completion of new herbarium building, Bot. V, in 2012 the Console will be entirely renovated in 2012-2013. The newly constructed Bot. V will provide 18 km of additional herbarium space for the vascular plant collection on three underground floors.

All the collections currently housed in the Console will be moved to the new herbarium space in Bot. V, upon its completion. The collections will then remain in Bot. V. until the new herbarium facilities are ready whereupon the Cryptogamic collections will be transferred to their new locations in the renovated Console



building. The staff currently located in the Console will be housed in temporary structures within the Botanical Garden grounds during the renovation. The building itself needs to be completely emptied prior to the renovation work which is a huge task in itself. In the renovated Console building the entire ground floor will be dedicated to the collections, which will be housed in specially designed metal compactus units. The first floor will house the Cryptogamic library, the molecular laboratory, and the seminar room whereas the two upper floors will house the herbarium and scientific staff.

Work is currently underway in the Cryptogamic department of G to prepare for the upcoming renovation. The specimens are being placed into specially designed boxes in advance of the move and plans for the systematic numbering and transfer of the collections are being made. The type specimens are being prepared in advance to ensure the continuation of the type databasing and digitizing projects and requests for outstanding loans are being made so that the material can be incorporated into the herbarium before the move itself. This will ensure that the collections are given the correct amount of space in their temporary and future locations.

Excepting a small period of time that will be needed for the transfer of the collections between the two buildings in early 2012 and again in late 2013, the Cryptogamic herbarium will remain open during the renovation work for loans and visits. We hope to be able to welcome you to the Cryptogamic herbarium in our newly renovated building from 2014 onwards. In the meantime we ask you to be patient with us as we undertake this mammoth task and as we settle into our new, but temporary, facilities and accommodation in 2012.

News from the Conservatoire et Jardin botaniques (G), Geneva, Switzerland

by Michelle Price

Bryology at the Conservatoire et Jardin botaniques de la Ville de Genève (CJBG) has grown over the last ten years to encompass a small but active group of bryologists and students. Our activities, centered around the bryophyte herbarium collection in G, cover bryophyte taxonomy, systematics and floristics as well as type specimen digitization and cataloguing. Specific areas of research at the CJBG are the Dicranaceae-Dicranales, the Grimmiaceae, the Jungermanniaceae, Neotropical mosses, the Swiss bryophyte flora and the Geneva bryophyte flora.

Michelle Price is curator of bryophytes, ferns and gymnosperms in G. Since arriving in Geneva in October of 2001, Michelle has focused on cataloguing and digitizing the types in the rich bryophyte collection in G and especially on the important Hedwig-Schwägrichen moss collection (see below). Michelle is interested in the Dicranaceae-Dicranales and is currently conducting research on *Dicranum* (typifications, taxonomic revisions, peristome structure, morphological-anatomical characters, population genetics), *Symblepharis* (taxonomic revision, peristome structure) and *Holomitrium* (taxonomic revision, peristome structure, character evolution) as well on floristics of the Dicranaceae in Switzerland and the Neotropics. In collaboration with Eva Maier she is working on peristome anatomy in the Dicranaceae-Dicranales and Grimmiaceae. Michelle is collaborating with Len Ellis from the Natural History Museum, London, on the typification of the *Hedwigian acrocarpous* moss names, involving collections from the Hedwig-Schwägrichen herbarium (G) and the herbaria of Dickson and Turner (BM). They are also collaborating on the digital imaging of microscopic preparations of type specimens in the moss families Calymperaceae and Dicranaceae. Work on the population genetics of *Dicranum scoparium*, *D. bonjeanii* and *D. polysetum* at different scales within Switzerland and Europe is currently being carried out at the CJBG, in collaboration with the CJBG research officer and population geneticist Yamama Naciri. New chloroplast primers for investigating intra-specific variability in *Dicranum scoparium* were recently developed at the CJBG, in collaboration with Annick Lang (currently in Leiden). Michelle is a

member of the National Inventory of Swiss Bryophytes (NISM) committee and the Swiss Bryophyte Flora Group (Heike Hofmann (coordinator), Norbert Schnyder, Edi Urmi, Ariane Cailliau, Michelle Price).

Eva Maier, a research associate of the CJBG, is an expert on *Grimmia* (Grimmiaceae) and has just published a taxonomic revision of the genus treating and illustrating the 52 species recognized in it (Boissiera vol. 63). Eva is currently working on a treatment of *Grimmia* from South Africa in collaboration with Terry Hedderson of the University of Cape Town. She also contributes to the CJBG based research on *Dicranum* and the Dicranaceae-Dicranales. Eva is particularly interested in the peristomes of mosses and has recently focused her research activities on investigating peristome anatomy within the Grimmiaceae and Dicranaceae-Dicranales.

Ariane Cailliau, a PhD student and former scientific collaborator on the Geneva Bryophyte Inventory project, is currently working on a systematic revision, of *Leiocolea* (Jungermanniaceae), including a molecular phylogenetic investigation of its systematic position. Ariane has done her molecular work, via a Synthesys grant, at the Royal Botanic Garden of Edinburgh in collaboration with Dr. David Long and at the CJBG in collaboration with Yamama Naciri and Mathieu Perret. With an Augustin Lombard grant from the Société de Physique et d'Histoire Naturelle de Genève (SPHN) and support from the Abisko Scientific Research Station (ANS) of the Royal Swedish Academy of Sciences, Ariane conducted field work in the Sweden, where she was helped by Tomas Hallingbäck and Niklas Lönnell. Ariane is also interested in the Swiss bryophyte flora. She worked on the liverworts for the Geneva Bryophyte Inventory project and is currently an active member of the Swiss Bryophyte Flora Group.

Gabriela Loza Steinbach, a Masters student at the University of Geneva and the CJBG, is currently working on a taxonomic revision of *Symblepharis* (Rhabdoweisiaceae) from the Neotropics. With an Augustin Lombard grant from the Société de Physique et

Continued: Geneva

d'Histoire Naturelle de Geneve (SPHN) Gabriela recently did some field work on *Symblepharis* in Bolivia where she was helped by Monica Morales, Rosa Isela Meneses and Claudia Aldana from La Paz (LPB) and Ivan Linneo from Santa Cruz (USZ). She is interested in Neotropical bryophytes and completed a review of páramo bryophytes in South America as part of her undergraduate studies. Gabriela is currently preparing an article on high-altitude Dicranaceae from Ecuador with Michelle Price.

Hélène Hinden, a scientific collaborator at the CJBG, is working on the Andrew W. Mellon Foundation funded Global Plants Initiative project in G. Hélène has been responsible for scanning and databasing the liverwort types as well

as for the merging of the Index Hepaticarum Names Database with the CJBG's own database system. Hélène is interested in the Swiss and Geneva bryophyte floras. She has recently completed a number of studies and inventories within the canton in collaboration with the Geneva Department of Conservation. Hélène is currently working on an inventory of the bryophytes living on walls within the canton and this research will contribute to the Checklist and Redlist of Bryophytes for Geneva.

Karen Martinez, a scientific collaborator at the CJBG, is working on the Andrew W. Mellon Foundation funded Global Plants Initiative project in G. Karen has been responsible for scanning and databasing the liverwort types as well as for the preparation of a database of moss names for transfer to the CJBG database to facilitate the databasing of the G moss type specimens. Karen is interested in the conservation and in vitro culture of mosses. After completing her Masters project on the in vitro culture of rare Swiss mosses in 2010 she has continued her research activi-

ties in this area. She continues her work on *Tayloria rudolphiana* and is now also studying several members of the Dicranaceae in the CJBG micro-propagation lab.

Laurent Burgisser, a research collaborator at the CJBG, worked on the Geneva Bryophyte Inventory project. He is currently compiling the Checklist and Redlist of bryophytes for the canton of Geneva in collaboration with the Geneva Department of Conservation. He is an expert on the local bryophyte flora and works in close collaboration with local Conservation organizations on bryophytes within the canton.



Agathe Gautschi, the new bryophyte herbarium assistant in G, is currently working on a catalogue of the bryophytes held in the G herbarium collection. She is responsible for the daily running of the herbarium, the filing and organization of the specimens, the preparation of material for bryophyte loans and the preparation of type material for the bryophyte types scanning project.

Previous collaborators

Anne Jacob-Streiff, currently a scientific collaborator at the Swiss Academy of Sciences in Bern, did her PhD research on *Grimmia* at the University of Lausanne (Nicole Galland) and the CJBG (Michelle Price). Anne investigated the phylogeny of *Grimmia* using molecular and morphological characters. Between 2000 and 2002, and again in 2003 to 2005 Anne worked as scientific collaborator on the Index Hepaticarum project at the CJBG where she was responsible for completing and correcting data for the names A-Jubula.

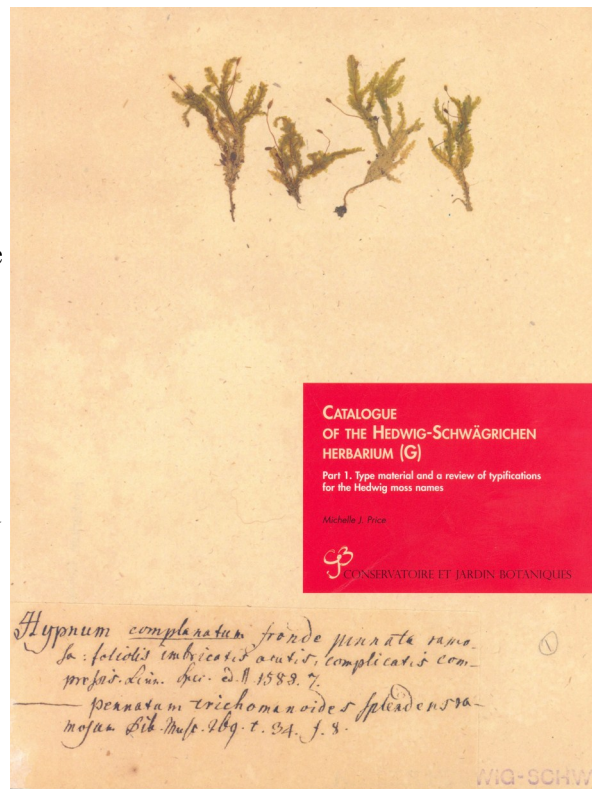
Continued: Geneva

Annick Lang, currently a PhD student in Leiden, worked as a scientific collaborator on the GBIF.ch and Andrew W. Mellon foundation projects in G. She was responsible for databasing and scanning the Franz Stephani type material. Annick also helped to create the G bryophyte and lichen digital scanning protocol. She also worked in the molecular laboratory of the CJBG on *Dicranum scoparium* where she studied the infra-specific variability in this species. Annick is now working with Michael Stech from the Netherlands Centre for Biodiversity Naturalis (section NHN), Leiden University, on the phylogeography of *Dicranum scoparium* and its close allies.

Databases and Catalogues

G contains the Hedwig-Schwägrichen moss collection that is linked to the publication *Species muscorum frondosorum* and the Franz Stephani liverwort collection that is linked to Stephani's *Species Hepaticarum*. These two collections have been the focus of an initiative to promote access to the G bryophyte type collections through cataloguing and digitization. The first part of the Hedwig-Schwägrichen catalogue was published (Boissiera vol 61) and put on-line in 2005. The second part, dealing with the Schwägrichen collection, has now been compiled by Michelle Price and Eva Maier for upcoming publication. The Andrew W. Mellon Foundation, through the African Plants Initiative, Latin American Plants Initiative and Global Plants Initiative, has funded an ongoing project in G, to digitize all the bryophyte type collections (Hélène Hinden, Karen Martinez, Annick Lang, Michèle Gendre, Sophie Machado). GBIF.ch funding in 2007 allowed us to advance our work on the Franz

Stephani collection with 3773 Stephani types digitized in that year by Annick Lang. The liverwort types are now almost fully digitized (excluding the material that is out on loan), with over 9000 liverwort type specimens now known to be present in the bryophyte collection of G. This year sees the beginning of work on the moss types which will take until the end of 2014 to complete. Images of the G liverwort types are available through the G Catalogue des Herbiers de Genève (CHG) (<http://www.ville-ge.ch/musinfo/bd/cjb/chg/index.php?lang=fr>) and on JSTOR.



Work on the G based project *Index Hepaticarum* continues. Over the last few years we have focused on correcting and standardizing the electronic information that was available for the project (Michelle Price, Anne Streiff, Hélène Hinden). The project database was made available online in 2009. The next step will be the digitization of the originals of Stephani's *Icones Hepaticarum* which are held in the archive collection of the CJBG. In the future the liverwort names in the *Index Hepaticarum* Names Database will be linked with the scanned G liverwort types and the digitized *Icones Hepaticarum* images thus facilitating access to the invaluable *Icones Hepaticarum* drawings. A re-designed and updated

version of our *Index Hepaticarum* Names Database will be available in 2012.

Two online databases for bryophytes are available on the CJBG website:

Hedwig Types Catalogue: <http://www.ville-ge.ch/musinfo/bd/cjb/hedwig/>

Index Hepaticarum Names Database (1 May 1753-31 December 1973): <http://www.ville-ge.ch/musinfo/bd/cjb/hepatic/>

Monster Feet?

By DorothyBelle Poli

The following picture was taken on the property of the Humboldt Field Research Institute in Steuben Maine (USA). August 2011 I was taking a class at the field station when I stumbled upon this interesting site...what looks like green monster feet was actually a tree root covered in



several different bryophyte communities. The whimsy that nature can present is beautiful and inspiring. I do hope this image makes you look for monsters during your own travels! If you find some, please share your pictures!!

Continued: Book Review (from page 5)

Almost half (I calculated 33) of the articles deal with the Neotropics. This is understandable in the light of the map on p. 52, which displays the distribution of intensively studied sites with an established body of tropical montane cloud forest research. Fourteen localities are indicated, of which eight are in the Neotropics, and just two in Africa (Mt. Cameroon, Mt. Rwenzori) and three in Asia (Krakatau, Gunung Silam in Borneo, Yuanyang Lake in Taiwan). The remaining one is

East Maui in Hawaii. This means that e.g. Madagascar, Sri Lanka, Sumatra and Papua New Guinea and more generally the Old World tropics have not been and are not being intensively studied.

What a book, a treasure indeed! It makes great and thought-evoking reading for everyone whose research has something to do with montane cloud forests and their (so far) amazing biological richness.

SPACE FOR HIRE

Don't let this space be ignored! Drop us a note and let us know what your part of the world is doing. ALL things bryological are wanted. Keep us posted on your latest grants, projects, or who is in your lab. Send us the latest news from your local societies. Announce a website or a



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new book. Send us a review of a new book.

In other words...let us know about anything that is exciting to you (about bryophytes, of course) because we want to know about it.

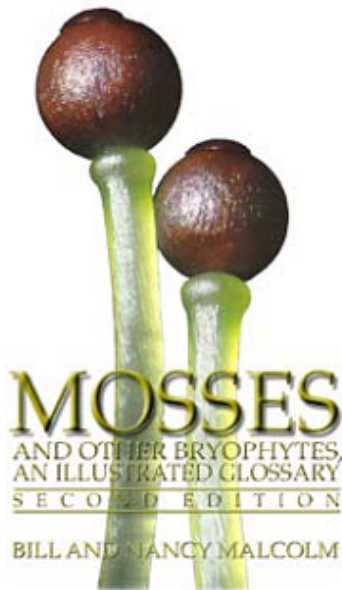
SPACE FOR H

Got an idea for *The Bryological Times*? Email DorothyBelle to see what she says...your editor loves having submissions from all of you. Contact her at poli@roanoke.edu today!

FREE SPACE WANTS YOUR BRYOLOGY INFORMATION!

CHANGE OF DISTRIBUTOR

Southern Hemisphere sales of *California Mosses* and the illustrated glossary *Mosses and Other Bryophytes* are now being handled by the publisher (www.micro-opticspress.com), but only if you can pay by cheque in New Zealand or Australian dollars. If you prefer instead to pay by credit card, you can buy the books from the California Native Plant Society's on-line store at cnps.org/store.php



Mosses and Other Bryophytes is an illustrated glossary of terms that are used to describe mosses, liverworts, and hornworts. Written in informal prose, it's intended to be an everyday reference for not only bryology and botany students, but also gardeners and anybody who's interested in plants. 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 with a flatbed scanner.

TITLE: *Mosses and Other Bryophytes, an Illustrated Glossary, second edition*

AUTHORS: Bill and Nancy Malcolm

ISBN: 0958222479

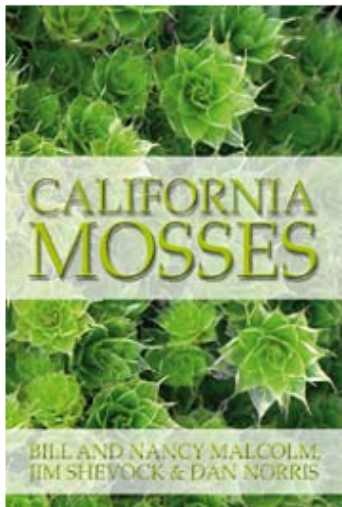
SPECS: 340 pages, 150 x 220 mm, hard-cover

PUBLISHER: Micro-Optics Press

DATE: 2006

PRICE: NZD100 (includes shipping inside New Zealand and 15% GST)

PRICE: AUD80 (includes air-mail shipping to Australia)



California Mosses was written to encourage both amateur and professional botanists to take up an interest in California's mosses. With 2,200 color photographs and 1,100 black-and-white diagrams, it illustrates all of the state's 176 genera and all but five of the 600+ species, about half of them with full-color plates. Rather than rely on keys to identify species, it uses pictures—close-up photographs, microscope views, and leaf outlines.

TITLE: *California Mosses*

AUTHORS: Bill and Nancy Malcolm, Jim Shevock, and Dan Norris

ISBN: 0958222452

SPECS: 430 pages, 150 x 220 mm, hard-cover

PUBLISHER: Micro-Optics Press

DATE: 2009

PRICE: NZD100 (includes shipping inside New Zealand and 15% GST)

PRICE: AUD80 (includes air-mail shipping to Australia)

Continued: SEAMEO (from page 22)

Damayanti, L. 2006. Koleksin Bryophyta Taman Lumut Kebun Raya Cibodas. Java, Indonesia, 81 pp. (Indonesian language)

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Gradstein, S.R. 2011. A Guide to the Liverworts and Hornworts of Java. SEAMEO-BIOTROP Scientific Publications, Bogor, 150 pp.

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Hasan, M., Ariyanti N.S. 2004. Mengenal (Bryophyta) Lumut di Taman Nasional Gunung Gede Pangrango, Java, Indonesia, 93 pp. (Indonesian language)

Iskandar, E.A.P. 2008. The Liverworts of Mt. Tangkuban Paerahu, West Java. LIPI Press, 76 pp. (Indonesian language)

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Tan, B.C. & B.-C. Ho. 2008. A Guide

to the Mosses of Singapore. Science Centre, Singapore, 149 pp.

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³ SEAMEO BIOTROP, Jl. Raya Tajur km 6, Bogor, Indonesia



Figure 3: Prof. S.R. Gradstein giving his plenary talk at the special one day symposium held on July 18, 2011 in Bogor of Indonesia.

Reported by Benito C. Tan ¹, S. Robbert Gradstein ² and Sri. S. Tjitrosoedirdjo ³

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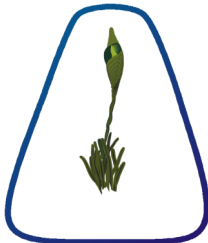
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The International Association of Bryologists (IAB) is an organization open for all interested in bryophytes. For membership contact Matt von Konrat at mvonkon-

rat@fieldmuseum.org. Visit the IAB website: <http://bryology.org> for further information or to pay using PayPal.

The Bryological Times was founded in 1980 by S. W. Greene (1928-1989) as a newsletter published for the IAB. Items for publication in The Bryological Times are to be sent to the Editors, Regional Editors, or to the Column Editors. The newsletter is issued 3 to 4 times per year.

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