

# The Bryological Times

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Newsletter of the International Association of Bryologists

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Dear Bryologists,

This newsletter kicks off with an update about the next IAB World Congress in South Africa. The Conference will also be the time we will to present the new IAB-council. Lars Soderstrom coordinated the call for new council candidates, which present themselves in this newsletter. Rod Seppelt will soon send the election ballot-forms to all IAB-members (either by email or by regular mail to those that receive the newsletter to the post). The ballots should be returned by the 1<sup>st</sup> of June

Secondly, I am very pleased that Dr. DorothyBelle Poli has volunteered to be the new co-editor of the *Bryological Times* and will collaborate with me during the next months to take on the task of editor next year.

Geert Raeymaekers

IAB



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

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## IAB NEWS

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### The IAB World Congress 2009 in South Africa: an update

Welcome to Cape Town, South Africa, located in the Western Cape Province. This land is full of things to do and see: beaches, aquariums, botanical gardens, wine country, and national parks. Tucked away amongst picturesque mountains in the Breede River Valley lays Goudini Spa; this Spa is one of the most sought-after conference destinations in the Western Cape. It is also the home of the 2009 IAB Congress which is sponsored by IAB, University of Cape Town, and the National Research Foundation! August 16-21, 2009, bryologists from around the world will discuss sessions about African bryology, bryophyte biology, conservation biology, evolutionary community ecology, phylogeny and systematic, and phylogeography and biogeography. Our scientists will be inspired by a part of the world that remains beautiful and untouched – perfect for our nature lovers.

At this time the general call for online abstracts opened February 15 and will close on June 30, 2009. Pre-registration has opened and is looking for people to participate as a contributed paper, symposium presentation, or a contributed poster. Cost of registration is 1100 ZAR (approximately \$105 USD) and will include Conference facilities, refreshments, lunch, transport from the airport to the Goudini Spa, and access to all spa facilities.

Accommodations at the Goudini Spa come in several forms from the inexpensive to the lavish. Rondavels accommodate 2-4 people and are the most cost effective. Boland houses are the mid-cost option while the Slanghoek villas are fit for the diplomat and guests. Goudini Spa maintains a roommate matching service that will be available on the main conference website soon. All accommodations are within a 15 minute walk to the Conference Center which is located in the center of the Slanghoek villas. All units allow cooking and the supermarket is within a 15 minute drive. Unfortunately, there is an inefficient public transport system so if you would like to travel on your own, you will need to find alternative arrangements but taxis and car rental are options.

A workshop on taxonomy and identification of African bryophytes is in the planning stages; if you are interested in this please make sure to check the appropriate box during your registration process. Three IAB post-conference field trips are available this year. Great diversity exists from bryophytes to angiosperms and each trip will provide at least three of the major habitat types. Space is limited, so sign up early!

1. **Southern Cape Forests, Little Karoo and South Coast Renosterveld.** This excursion will take participants to the Knysna region via the Worcester-Robertson karoo and Swellendam, returning through Oudtshoorn and the Little Karoo. Whilst the emphasis is on exploring the extensive forests of the southern Cape, there will be opportunities en route to visit representative patches of the now highly fragmented south coast renosterveld, and to examine karoo habitats. Oenological diversions are an option. Proposed Dates: 22-27 August

2. **Ceres Karoo, Great Escarpment and Roggeveld.** The primary focus of this trip will be the very rich ephemeral flora of the Ceres Karoo, where there can be more than 30 species in 50 cm<sup>2</sup>. In addition there will be an opportunity to examine the still fairly unexplored escarpment region, as well as Roggeveld habitats in the vicinity of Sutherland. Potential participants should be aware that Sutherland, at ca. 1500 m, is one of the coldest places in South Africa, and in winter the temperatures often drop to well below freezing at night (-10 °C). However, the interesting flora en route and in the vicinity should make up for the discomfort. There is also the possibility to visit the South African Large Telescope (SALT) if sufficient participants are interested. Proposed Dates 22-26 August

3. **The Cederberg and Namaqualand.** This route will take participants from Capetown via the Cederberg Mountains and into Namaqualand - internationally renowned for its spring wildflower displays. The trip will provide opportunities to explore renosterveld, mountain fynbos, and succulent karoo habitats, including a stop in the Knersvlakte and at Nieuwoudtville, a local centre of floristic endemism particularly well-known for its geophyte flora. Proposed dates 22-27 August

In addition to the contributed papers/posters, we are proposing to have three sessions of invited papers, one on each of the following topics (tentative/possible session leaders in parentheses):

1. African Bryology (Bob Magill, Bryan O'Shea)
2. Intraspecific gene phylogeny, species history and the species problem (Jon Shaw/Brent Mishler)
3. Conservation Biology (Lars Soderstrom)

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We envision each session comprising of 4-5 paper, each at a 1/2 hour, with the session leaders responsible for inviting the speakers.

We would appreciate your opinion on these topics as appropriate invited sessions, with additional ideas if any of these are not suitable.

For further information or to register please visit the conference website at:

<http://www.iab2009.uct.ac.za/index.php>.

If you are looking for that personal touch, contact Prof. Terry Hedderson ([thedders@egs.uct.ac.za](mailto:thedders@egs.uct.ac.za)) or Dr. Claudine Ah-Peng ([IAB2009@uct.ac.za](mailto:IAB2009@uct.ac.za)) today!

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## DorothyBelle Poli, co-editor of the Bryological Times



DorothyBelle (DB) Poli is an Assistant Professor of Biology at Roanoke College in Salem Virginia. DB enjoys teaching classes on plant biology, cell biology, and evolution to her liberal arts students. She has an active undergraduate research program that studies the evolution of polar auxin transport in plants; of course, her favorites are those spectacular bryophytes. Working with Geert Raeymaekers, DB will be co-editing the Bryological Times.

### Dr. DorothyBelle Poli

Assistant Professor  
Department: Biology  
Office: 406F Life Science  
Phone: 375-2461  
[poli@roanoke.edu](mailto:poli@roanoke.edu)

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## Candidates for the IAB Council

### Candidates for President of the IAB

#### Jeffrey G. Duckett Professor



Queen Mary  
University of London,  
UK

As Professor of Botany at Queen Mary University of London for 30 years, I have been a member of IAB since its foundation, regularly contributed presentations at its biennial meetings,

variously served on committees and greatly enjoyed

the fellowship and friendship of bryologists worldwide particularly on field excursions. Over the last 40 years of my (immodestly) distinguished career I have contributed 200 publications, which have led to my receiving 3 international awards for my outstanding research:

In 2008 I was the recipient of the Linnean Society medal for Botany. In 2007 I was awarded the Richard Spruce Award by IAB for my research in Bryology over 25 years. In 2005 I was elected as an honorary member of the British Bryological Society.

The seminal influences of Kenneth Sporne (PhD supervisor), Harold Whitehouse, Michael Proctor and Jean Paton, during my formative years in Cambridge (BA 1965 and PhD in 1969), set down my lifelong interests in and love of all aspects of bryophyte biology

and evolution. The culturing techniques I learned during my PhD, the electron microscopy as a post-doctoral fellow at University College London (1968-1970), and my experiences at the University College of North Wales, Bangor (1970-1979) add to my honing of my ecological and taxonomic expertise through regular participation in field meetings of the British Bryological Society, which I joined as an undergraduate in 1964. Amongst my publications are major contributions on spermatogenesis, water and food conduction, protonemal morphogenesis and fungal associations embracing liverworts, mosses and hornworts in almost equal measure throughout. These research interests have taken me to 6 continents and seen the forging of long standing international collaborations, in particular with Karen Renzaglia (USA) and Roberto Ligrone (Italy). Current interests include desiccation biology using new technology in cryo-SEM and ecological work on the reproductive biology of bryophytes. My career has now reached the stage when I am no longer burdened with university administration and can thus devote most of my time and energies into

promoting IAB; I therefore would be deeply honored to serve you as President. It almost goes without saying from my eclectic bryological interests that I firmly believe the term bryologist to be all embracing and to include amateurs and professional of all ages with activities ranging from recording and mapping on a local scale through alpha taxonomy, physiology, cell biology, total evidence phylogeny to evo devo genome mining. At present, the opposite ends of this spectrum seem to be going their own separate ways. A primary goal as President would be to foster much closer integration bringing with it benefits in terms of new discoveries and raising the global profile of bryophytes. I would be keen to work with the organizers of the 2011 meeting in Australia to facilitate the inclusion of all the different facets of Bryology and I would like to see a much expanded Bryological Times. Looking to the future, I am deeply conscious of the demographic profile of IAB and would do my utmost to encourage a new generation of scholars into the subject which has given me so much pleasure over the last 45 years.

### **Candidates for Vice-President of the IAB**

#### **Cao Tong**

Professor

Shanghai Normal University, Shanghai, China

I was born on 22 January 1946 in Shanghai, China, and am currently a Professor at the Department of Biology, College of Life and Environmental Sciences, Shanghai Normal University, Shanghai China.



I graduated from the Department of Biology, Fudan University in Shanghai in 1968. I started my bryological research in 1978 when I worked at the Institute of Soil and Forestry Science, Chinese Academy of Sciences. As a visiting scholar I studied Chinese

Grimmiaceae at Alberta University, Canada with Dr. Dale Vitt in 1984-1986. Then, I continued bryological studies at the Institute of Applied Ecology, CAS from 1986-2000. In 2001, I moved to Shanghai Normal University, Shanghai.

I am one of the active bryologists in China. I served as councilor of IAB from 1994-2002. I am still the contact person for IAB in China. I am Vice Chairmen of the bryological committee for the Botanical Society of China. I have visited more than 20 main herbaria in different countries including BM, FH, PC, NY, MO, M, H, S, YNS, and have broad international cooperation with lot of foreign bryologists. I participated in the editing of the Chinese bryoflora and have published more than 15 books on Chinese and local bryoflora in Chinese and English. I am mainly undergoing research on taxonomy and ecology of bryophytes in China; I have published more than 200 papers on bryophytes in international and domestic journals. I have participated in the organization of the IAB world bryological conference in Beijing (1997) and the International workshop on conservation of Chinese endangered bryophytes in Shanghai (2004).

I am, as a bryologist, willing to contribute more to the development of worldwide bryological research. Therefore, I would like to be candidate of 2nd vice president of IAB and to get the opportunity to serve the IAB. Also, Shanghai Normal University fully supports my activities in IAB.

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**Jiri Vana**

Professor Emeritus

Charles University, Prague, Czech Republic



I was born in Prague, Czechia, on 11 January 1940. I completed my university studies at the Faculty of Science, Charles University in Prague in 1962, gaining my MSc. devoted to mire communities in Krušné hory (= Ore Mts.) and receiving the position as Assistant, from

1965 as Assistant Professor in Department of Botany of Charles University in Prague, Czech Republic. In 1972 I received my PhD after defending the thesis "Taxonomical study of the European species of liverworts of the subfamily Jungermannioideae (family Jungermanniaceae)". From 1977 I served as Associate Professor, from 1987 as Full Professor of Botany in the same Department. I received the degree D.Sc. in 1986 after defending the thesis "Taxonomy and chorology of selected groups of liverworts of the suborder Jungermanniineae". In 2005 I retired, and now I have a scientific position as external member of the Department. From 2001 I have been active as Professor of Botany at Department of Biology,

Pedagogical Faculty of the West Bohemian university in Plzeň, Czech Republic.

My scientific activities include taxonomy and chorology of hepatics, especially of the families Jungermanniaceae, Lophoziaceae, Gymnomitriaceae, Cephaloziaceae and Cephaloziellaceae on the worldwide basis, liverworts of antarctic and subantarctic area of the world, bryophytes (mainly hepatics) of the Czech Republic, endangered bryophytes and their protection (mainly hepatics) on European and worldwide basis, phytocenology of mire and spring communities. I have more than 400 scientific papers, some text-books etc. published.

My memberships include: IUCN - The World Conservation Union (Species Survival Commission), European Committee for Conservation of Bryophytes (member of the board), Committee for Bryophyta of the International Association for Plant Taxonomy (member), International Association of Bryologists, American Bryological and Lichenological Society, British Bryological Society (from 2006 Honorary Member), Finnish Bryological Society (Corresponding Member from 2008), Bryologisch-lichenologische Arbeitsgemeinschaft für Mitteleuropa (until 2007), Česká botanická společnost (= Czech Botanical Society).

As an active IAB member I have contributed as: a column editor (floristic and phytogeography) of *The Bryological Times* (for numbers 50-93 with W. R. Buck, for numbers 93-95 alone); regional secretary (from 1990); member of Conservation Committee.

### **CANDIDATES FOR COUNCILLOR OF IAB**

**Claudine Ah-Peng**

Postdoc Researcher

Université de La Réunion, Réunion, France and University of Cape Town, South Africa



I am a French citizen born on Reunion Island (a French overseas department). Presently I am working for the University of La Réunion (France) and am seconded to the University of Cape Town (Botany Department). My general research interest concerns the study of bryophytes.

The first part of my research activities began during my Msc with the laboratory culturing of an aquatic moss *Fontinalis antipyretica* Hedw. and its use as a bioindicator of water quality. The use of bioindicators to monitor river contamination by pollutants is promoted by the European regulation. The aim of this work was to set up a standardized moss culture which could be used to test for trace metal contamination in French rivers. During this 2-year research project funded by European fundings (FEDER), French Water Agencies, and the French agency for innovation, I started working for a Dutch environmental consulting company (Tauw Environment) and was seconded to the French National Museum of Natural History (PC), where I learned to identify bryophytes. I was soon fascinated by these unique organisms and by their amazing diversity in the Tropics. My PhD work focused on the bryophytes of La Réunion but more specifically on the colonisation and succession processes of bryophytes on lava flows of The Piton de la Fournaise volcano.

This work provided the first state of knowledge for bryophyte diversity on Reunion Island and contributed to the little known diversity of the Western Indian Ocean. These three years of research were supported by the French Ministry of Research.

Currently I am working on a project entitled "Altitudinal and latitudinal bryophyte communities in the Western Indian Ocean area" (BRYOLAT) funded by the French Institute of Biodiversity. The study aims to identify patterns of diversity and distribution on altitudinal gradients along a latitudinal gradient from South Africa to Kenya by passing in La Réunion, Comoros and Madagascar. This research on African bryophytes is possible owing to international collaborations in different countries in the Western Indian Ocean area and Europe.

In September 2008, I organized the first Tropical Bryology Group workshop on the bryoflora of Réunion. It was attended by fifteen foreign tropical bryologists who came to work on the bryoflora of the Mascarenes, for which we are preparing a flora of Liverworts in collaboration with Dr. Jacques Bardat (National Museum of Natural History). In August 2009, together with Pr. Terry Hedderson, I will be organizing the next IAB conference in South Africa on the theme of African bryophytes.

By being one of the IAB councillors, I wish to continue the promotion of the study of bryophytes, their diversity, taxonomy, ecology and conservation in Africa and neighbouring islands being consequently a contact point for IAB in this area, and thus doing my best to develop the activities of the International Association of Bryology for the coming years.

#### **Matt Von Konrat**

Adjunct Curator & Collection Manager  
Field Museum, Chicago, USA



I received my Ph.D. from The University of Auckland, New Zealand, in 2004. I am a New Zealand citizen and moved to take up my present position as Collections Manager (Bryophytes & Pteridophytes) of the Botany Department, The Field Museum, Chicago, U.S.A – where

I have been since 2001. Recently, I was given the honorary title of Adjunct Curator by the Botany Department in recognition of my research achievements.

I have a broad research interest that centres on the systematics of liverworts with a geographical focus in Australasia and Oceania, as well as worldwide in selected taxonomic groups such as Frullaniaceae. I have active field programs in New Zealand and the islands of Fiji. My interests also extend to biogeography, ecology, informatics, and conservation of rare and threatened plants. I actively promote the use of electronic and computer technology to aid in identification and dissemination of knowledge, and has initiated an active education outreach program with the Chicago Public Schools. Recently, in partnership with Lars Söderström, I have been promoting broad participation with members of the IAB liverwort specialists and other interested parties in a GBIF funded project entitled Early Land Plants Today. In recent years, I have published a number of papers and received a number of grants and awards, including from GBIF (Global Biological Information Facility), National Geographic Society, the National Science Foundation, and received the 2006 Sullivant Award.

I would like to use the position to aid, assist, and further develop current IAB web and electronic initiatives as well as help promote the study of bryology, and especially that of liverworts, in general. This includes building, developing, and coordinating with other large biodiversity initiatives such as the Encyclopedia of Life project and promoting data repatriation, education outreach programs – locally and globally, and avidly promoting field and monographic studies as well as increasing student participation in bryology.

#### **Nadezhda (Nadya) Alekseevna Konstantinova**

Professor  
Kola Science Center of the Russian Academy of Science



I graduated from Moscow State University named M.V.Lomonosov in 1973, and defended my PhD thesis "Hepatics of Khibiny Mountains' Murmansk Province" in 1979 at Moscow State University. My thesis for the doctor of SCI in biology "Specifics characters of hepatic flora of the North of Holarctics" was defended at Moscow State University in 1998. Since 1994, I am the Head of Department of Flora and Vegetation of Polar Alpine Botanical Garden of Kola Science Center of RAS. I am the curator of the Bryophyte herbarium of KPABG. I have taken part in field trips in different regions of Arctic and Subarctic (Svalbard, Murmansk Province) as well as in mountains of Eurasia (Urals, Caucasus, Altai, Sayan) etc. I have collected about 20000 specimens of bryophytes (mainly hepatics) and they are stored in the herbarium of Polar Alpine Botanical Garden (KPABG). My main interests are focused on biogeography, ecology, systematic and molecular phylogeny of Hepaticae. Besides that, I concentrate on the protection of bryophytes including compiling data sheets for Red Data Books for different Regions of Russia (Krasnodar, Nenets, Chukotka and Murmansk Districts) as well as Russia in the whole. I am the author of about 170 publications. During last 10 years I was supervisor of 6 PhD students of which 5 have defended their PhD theses. Since 2001, I am a lecturer at the Apatity filial of Petrozavodsk State University and Murmansk Technical University where I give lectures on biogeography and ecology of arctic and subarctic plants. I can contribute to IAB by spreading information about bryological studies in Russia as well as in dissemination of information and ideas of IAB in Russia.

### Catherine La Farge

Director & Curator of Cryptogamic Herbarium (ALTA)  
University of Alberta, Edmonton, Canada



Having been at the 1973-First International Association of Bryologists (IAB) Meeting at the University of Colorado, Boulder, Colorado, I have seen IAB blossom into a strong global organization that has facilitated communication between disparate bryologists around the globe. This has stimulated numerous international collaborative projects

and has encouraged the small bryological community to retain an active society and encourage new members. I have earlier served IAB as a Council Member (2003-2007).

### Virendra Nath

Deputy Director  
National Botanical Research Institute, Lucknow  
University, India

I am the Head of the Bryology Department and Area Co-ordinator of Plant Biodiversity & Conservation



Biology Division at N.R.B.I. I am a pupil of the eminent bryologist, late Prof. Ram Udar, F.N.A. and have been working in the field of Bryology for the last 37 years. I have supervised research work on various aspects of morpho-taxonomic, antimicrobial, palynological, reproductive biology,

conservation and environmental studies of Indian bryophytes. After receiving M.Sc. and Ph.D degrees in Botany from Lucknow University, India, I joined the National Botanical Research Institute, Lucknow, India in 1980. Extensive survey and collections were made from various bryologically rich areas of the country which included some of the remote areas as well as high altitude localities viz. Valley of Flowers, Har Ki Dun, Gaumukh, Gangotri (Western Himalayas), Sandakphu, Phalut, Sikkim (Eastern Himalayas), Meghalaya, Nagaland (north eastern hills) and several spots in various part of South India and published a number of new species, new records and new reports. In 1986, I visited Poland for 3 month (under CSIR - PAS exchange) to acquaint with the morphotaxonomical investigations made on bryophytes of both the country and their phytogeographical relationships; I also studied the latest techniques in serology and electrophoretic methods of isolation of iso-enzymes with respect to bryophytes and jointly worked with Dr. R. Ochyra, Prof. J. Szweykowski, Dr. Zelnsiki. In 1988, I visited the Royal Botanic Gardens, Kew, London for 8 weeks and obtained an International Diploma in Herbarium Techniques. During this course I received training in all aspects of herbarium management, documentation and computerisation of holdings etc. During this period I visited the herbaria of the Reading University, Oxford Forestry Institute and British Natural History Museum, London.

I have extensively worked on monographic studies on Family Frullaniaceae, hepatic flora of Khasi and Jaintia hills (N.E. Hills), Meghalaya, and bryoflora of Achanakmar- Amarkantak Biosphere Reserve and Pachmarhi Biosphere Reserve. I have published three books and about 100 research papers in National and

International Journals. I am a member and Fellow of several Scientific Societies and Academies.

**Dietmar Quandt**

Professor  
Bonn University, Germany



My research topics can be divided into four main areas that are connected with each other: i) Plant Phylogenetics, Evolution and Systematics, ii) Molecular Evolution & Phylogenomics, iii) Phylogeography & Ecology and iv) Co-evolution and Symbioses. Currently two research networks (eudicots evolutionary research group, [www.eudicots.de](http://www.eudicots.de); pleurocarps evolutionary research group (PERG), [www.pleurocarps.eu](http://www.pleurocarps.eu);) are coordinated jointly by myself and various colleagues.

My research projects generally address different aspects of land plant evolution, with an emphasis on eudicots and pleurocarpous mosses. In both groups we observe an adaptive radiation that supposedly occurred simultaneously with enormous morphological changes that are, as we know now, often misinterpreted and only poorly understood in terms of their evolutionary history. The colonization of terrestrial habitats by land plants resulted in an explosive radiation with almost every kind of adaptation in order to exploit earth different habitats. Although monophyletic lineages within land plants can be identified, there is still little agreement on the relations among the major lineages. Using re-organizations of genomic regions as phylogenetic markers we try to offer additional information besides pure cladistic or model based approaches on sequence data. However, the relationships between lineages are only one aspect we are covering. Other questions we address are of biogeographical nature or more importantly concerned about co-evolutionary patterns and early symbiosis (such as mycothallus of liverworts, or the Nostoc-hornwort symbiosis) and their impact on land plant evolution.

The projects are situated in every major land plant lineage and are performed on every taxonomic level. Apart from routinely sequenced regions we try to exploit new genomic markers and to evaluate their phylogenetic potential. This is of special interest, as most of the currently sequenced regions are not

suitable to address questions on genus or species level, especially in seedless plants. In addition, we try to exploit nuclear single copy genes that are urgently needed for phylogenetics and intensively searched for by various researchers. However, basis for any phylogenetic reconstruction is to understand the underlying mutational dynamics and patterns prior the phylogenetic analyses. In combination with different bioinformatical aspects (e.g. development of software tools to automatically detect inversions) we are able to improve the homology assessment of the sequence matrices (alignments) and consequently the phylogenetic structure of the data sets. The objective e.g. is an evaluation tool of the phylogenetic structure in order to choose markers or combinations thereof in small pilot studies with the intention of making phylogenetic reconstructions more cost effective.

**James R. (Jim) Shevock**

Research Associate  
California Academy of Sciences, U.S.A.



I received my B.S. (1976) and M.A. (1978) in Botany from California State University, Long Beach. Upon graduation, I began my public service career as the botanist/ecologist with the USDA Forest Service, Sequoia National Forest (1979-84). In 1984 I accepted at 2-year assignment to

assist the California Department of Fish & Game as botanist of its Natural Diversity Database. In 1986, I was then promoted to Regional Botanist for the USDA Forest Service, Pacific Southwest Region stationed in San Francisco where he administered the sensitive and rare plant program across 18 national forests in California. From 1998-2004 I served as the Associate Regional Director for Resources Stewardship & Science for the USDI National Park Service, Pacific West Region with 58 park units in six western states. From 2004-08 I served as the NPS research coordinator for the Californian Cooperative Ecosystem Studies Unit duty stationed at U.C. Berkeley. I officially retired from federal government in January 2009 completing nearly 32 years of federal public service. I am also a research associate with the Department of Botany, California Academy of Sciences since 1983

and elected a Fellow in 2007. In addition, I am also a research associate at the University Herbarium, University of California, Berkeley. For non-profit scientific institutions, I have served as President, Corresponding Secretary and Council Member for the California Botanical Society, Member at Large with the American Bryological and Lichenological Society, and Vice President for Plant Programs with the California Native Plant Society.

My research interests shifted around 1997 from flowering plants to bryophytes with an emphasis in bryogeography and floristics. I have six flowering plants and four mosses named in my honor including the moss genus *Shevockia*. My ongoing research is focused on field work in China and Taiwan to contribute to the Moss Flora of China Project.

At this point in my professional career I would like to enhance bryological activities and collaboration with other bryologists around the globe. Serving IAB provides such an opportunity to advance bryological activities to a larger community.

#### **Nancy G. Slack**

Professor

The Sage colleges, Troy, NY

I am a professor at the Sage colleges, Troy, New York, and a teacher of Eagle Hill Seminars, Humboldt Field Research Institute, Steuben. Maine.



My professional interests is in the ecology of bryophytes.. I am currently working on a co-authored book on bryophyte ecology and climate change. I have attended many IAB meetings including the recent one in Kuala Lumpur.

Maylasia, as well as field trips (Java). I have presented papers and posters at these meetings.

As a long-time receiver of Bryonet, I have helped many people find bryological information and contacts.

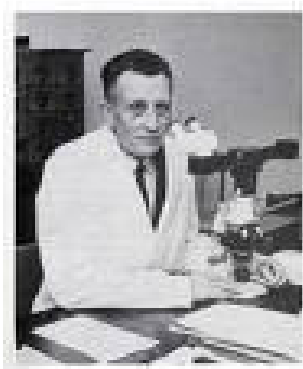
I served as Chair of the Nominating Committee at which the people present officers of IAB were nominated.

I would like to run for the position of councillor so that I can contribute ideas and time to IAB and encourage participation by North American bryologists.

## **OBITUARY**

### **Fernand Demaret (1911-2008)**

On the 27<sup>th</sup> December 2008, Fernand Demaret, Honorary Director of the National Botanic Garden of Belgium, died at the age of 97.



Fernand Demaret mastered in botany and became Doctor of Science at the University of Liège in 1934. In the same year he began his career at the Botanic Garden, where he was appointed Director in 1966.

Before becoming director he was well known for his work on African and Belgian Bryophytes, and for the publication of the *Flore générale de Belgique, Bryophytes*, first in collaboration with Émile Castagne

[vol. II,1-3(1955-57)] and afterwards with Jean-Louis De Sloover [vol. III,1(1968)]. When he retired in 1976, he resumed his study of the Bryaceae in collaboration with Rudolf Wilczek (1903-1984) and published in 1993 the last fascicle of the *Flore générale de Belgique, Bryophytes* [vol. III,2].

Fernand Demaret was very active in the field of nature conservation and was for many years a member of the *Commission royale des Monuments et Sites* (i.e. The Royal Commission for Monuments and Landscapes). In 1970 he was granted the honor of organizing the centenary of the National Botanic Garden of Belgium. It was also under his directorship that in 1973 the garden moved from the center of Brussels to the nearby Bouchout Domain in Meise.

Régine Fabri

Librarian of the National Botanic Garden of Belgium

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## PERSONAL NEWS

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The editor would like to thank all people that sent in information about their bryological activities.

Have you taken up another position, received a grant, started a research project, moved office?

The best way to inform the other IAB-members is by spreading the news through  
BRYONET and the *Bryological Times*.

Please do send your personal news to the editor!

**MSc Sanna Olsson** defended her PhD-Thesis entitled "Evolution of the Neckeraceae (Bryopsida)" on February 27<sup>th</sup>, 2009 in Dresden, Germany. The project was supervised by Prof. Dr. Dietmar Quandt (Bonn, Germany), Dr. Sanna Huttunen (Turku, Finland) and Dr. Johannes Enroth (Helsinki, Finland). The thesis consisted of five separate manuscripts, all of which are currently in press or accepted in various journals and due to publication in 2009. The main results include a detailed phylogeny and an ancestral state analysis of the Neckeraceae, the origin of the British and Macaronesian endemic Thamnobryums, as well as a description of a new family and several new genera. Among other things.

**Sarah Nekesa Wekesa** from the University of Nairobi, Kenya, is carrying out her M.Sc.research on Mount Kenya. Her project is entitled "An Altitudinal Distribution of Diversity and Species richness of Bryophytes, Pteridophytes and Angiosperms along the Naro Moru Route". Sarah's objectives are to establish the association of Bryophytes with vascular plants

along an altitudinal elevation of Mount Kenya, determine their richness as altitude increases in order to explain their role in the hydrological functions of the mountain. This, in turn, will contribute to the conservation of bryophytes once their relationship with other plants is established and also their importance especially when the mountain has attracted world concern for conservation of higher plants and animals. The fieldwork for the project was funded by BRYOLAT. Her supervisor is Dr. Chuah.

She is looking for funding possibilities to continue her doctoral research in the same field and area covering now the whole mountain. This will bring awareness to conservationists in our country to always include bryophytes into their conservation programmes. In addition, Sarah is also requesting sponsorship to attend and present her findings at M.Sc level at the meeting that will take place in August in South Africa.

Sarah Nekesa Wekesa, University of Nairobi, Kenya,  
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## THESES IN BRYOLOGY

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### THESES IN BRYOLOGY 20

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:211/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 Blanka Shaw (blanka@duke.edu).

**Atwood, John J. 2007. A taxonomic revision of *Schlotheimia* subgenus *Stegotheca* (Orthotrichaceae). M.S. thesis, University of Missouri-St. Louis. v + 65 pp. In English. Address**

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of author: Missouri Botanical Garden, P.O. Box 299, St. Louis, MO 63166-0299, U.S.A. E-mail: [john.atwood@mobot.org](mailto:john.atwood@mobot.org).

This master's thesis examined *Schlotheimia*, which consists of two morphologically distinguishable subgenera, based on capsule exsertion and calyptra size and shape. Whereas subg. *Schlotheimia* has exserted capsules and long-campanulate calyptrae, subg. *Stegotheca* has immersed capsules and short-conical calyptrae. Morphometric analyses of the 15 names previously recognized in subg. *Stegotheca* resulted in the acceptance of only two species and one variety: *S. appressifolia*, *S. tecta* and *S. tecta* var. *jamaicensis* var. nov. All are predominantly epiphytic, cladocarpous mosses that are endemic to the New World tropics. Please note that this contribution of the Theses in Bryology should have appeared in the Bryological Times n°125.

Rae, Stephen Patrick. 2006. Species and their habitats within the moss flora of Napa County, California (USA). Ph.D. dissertation, University of California, Davis. vi + 157 pp. In English. Address of author: Plant Sciences, Barbour Vegetation Lab, One Shields Avenue, University of California, Davis, CA 95616, U.S.A. E-mail: [stephen.rae@gmail.com](mailto:stephen.rae@gmail.com).

In this doctoral dissertation, 80 plots within the Napa River watershed, Napa County, California, were surveyed for moss occurrence, vascular plant occurrence, vegetation structure and environmental variables. From the 631 specimens collected within the plots, 87 moss species are reported, with an additional 14 species reported from 400 non-plot collections around the county. Forty-one woody perennial plants were recorded within the plots. Moss distribution was significantly influenced by percent woody canopy coverage, and less significantly influenced by slope and elevation. An annotated catalog of mosses is presented with site substrate affinities included. Suggestions for future research and moss conservation are included.

Sawicki, Jakub. 2006. Ocena pozycji taksonomicznej wybranych gatunków *Sphagnum* sekcji *Acutifolia* przy pomocy markerów molekularnych. Ph.D. thesis, Uniwersytet Warmińsko-Mazurski, Olsztyn, Poland. [vii] 92 pp. In Polish with English summary. Address of author: Cullman Program for Molecular Systematics, New York Botanical Garden, Bronx, NY 10458-5126, U.S.A. E-mail: [jakub.sawicki@uwm.edu.pl](mailto:jakub.sawicki@uwm.edu.pl).

The English title of this doctoral thesis is: Assessment of taxonomical position of selected *Sphagnum* species (section *Acutifolia*) on the base of molecular markers. The main purpose of the thesis was to estimate the

evolutionary position of selected peatmosses of section *Acutifolia* on the basis of genomic DNA. Five species (four populations each) were analyzed: *S. capillifolium*, *S. fimbriatum*, *S. girgensohnii*, *S. rubellum* and *S. russowii*. The molecular markers used were RAPD, ISJ, ITS, *katG* and IS6110. Species-specific DNA markers were found for all taxa studied. The values of genetic similarity between the species indicate that they are at an early stage of divergence and are thus not good biological species. The DNA markers confirmed the existing division of the *Acutifolia* into "red" and "green" species with the allopolyploid *S. russowii* as the natural connector. It appears that *S. russowii* arose as a natural hybrid between *S. rubellum* and a "green" species. The nearest species tested is *S. girgensohnii* but it is probably not the actual ancestor.

Wickett, Norman John. 2007. Plastid genome evolution of the non-photosynthetic liverwort *Aneura mirabilis* (Malmb.) Wickett & Goffinet (Aneuraceae). Ph.D. dissertation, University of Connecticut, Storrs, CT. viii + 155 pp. In English. Address of author: Ecology and Evolutionary Biology, University of Connecticut, 75 N. Eagleville Rd., Storrs, CT 06269-3043, U.S.A. E-mail: [norman.wickett@huskymail.uconn.edu](mailto:norman.wickett@huskymail.uconn.edu).

This doctoral dissertation examines *Aneura mirabilis*, a parasitic liverwort in the Aneuraceae, that obtains fixed atmospheric carbon from a host tree, using a fungal symbiont that is simultaneously ectomycorrhizal on the tree. Originally placed in its own genus, *Cryptothallus*, it was determined that the parasitic liverwort is nested within a clade of morphologically indistinguishable photosynthetic liverworts and should be considered to be a distinct species of the genus *Aneura*. The annotated, complete plastid genome sequence of *A. mirabilis*, presented in chapter two, revealed the complete functional loss of the chlororespiration (*ndh*) genes, pseudogenes for major subunits of photosystem I, photosystem II, and the cytochrome b6f complex, and an inversion of *psbE* and *petL*. Aside from this inversion, the order of genes is congruent with the order of genes in *Marchantia polymorpha*, the only other liverwort plastid genome sequence available. The designation of pseudogenes was made using genomic comparisons with the phylogenetically distant liverwort *M. polymorpha*. In order to correlate functional gene losses with the evolution of a heterotrophic life history, several populations of *A. mirabilis* and its photosynthetic sister groups were sampled and plastid regions homologous with the losses detected in the plastid genome were sequenced. A functional gene loss of the *psbE-petL* inversion has never been detected in a photosynthetic liverwort. All the gene losses and the *psbE-petL* inversion were detected in every population of the non-photosynthetic liverwort sampled. The rates of synonymous and non-synonymous substitutions were

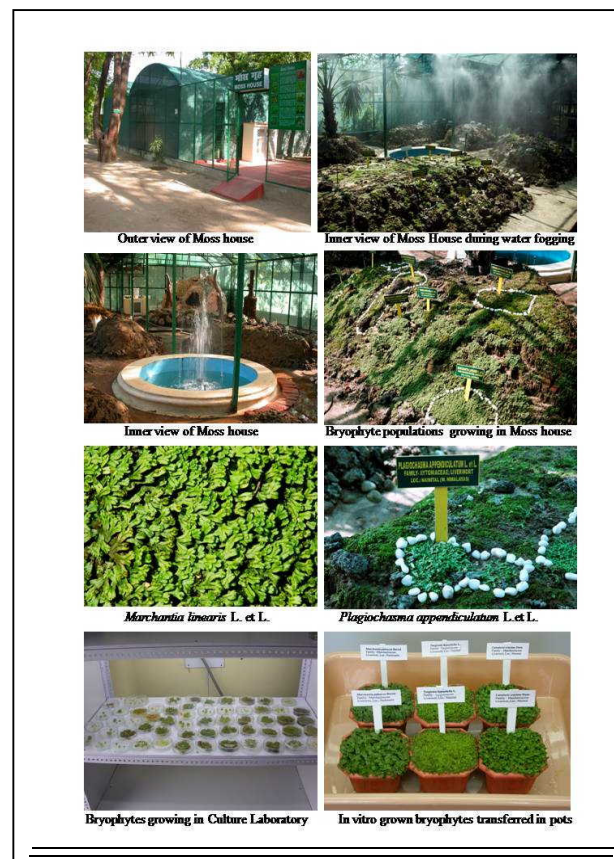
estimated for eight pseudogenes and six genes to detect whether they are evolving under relaxed purifying selection. Evidence is presented that *A. mirabilis* has recently acquired an obligately heterotrophic life history, and that large deletions, and

structural rearrangements may play an important role in the functional reduction of the plastid genome, rather than a relaxation of a synonymous substitution bias, early in the shift to parasitism.

## BRYOLOGICAL EXHIBITION

### Moss House at National Botanical Research Institute, Lucknow (India)

A Moss House has been developed at the National Botanical Research Institute, Lucknow (India) by the Bryology Department, with the objective to educate people from various walks of life, about tiny, fascinating and phylogenetically significant plants. The bryophyte taxa in the House were brought from tropical, subtropical and temperate zones of the country like the Himalayas, Gangetic plains, and the desert of Rajasthan; the living germplasm of the liverworts, mosses, and hornworts being introduced in the House came from far off places of the country viz., Garhwal and Kumaun hills (Uttarakhand, western Himalaya), Nagaland (North-eastern Hills, eastern Himalaya), Pachmarhi (Madhya Pradesh, central India), Mt. Abu (Rajasthan, Punjab & west Rajasthan plains), Sonbhadra and Lucknow (Gangetic plains). These species exist at different habitats at varied altitudes (ranging from 150m to 2500m) and diverse climatic conditions. Lucknow City is the capital of Uttar Pradesh. It has a warm subtropical climate with cool, dry winters from December to February and dry, hot summers from April to June. The rainy season is from mid-June to mid-September, when Lucknow gets an average rainfall of 1010 mm (40 inches) mostly from the south-west monsoon winds. In winter, the maximum temperature is around 21° C and the minimum is in the 3 to 4° C. Fog is quite common from late December to late January. Summers can be quite hot with temperatures rising to the 40 to 45° C. The house is equipped with a water fogging and sprinkler system for creating artificial mist as well as irrigation which creates a humid atmosphere suitable for the luxuriant growth of bryophytes. A beautiful interior landscape has been designed with rocks, soil, stone, cemented walls and water channels. The fountain and water fall in the house with the lush green growth of *Marchantia linearis* Lehm. et Lindb., *Plagiochasma appendiculatum* Lehm. et Lindb., *Semibarbula orientalis* (Web.) Wijk. et Marg., and *Vesicularia montagnei* (Bel.) Broth. are the main attractions for visitors. The Moss House at present is a repository of about 20 bryophyte taxa and will very soon exhibit some of the RET and endemic taxa. An effort has also been made to propagate bryophytes in a well developed culture laboratory. The House will also



facilitate to propagate bulk plant material of selected potential bryophyte species which may be exploited for pharmacognostic, physiological and genomic studies. This Moss House is a first of its kind in India, which has been developed in local subtropical conditions to house the variety of bryophytes in controlled and congenial climatic conditions at one place.

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## Educational moss trail in a botanical garden

In 2006, an educational moss project was initiated in the botanical garden of the Technische Universität Darmstadt (Germany). It presents about 25 moss and liverwort species in several stations which form a trail through the garden.

The 135 years old botanical garden in Darmstadt has a size of 4.5 ha, and is situated on an area at the periphery of the city. A rivulet, the Darmbach, runs through the garden which is dominated by an arboretum. A remarkable number of trees planted before 1890 are still growing in the garden. A total of about 7000-8000 species of spermatophytes and pteridophytes (about 40%) are cultivated outside the greenhouses. As usual for botanic gardens a great amount of them are labeled – inclusively two liverworts which serve as demonstration objects in the courses of systematic botany. But what happens with the others bryophytes in the garden?

A cursory survey done in 2005/2006 revealed that the moss flora of the garden was rich and showed a potency of being demonstrated to the visitors. 25 species were selected to show liverworts and mosses, terrestrial species and epiphytic ones. Each species was labeled with yellow labels (the normal labels in the garden are grey) so they can be easily seen from a greater distance. Especially small species or small patches were marked with small red plastic flags which were mounted on small rods (see Fig. 1). Information was presented on panels adjacent to the plant colonies. The first series was produced with laminated paper sheets (Fig. 1); a second series was printed on special panels (Dibond™; a printable composite material; Fig. 2). This was made possible by a grant of the local Rotary Club Darmstadt-Bergstraße.



Figure 1: The “Binnendüne” (“inland dune”) was planted with material from one of the most vulnerable habitats of the Darmstadt region. A lot of moss species (yellow labels) grew up, some of them species of the Red Lists of Hesse and Germany (red labels).

The panels contain texts on morphology, systematics, ecology and status of endangerment of the species and sketches from the standard literature (Brotherus in Engler & Prantl or Müller, e.g.) and were printed on paper in a smaller scale, laminated and collected in a littler folder. Additionally each folder contains a map with the various stations of the educational trail. This folder is not for sale; it can only be lent from the garden administration upon a deposit of 10 €. The lamination of the folder's pages was made because the best time to observe mosses are rainy or misty days. We advise our visitors to make their observations at this time: “Regen? Dann in den Botanischen Garten, um Moose zu sehen!” – „Rain? Then go to the botanic garden to observe mosses“.



Fig 2: Folder besides epiphytic site of *Radula complanata* (top corner on the right side) on *Cercis siliquastrum*

The trail was opened in 2006; a slightly enlarged version was elaborated in 2007. Normally we reduce number of the presented taxa during the summer months when the grass is growing higher and the low humidity hampers observations. But during early spring and late autumn – seasons with fewer flowers - the visitors are very interested in the trail and the folders are on loan regularly. A secure success is the 2 presentation of poikilohydric mosses such as *Tortula ruraliformis* in our inland dune habitat before and after irrigation with a customary spray bottle. Many visitors don't believe the effect and demand a second treatment.

The resonance in the press was very positive; the trail was presented several times by the local newspaper. One problem arose during the last season: about four or five species changed their site. It seems impossible to prevent this by cultivation measurements for the sites are sometimes not very stable, even in a botanical garden. Therefore the map in the folder

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has to be adapted every year or every second year at least. This fact should be taken in account in relation to own conceptions.

A more comprehensive analysis of epiphytic mosses was done during autumn 2009 within a student research project by Florian Wolff (Darmstadt). First results will be presented in a symposium during March 2009. They will be published in the internet at <http://www.bio.tu-darmstadt.de/boga-web/BoGa.html> after the termination of the project. At the moment we can mention, about 32 species could be observed; under them some rare species and species with their most adjacent natural occurrence far away from Darmstadt. The botanic garden with its clearly higher

humidity because of the irrigation measurements and its high diversity of hosts in respect to the number of cultivated tree species seems to ensure a much higher diversity of mosses than neighboring locations.

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## Bryophyte Mould

It's rather difficult to explain to students or the general public about the structure and morphology of bryophytes because of their small size. During a public show about bryophytes held in Macao in December 2008 (organized jointly by the Municipal Affairs Bureau, Macao and the Fairylake Botanical Garden, Shenzhen, China) a local artist in Macao, Mr. Fong Kam Kei, helped us set up a couple of bryophyte moulds. The size of moulds is generally 20-40 times bigger than that of the original plants. It turned out that the moulds were well received and good media for students and visitors to understand the fine structure and function of bryophytes. Simultaneously, Mr. Fong was invited to organize a workshop on how to make bryophyte moulds for middle school students.

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Fig.1: bryophyte mould of *Physcomitrium eurystomum*.

<http://bryophytes.plant.siu.edu/Images.html>  
<http://www.hkflora.com>  
E-mails: [zhangli@scib.ac.cn](mailto:zhangli@scib.ac.cn), [zhangli@szum.gov.cn](mailto:zhangli@szum.gov.cn),  
[zhangli@graduate.hku.hk](mailto:zhangli@graduate.hku.hk), [zhangli\\_siu@yahoo.com](mailto:zhangli_siu@yahoo.com)

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## LITERATURE COLUMN

### Moss Flora of China, Vol. 7

Hu, R.-I., Wang, Y.-f., Crosby, M. R. & He, S. (eds): *Moss Flora of China*, English Version. Vol. 7. Amblystegiaceae-Plagiotheciaceae. 258 pp. Hard cover. Science Press (Beijing, New York) & Missouri Bot. Garden Press (St. Louis), 2008. ISBN (this volume) 978-1-930723-77-1. Price USD 85.00, orders to: [orders@mbgpress.org](mailto:orders@mbgpress.org)

The first volume of the English Version of *The Moss Flora of China* came out in 1999, almost 10 years ago. That's quite alright: it is much better to prepare these major contributions, which each volume in the series with care than with haste. The series will be completed with Vol. 5, which according to the Introduction will be completed by the end of 2009 and will contain some large families such as Orthotrichaceae,

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Leucodontaceae, Pterobryaceae, Meteoriaceae and Neckeraceae.

The present volume 7 examines the pleurocarpous families Amblystegiaceae (Y.-h. Wu, C. Gao, W. Li), Helodiaceae (S. He), Brachytheciaceae (Y.-f. Wang, R.-l. Hu), Entodontaceae (R.-l. Hu, Y.-f. Wang), Stereophyllaceae (D.-k. Li), and Plagiotheciaceae (D.-k. Li, R. R. Ireland). A total of 41 genera and 188 species plus infraspecific taxa are included, with Amblystegiaceae (19 genera, 46 species), Brachytheciaceae (11 genera, 81 species) and Entodontaceae (5 genera, 32 spp.) as the major families.

In general the most recent familial reclassifications (e.g.

<http://www.eeb.uconn.edu/people/goffinet/Classificationmosses.html>) are only partly followed here. The Amblystegiaceae is understood in a very wide sense, containing, for example, genera such as *Calliergon* and *Warnstorfia*, which are currently placed in the Calliergonaceae, as well as *Calliergonella* from the Hypnaceae. I was pleased to see that *Leptocladium sinense*, the single species of its genus, is placed in this family, as I put it there myself (Enroth 1997). It was already treated in the *Moss Flora of China* Vol. 6 (Wu et al. 2002) in the Thuidiaceae. In the present volume it is described again, but rather differently from the Vol. 6 treatment; the description in Vol. 7 is more accurate. The name *Amblystegiella yunnanensis* is given as a synonym of *Platydictya jungermannioides*, although it was synonymised with *Amblystegium serpens* by Ochyra (in Enroth 1997).

The Helodiaceae has the genera *Helodium*, *Actinothuidium*, *Bryochenea* and *Palustriella*, of which the latter is often placed in the Amblystegiaceae and *Actinothuidium* as well as some other taxa were treated in the Thuidiaceae by Wu et al. (2002). The circumscription of *Bryochenea*, recognized here for *B. vestitissima*, is apparently a moot point, as is pointed out and discussed by the authors. While I am not very familiar with the Helodiaceae, its segregation from the Thuidiaceae seems morphologically very ambiguous.

I cannot boast to be an expert in the current generic taxonomy of the Brachytheciaceae either. However, I consider it a serious flaw that two recent major papers are not even cited here: Ignatov & Huttunen (2002) and Ignatov et al. (2005). Both of them contain

numerous nomenclatural and taxonomic novelties that should have been included in this *Flora* or at least mentioned and commented. The latter paper also has a wealth of distributional data that is lacking from the *Flora*.

In the Entodontaceae the unispecific *Sakuraia* is recognized as a distinct genus (instead of being included in *Entodon*), a notion I sustain. Hunan is lacking from its distribution, although it was reported from that province by Enroth & Koponen (2003). The same observation can be made for *Plagiothecium neckeroideum*; the Plagiotheciaceae is circumscribed to consist only of *Plagiothecium*.

It is surprising and also unfortunate that some recent essential publications have apparently not been seen by the compilers and authors of this volume of the *Moss Flora of China*. As is, this is without question an important contribution, but it could have been better. More communication among us bryologists worldwide - that's what is called for!

Johannes Enroth

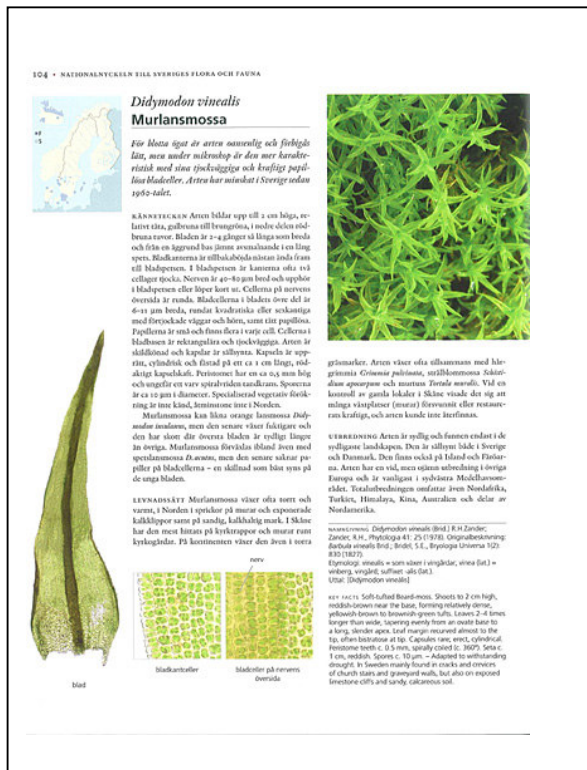
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## A second volume of the illustrated Moss Flora for Nordic countries

**Bryophyta: Anoetangium – Orthodontium / Bladmossor: Kompaktmossor - kapmossor. By T. Hallingbäck et al. 2008. 28 x 23 cm. 504 pages. ISBN 978-91-88506-64-1. Price excl. postage € 46.00 / US\$ 60.00 / DKK 300.00**

The Encyclopaedia of the Swedish Flora and Fauna (or as the Swedish name "*nationalnyckeln*" indicates



"the national key" is the most ambitious natural history book project ever launched in Sweden and will treat all known species of animals and plants from this country. The first volume with the families Buxbaumiaceae to

Leucobryaceae was published in 2006 and was reviewed in the BT 121.

This is the second volume of the Encyclopaedia and contains the treatments of the following families: Pottiaceae, Splachnaceae, Meesiaceae, Orthotrichaceae, Hedwigiaceae, Catosciaceae, Bartramiaceae, Bryaceae, Melichhoferiaceae, Mniaceae, Cinclidiaceae, Plagiomniaceae, Aulacomniaceae, and Orthodontiaceae.

As in the previous volume, each species is presented with a detailed description of its morphology, ecology, nomenclature and a distribution map. Each species is further illustrated with colour photos of the moss leaves, cells and other characteristics important for identification. For each genus a watercolour illustration is also provided. The language is Swedish, however each species is provided with a summary in English and important for most of us is the fact that identification keys are both in Swedish and English.

As for the other the volumes of "the national key", these volumes on the mosses document not only the Swedish, but also the entire Nordic biodiversity (dealing with over than 60,000 species of organisms known, from which more than half are insects) with species from Finland, Denmark, Norway and Iceland. .

One can only applaud the Swedish government for having taken the lead in such an ambitious and long-term project (> 25 years for all species) and hope that the financial crisis will not result in a reduction of the quality of these publications. I am looking forward to seeing the final moss volume and hope that such initiatives will develop in other parts of the globe. Good identification tools are a prerequisite for biodiversity conservation. I can only urge you to order this book.

Geert Raeymaekers  
Email: Geert.Raeymaekers@skynet.be

## Identification Keys to the Liverworts and Hornworts of Europe and Macaronesia (Distribution and Status)

By R. Schumacker 1 & J. Vana

The first edition of *the Identification keys to liverworts and hornworts of Europe and Macaronesia* published in 2000 was very successful: some 400 copies were sold. Thanks to comments, remarks, questions from

the many users encountering difficulties - especially in the keys to genera or in some keys for large genera, from students, beginners, experimented hobby – and professional bryologists, as to recently published books and papers, we started since 2003 to prepare a 2nd fully revised and updated edition.

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This 2nd edition, carefully edited by SORUS/Poznan, provides, a.o., new (or partly new) keys for Conocephalum, Fossombronia, Herbertus, Lepidozia, Lophozia, Plagiochila, Riccia, Scapania, Telaranea, etc., numerous new keys for subspecies or varieties, updated distribution data, many corrections to patronyms, an impressive number (ca. 300!) of new synonyms in the corpus as in the index and many new useful references to literature and illustrations until August 2005.

The book is provided with a metallic spiral binding.

Price (incl. porto): Europe: 35 EUROS or 40 USD, Rest of the World : 40 EUROS or 50 USD

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Orders from Poland or Central Europe, should be addressed directly to [sorus@sorus.com.pl](mailto:sorus@sorus.com.pl)

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## Changes in *Lindbergia*

*Lindbergia* is a journal issued by the Nordic Bryological Society and the Dutch Bryological and Lichenological Society. The following recent changes are hereby announced.

After a proposal from the *Lindbergia* Council, Dr. Nils Cronberg has become editor-in-chief for *Lindbergia*. Nils has a position as associate professor and lecturer at the Department of Ecology, Lund University, Sweden. From a practical point of view this arrangement is favourable since Nils has his office in the same building as the Oikos editorial office, which is responsible for the technical management of the journal.

Nils is replacing Kjell Ivar Flatberg as editor-in-chief. Kjell Ivar volunteered to substitute for the earlier editor-in-chief Sigurd Sæstad, when he unexpectedly became ill. Subsequently, after the tragic death of Sigurd, Kjell Ivar kindly accepted to act as a temporary editor-in-chief for *Lindbergia*. This was from the beginning planned as a temporary arrangement, and starting with the first issue of volume 33 it is therefore logic to find a more permanent solution. On the behalf of the DBLS and NBS I wish to express our great gratitude to Kjell Ivar for his helpful assistance in a difficult situation.

Behind the curtains the *Lindbergia* Council, the editorial office and the editor-in-chief have together initiated several changes aiming at the improvement of *Lindbergia*:

1. From volume 32/2008 *Lindbergia* will be open for publication of lichenological papers. This has for a long time been a wish of the Dutch Bryological and Lichenological Society.

2. Manuscripts will from now on be submitted to the managing editor Petter Oscarson [oikostech@ekol.lu.se](mailto:oikostech@ekol.lu.se). All correspondence with respect to manuscripts will be handled and redirected via Petter. The purpose of this change is to simplify the work of the editor-in-chief and the subject editors. It will also improve the overview of the current status of various manuscripts in the reviewing and editing processes.

3. Older volumes of *Lindbergia* will soon be available on the web to the scientific community through J-store.

Apart from the inclusion of lichenological papers, we plan no major changes in the scope of *Lindbergia*. Beside manuscripts presenting original studies, *Lindbergia* especially invite focused methodological papers and review papers.

The publication of *Lindbergia* has been delayed during 2008. We are working hard to get on schedule and the issue 33:1 is currently being distributed.

Kristian Hassel, President of NBS

For more information about *Lindbergia*, the Nordic Bryological Society (NBS) and the Dutch Bryological and Lichenological Society see:

<http://www.oikos.ekol.lu.se/lindbergiajrn1.html>

<http://www.sbf.c.se/NBS/Root.htm>

<http://www.blwg.nl>

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## A new contribution to the moss flora of the Inner Seychelles

An updated list of the mosses of the Inner Seychelles is given based on the previous literature and collections of the author in 2008. It includes data on the frequency of species as well as distributional data for the single islands. The moss flora of the islands is characterized. *Campylopus brevirameus* Dix. is regarded as synonym of *C. julaceus* ssp. *arbogasti*. *Brachymenium dicranoides*, *Bryum alpinum*, *Campylopus flaccidus* Ren. & Card. and *C. flexuosus* (Hedw.) Brid. are reported as new to the Seychelles.

*Garckea phascoides*, *Syrrhopodon involutus* and *Syrrhopodon prolifer* are reported as new to La Digue, *Bryum leptospeiron* and *Brachymenium exile* as new to Praslin. The list can be downloaded from the following website:  
<http://www.archgive-for-bryology.com/>

Jan-Peter Frahm  
[www.bryologie.uni-bonn.de](http://www.bryologie.uni-bonn.de)

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## The Illustrated Moss Flora of Antarctica

***The Illustrated Moss Flora of Antarctica* by Ryszard Ochrya, Ronald Lewis-Smith & Halina Bednarek-Ochrya. Cambridge University Press. November 2008. £125 (or \$US equivalent, but less from Internet suppliers)**

*The Illustrated Moss Flora of Antarctica* is the first intensively and extensively researched moss flora for the Antarctic biological region. It provides detailed descriptions, with keys, and revisions of all known species (111) and varieties (2) of moss in the Antarctic and is the most comprehensive and complete Flora of all the world's biomes.

It includes the microscopic examination of around 10,000 specimens from Antarctica and, for comparison, from other continents. Furthermore, type specimens of all species and infraspecific taxa have been examined. Each species is illustrated by detailed

line drawings (ca. 20-40 per species), alongside information about their reproductive status, ecology and regional and global distribution.

*The Flora* comprises 704 + 24 unnumbered pages, including chapters on introductory material (8 pages), history of muscological investigations in Antarctica (17), terrestrial environment and moss ecology of Antarctica (7), diversity and phytogeography of the moss flora (17), background to the flora (6) and systematic accounts of the taxa (531), a glossary (15), references (57), and an index to Latin names (21). There are 273 halftone figures, 42 color plates on unnumbered pages, and ca. 2000 references.

Dr. Ron Lewis-Smith  
Centre for Antarctic Plant Ecology and Diversity,  
Moffat, Scotland

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## Atlas of the moss flora of Eindhoven, The Netherlands

***The Atlas van de mosflora van Eindhoven (Atlas of the bryophyte flora of Eindhoven)* by H.M.H. van Melick. January 2008. (ISBN 978-90-810188-2-1) To order: transfer €30 + €10 shipping cost to IBAN: NL76PSTB0001066049; BIC: PSTBNL21 (for The Netherlands giro 1066049) to the attention of KNNV – Eindhoven with the reference of “Mosflora”. Merellaan 13, NL- 5552 BZ Valkenswaard, The Netherlands e-mail: [h.vanmelick1@chello.nl](mailto:h.vanmelick1@chello.nl)**

This beautifully illustrated book, written in Dutch, is the result of 25 years of floristic investigation of mosses, liverworts and hornworts in the southern part of the

Netherlands. All together an unbroken area of 1000 km<sup>2</sup> (386 sq miles) has been investigated. The core of the book is formed by detailed distribution maps (dot maps with a resolution of 1 km<sup>2</sup>), of all 377 species occurring in the area. Moreover, the *Atlas* presents a detailed survey of the biotopes where bryophytes occur: pine, oak, beech, ash, birch and alder woodlands and scrub, heath, heath ponds, inland sand dunes, artificial landscape elements, arable fields, wastelands and stony substrates. Within the biotopes, specific bryophyte communities have been described. In woodlands, apart from genuine soil bryophytes, bryophyte communities from steep drain sides, trunk bases and branches have been treated.

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Community descriptions include information on associated ferns and phanerogams. To visualize the organisms discussed, the book has numerous illustrations including 22 water-colors and 80 drawings of details of mosses and liverworts. In the concluding chapter the changes in the bryophyte flora during the

Further information:

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

last 25 years have been discussed extensively. The book has been published in full color, hardback and has 400 pages, (30,5x24x3cm).

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## COURSES AND WORKSHOPS

### Symposium of Cryptogamic Botany, Portugal.

It is a pleasure to announce that this year and for the first time, the Symposium of Cryptogamic Botany will be held in Portugal, at the Hotel dos Templários, in Tomar, a beautiful and old town 120 km north of Lisbon (<http://tomar.com.sapo.pt>). The town, the hotel and the surroundings offer good conditions for the venue. The symposium is scheduled to start on the morning of the 23rd September 2009 and ends on the 26th.

The Symposium of Cryptogamic Botany aims at providing a good opportunity to present, evaluate and discuss the last research advances on cryptogamic field. Additionally, it would provide an opportunity to foster cooperation between scientists from different regions and to promote integrative scientific networks. As in former Symposia, this meeting gives the possibility to address different questions of high relevance concerning the role of these cryptogamic organisms in ecosystem management and resources sustainability. This meeting will include plenary and poster sessions as well as a field excursion.

We accept submission of papers in all fields of Cryptogamic Botany, especially those related to the Iberian territory

Abstracts must be sent no later than **30-May 2009**. Abstracts will not be considered unless at least one of the authors has registered for the meeting and paid the full registration fee. To send the abstract you may use the form available [here](#). Alternatively you may send it attached to an email message to [criptogamica@fc.ul.pt](mailto:criptogamica@fc.ul.pt).

We hope that the programme is attractive enough to encourage you to participate in this Symposium. Looking forward to seeing you in Tomar.

Further information concerning the symposium, visit the symposium website at: <http://criptogamica2009.fc.ul.pt>

Dr. Cecilia Sergio  
Jardim Botânico (MNHN), Universidade de Lisboa,  
Rua da Escola Politécnica 58, 1250-102 Lisboa,  
Portugal

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### Australasian Bryophyte Workshops

30 Aug to 5 Sep: THE XTH AUSTRALASIAN BRYOPHYTE WORKSHOP. It will take place in Manjimup, Western Australia. The cost is between \$500-600 (AU). This includes accommodation, all meals and transport to and from Manjimup and during the workshop. There will be daily field trips to a variety of vegetation types ranging from granite outcrops, wandoo woodland, lakes and swamps, and jarrah

(*Eucalyptus marginata*) forest. A slightly longer drive will get you to some tall karri (*Eucalyptus diversicolor*) forest. If you require further details the conveners of the workshop are as follows: Louise Biggs: [Louise.Biggs@dec.wa.gov.au](mailto:Louise.Biggs@dec.wa.gov.au) or Lachie McCaw: [Lachie.Mccaw@dec.wa.gov.au](mailto:Lachie.Mccaw@dec.wa.gov.au)

As numbers are limited, please register your interest by providing your name, postal and email address directly to Louise Biggs.

### British Bryological Society Workshops

20-24 Mar: ADVANCED BRYOLOGY LABORATORY COURSE. Tutor: Dr Martha Newton, Preston Montford

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Field Centre, Montford Bridge, Shrewsbury, Shropshire, SY4 1DX. An opportunity for experienced enthusiasts to explore special techniques, critical species and new developments. Details from the Centre Director, Ms S. Townsend, Tel.: 0845 3307378, Fax: (01743) 851066, email: [enquiries.pm@field-studies-council.org](mailto:enquiries.pm@field-studies-council.org)

3-5 Apr: *SPHAGNUM* WEEKEND. Tutor: Dr Martha Newton, Rhyd-y-creuau, The Drapers' Field Centre, Betws-y-coed, Conwy, LL24 0HB. A chance to learn how to recognise most of the British species in the field, and to study them alongside keys. Details from the Centre Director, Mr D. Moncrieff, Tel.: 01690-710494, Fax: (01690) 710458, email: [enquiries.rc@field-studies-council.org](mailto:enquiries.rc@field-studies-council.org)

16-21 Apr: MOSSES AND LIVERWORTS. Tutor: Dr Martha Newton, Orierton Field Centre, Pembroke, Pembrokeshire, SA71 5EZ. Offering individual guidance in identification and ecology at all levels. Details from the Centre Director, Ms C. Millican, Tel.: 0845 3307372, Fax: (01646) 623921, email: [enquiries.or@field-studies-council.org](mailto:enquiries.or@field-studies-council.org)

23-27 Apr: *SPHAGNUM* MOSS. Tutor: Dr Martha Newton, Kindrogan Field Centre, Enochdhu, Blairgowrie, Perthshire, PH10 7PG. Three days to practise field identification of most species of this ecologically important genus. Details from the Centre Director, Mr M. Jamieson, Tel.: 01250-870150, Fax: (01250) 881433, email: [enquiries.kd@field-studies-council.org](mailto:enquiries.kd@field-studies-council.org)

27 Apr - 4 May: MOSSES AND LIVERWORTS. Tutor: Dr Martha Newton, Kindrogan Field Centre, Enochdhu, Blairgowrie, Perthshire, PH10 7PG. Offering individual guidance in identification and ecology at all levels. Details from the Centre Director, Mr M. Jamieson, Tel.: 01250-870150, Fax: (01250) 881433, email: [enquiries.kd@field-studies-council.org](mailto:enquiries.kd@field-studies-council.org)

20-24 Jul: MOSSES AND LIVERWORTS OF WETLAND AND RIVER HABITATS. Tutor: Dr Martha Newton, Malham Tarn Field Centre, Settle, North Yorkshire, BD24 9PU. An opportunity to examine many of the significant ecological indicator species of these valuable and intriguing habitats. Details from the Centre Director, Mr A. Pickles, Tel.: 01729-830331, Fax: (01729) 830658, email: [enquiries.mt@field-studies-council.org](mailto:enquiries.mt@field-studies-council.org)

9-14 Aug: BRYOPHYTES FOR NATIONAL VEGETATION CLASSIFICATION. Tutor: Dr Martha Newton, Rhyd-y-creuau, The Drapers' Field Centre,

Betws-y-coed, Conwy, LL24 0HB. For everyone with a professional or amateur interest in bryophytes and their role in identifying types of plant communities. Details from the Centre Director, Mr D. Moncrieff, Tel.: 01690-710494, Fax: (01690) 710458, email: [enquiries.rc@field-studies-council.org](mailto:enquiries.rc@field-studies-council.org)

14-17 Aug: IDENTIFYING UPLAND MOSSES AND LIVERWORTS. Tutor: Dr Martha Newton, Preston Montford Field Centre, Montford Bridge, Shrewsbury, Shropshire, SY4 1DX. Three days in upland habitats of the Welsh and Shropshire hills, to focus on typical British bryophytes, with individual guidance for beginners as well as the more experienced. Details from the Centre Director, Ms S. Townsend, Tel.: 0845 3307378, Fax: (01743) 851066, email: [enquiries.pm@field-studies-council.org](mailto:enquiries.pm@field-studies-council.org)

17-20 Aug: IDENTIFYING LOWLAND MOSSES AND LIVERWORTS. Tutor: Dr Martha Newton, Preston Montford Field Centre, Montford Bridge, Shrewsbury, Shropshire, SY4 1DX. A chance to concentrate on bryophytes in a particularly rich and varied part of lowland Britain, with individual guidance at all levels of experience. Details from the Centre Director, Ms S. Townsend, Tel.: 0845 3307378, Fax: (01743) 851066, email: [enquiries.pm@field-studies-council.org](mailto:enquiries.pm@field-studies-council.org)

21-28 Aug: MOSSES AND LIVERWORTS. Tutor: Dr Martha Newton, Blencathra Field Centre, Threlkeld, Keswick, Cumbria, CA12 4SG. Offering individual guidance in identification and ecology at all levels. Details from the Centre Director, Mr T. Foster, Tel.: 017687-79601, Fax: (017687) 79264, email: [enquiries.bl@field-studies-council.org](mailto:enquiries.bl@field-studies-council.org)

#### MOSSES AND LIVERWORTS IDENTIFICATION COURSE

This is an annual 3-day course run in Oxford by the voluntary organisation Shotover Wildlife. The course is usually held over 2 weekends in November and is a combination of field sessions and microscope work. Places are strictly limited to allow a high level of guidance from tutors.

Aim of the course: to develop both the skills and knowledge required to identify mosses and liverworts. Course content includes: bryophyte structures and terminology, life cycle, microscope techniques used in bryology, identification using microscopes and keys, identification in the field. Equipment: high power and dissecting microscopes are provided.

Tutor: Jacqueline A. Wright Booking: Contact Shotover Wildlife at: [jawright@shotover-wildlife.org.uk](mailto:jawright@shotover-wildlife.org.uk) for more information or an application form, or go to [www.shotover-wildlife.org.uk](http://www.shotover-wildlife.org.uk)

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## USA Events

### **Bryophyte Identification Workshop in Oregon**

Two intensive bryophyte workshops take place this year. One for beginners in late April and an advanced one starting September 30 at. These workshops combine hands-on experience with detailed lectures. Study specimens and copious handouts are provided, including the current draft of my "Liverworts of Oregon" on CD and a digital, illustrated key to the Racomitriums.

Bryophytes I: all the basics. April 23-26 (the University of Oregon campus). This workshop starts with a classroom day of introductory material followed the next day by a field trip. The idea is to get direct experience early on with the common species in their natural habitat and make observations about bryophyte ecology. Then two subsequent classroom days will involve study of about 70 important species. Emphasis in this workshop is on hand lens recognition of the species covered, their habitat characteristics, learning the basic terminology to describe them, and characteristics of the major families. Although microscopes are not necessary for this workshop, I will have two pairs of dissecting and compound microscopes on hand for demonstration of the features necessary for using technical keys. Students with microscopes are urged to bring them. Methods of handling specimens and making preparations will be provided with ample practice material. This is a very intensive workshop intended to give beginners sufficient training that, with conscientious application of energy, they can move to more advanced levels on their own.

Bryophytes II: Advanced field bryology. September 30-6 October (H.J. Andrews Experimental Forest). This

year's advanced workshop is completely new: I have reserved space in the fall at the H.J. Andrews Experimental Forest near the McKenzie River: <http://andrewsforest.oregonstate.edu/>

We will study together, go in the field together, live together, and cook together for four days. It is designed for people who have had previous training in bryology. The location and time of year will allow us to visit montane wetlands of the High Cascades. In addition to field competence, this workshop emphasizes developing microscope skills and mastering the specialized terminology necessary to use technical keys to identify bryophytes. The field trip will provide fresh material to supplement dried herbarium specimens. Participants are encouraged to bring up to a dozen of their own unknowns for supervised independent study. Bring more if ready to work evenings.

Keying liverworts will focus on Doyle and Stotler's 2006 keys to California liverworts, supplemented by my CD, Liverworts of Oregon. Norris and Shevock's 2004 keys will be emphasized for mosses. The Flora North America vo. 27 highly recommended. Participants should bring both dissecting and compound microscopes for Bryophytes II, at least one set per pair.

For registration, travel/lodging details and fees: contact Dr. David H. Wagner.

David H. Wagner, Ph.D.

Email: [davidwagner@mac.com](mailto:davidwagner@mac.com)

<http://web.mac.com/davidwagner/Site/FernZenMosses.html>

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### **Other Workshops**

29 Apr – 1 May: ECOLOGY & MANAGEMENT OF BIOLOGICAL SOIL CRUSTS Moab, Utah  
For more information:

<https://mywebspace.wisc.edu/jpbennet/web/abls/2009crustclass.pdf>

26 – 31 May: 2009 CRUM WORKSHOP Darling Marine Center, Walpole, Maine

For more information:

<https://mywebspace.wisc.edu/jpbennet/web/abls/2009crumworkshop.pdf>

7-9 Aug. AN INTRODUCTION TO THE COMMON BRYOPHYTES OF NEW ENGLAND -- Dorothy Allard  
This workshop is designed for the naturalist, botanist, or ecologist who wants a beginning knowledge of mosses and liverworts. This seminar will teach the

basics of bryophyte ecology and identification, focusing upon those species that are common and abundant and that can be identified in the field with no more than a hand lens. Fee: \$250 To register or gather more information email [info@highpondfarm.org](mailto:info@highpondfarm.org), by mail at High Pond Farm 8 Summit Road Plymouth, NH 03264 or by phone 603.536.5667.

### **Jepson Herbarium 2009 Bryology Workshops**

21–22 Feb: *INTERMEDIATE BRYOLOGY* - Brent D. Mishler and Ken Kellman  
This two-day class will build upon the skills taught in an introductory bryology class. Specifically, we will work towards genus recognition of all California mosses and liverworts, and use more advanced keys than those used in the beginner's

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class. Emphasis will be on the bryoflora of the central coast, but participants are encouraged to bring their own collections to work on. Participants will be expected to know beginning dissection techniques, and to understand basic bryophyte biology and morphology. Course fee (\$235/\$260) To register or for more information, visit [http://ucjeps.berkeley.edu/workshops/2009/regform\\_2009.html](http://ucjeps.berkeley.edu/workshops/2009/regform_2009.html)

28 Feb – 1 Mar GRIMMIA -- [Roxanne Hastings](#) The genus *Grimmia* is the most diverse and abundant group of moss to inhabit the higher and dryer parts of western North America. Given California's diversity of such habitats, it is not surprising that the state has the highest species richness and the most endemic species of *Grimmia* anywhere in the world! *Grimmia* species have the reputation of being notoriously difficult to recognize. This is due, in part, to the use of microscopic features to identify species, and also because most species are distinguished by a suite of intergrading, relative characters. This workshop will introduce a series of tables that can be used to identify species. Course fee (\$235/\$260) For more information or to register visit,

[http://ucjeps.berkeley.edu/workshops/2009/regform\\_2009.html](http://ucjeps.berkeley.edu/workshops/2009/regform_2009.html)

### **2009 Eagle Hill Seminars**

- 14 – 20 Jun: SPHAGNUM MOSSES AND OTHER WETLAND BRYOPHYTES - Jon and Blanka Shaw  
28 Jun - 4 Jul: INTRODUCTION TO LICHENS - Fred C. Olday.  
5 – 11 Jul: MOSSES, LIVERWORTS, AND HORNWORTS - Nancy G. Slack.  
9 – 25 Jul: LICHENS AND LICHEN ECOLOGY - David Richardson and Mark Seaward.  
Jul 26 - Aug 1: CRUSTOSE LICHENS OF COASTAL MAINE - Irwin M. Brodo  
2 - 8 Aug: LECIDEOID LICHENS: IDENTIFICATION AND SYSTEMATICS - Alan M. Fryday.

Descriptions and information may be found at <http://www.eaglehill.us/programs/nhs/nhs-calendar.shtml> For more information, please contact the Humboldt Institute, PO Box 9, Steuben, ME 04680-0009. 207-546-2821. Fax 207-546-3042 E-mail - [office@eaglehill.us](mailto:office@eaglehill.us)

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### **Bryophyte courses in Panama**

From the 12<sup>th</sup> to the 17<sup>th</sup> of March, Dr. Robert Lücking of the Field Museum, Chicago (USA), will teach the lichen workshop **Introduction to Tropical Lichens** in the Department of Botany, University of Panama. The workshop is part of Dr. Lücking's, National Science Foundation project: *Workshops in Tropical Lichenology, Neotropical Epiphytic Microlichens (an innovative inventory of a highly diverse yet little known group of symbiotic organisms)*. The workshop is directed to senior, junior and young graduate students in the first year of their career. N. Salazar Allen and the Academic Commission of the Department of Botany are coordinating the logistics of this workshop.

Noris Salazar Allen will teach a graduate course on the Morphology of Bryophytes at the Universidad

Autónoma of Chiriquí, Panamá, as part of the Master program in Plant Biology offered by this University. The ten students in this program have received scholarships from the National Secretariat for Science and Technology (SENACYT) of the government of Panama to be fulltime graduate students in this Master program. This is the first graduate program in Plant Biology in Panama that has a 3-credit course on Bryophytes. Clotilde Arrocha, with a M.Sc. with specialty in Bryology from the University of Costa Rica, was a key person in the design of the graduate program in Plant Biology to include a course on Bryophytes.

Noris Salazar Allen

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## WEB NEWS

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### Racomitrioideae of Oregon, USA

This is a good moment to remind bryonettors of the key to Racomitrioideae that is posted on the Oregon State University Herbarium site:

<http://oregonstate.edu/dept/botany/herbarium/racoweb/ARACKEY.htm>

If you use the index to species, you can find photographs that show critical features necessary for species identification. I would like to encourage bryologists to post more pictures that show cell structure and anatomy, including leaf sections. Many pictures on the web are very nice at showing the general habit of a plant but only a few show critical features at a useful magnification.

And I would like to encourage other bryologists to publish keys like this on the web. Being able to navigate a key like a web site is something I believe will be appreciated by students and beginners. I'd love for somebody to create a web based tutorial for Sphagnum identification!

Thanks to a suggestion from Dr. Ingo Holz of Stuttgart, I have compressed the HTML key to Racomitrioideae of Oregon and posted it on my web site:

<http://web.me.com/davidwagner/Site/Racomitrioideae.html>

Download racOregon.zip and when it is unzipped, open the first file <ARACKEY.htm> with your browser. The compressed file is approximately 123 mb, so download time should be fairly brief.

By downloading racOregon to your hard drive, the key will work much faster than using the internet. However, the key will remain accessible on the web page of the Oregon State University Herbarium above

The current version (both sites) is August, 2008. If you obtained a CD before that date, you might consider updating your files.

David H. Wagner, Ph.D.  
Email: [davidwagner@mac.com](mailto:davidwagner@mac.com)

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### Liverworts and hornworts of sub-Saharan Africa

**Wigginton, M.J. 2009. Checklist and distribution of the liverworts and hornworts of sub-Saharan Africa, including the East African Islands (edition 3, 24 January 2009). Tropical Bryology Research Reports 8: 1-116. (ISSN 1468-8158).**

The document can be downloaded free of charge from the Tropical Bryology Research website <http://www.tropicalbryologyresearch.co.uk/> as an Acrobat Reader (.pdf) or a Microsoft Word 97 (.doc) document. It can be found via the 'TBR Reports' button.

In the Word version, taxonomic changes since edition 2 are shown in blue color font so they can be readily picked out. There is, of course, no restriction on the document, so the color can be changed for printing.

Unfortunately, at present either file may not open properly in some browsers, and we are trying to resolve this problem. If there are difficulties with the Word file, then the checklist can be selected (within the window), copied and pasted into a new Word document, then saved. The .pdf might not open properly in Firefox.

It is hoped there are not many errors and omissions. The discovery that *Phaeoceros minutus* (Mitt.) S.W.Arnell had been transferred to *Paraphymatoceros minutus* (Mitt.) Hässel [Phytologia 88: 208-211. 2008] came too late for inclusion.

Martin Wigginton

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## JOB OPPORTUNITIES

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### Research position in Germany/Panama

We invite applications for a 3-year PhD position (E13, 50%) in a DFG-funded project addressing global warming effects on tropical bryophytes (mosses and liverworts). This project was inspired by the suggestion that bryophytes in the warm tropics may already exist at the edge of their physiological abilities because they lose much of their daily carbon gain to nightly respiration. The goal of the project is to develop a model of bryophyte carbon relations, parameterized and validated with field data, including diel CO<sub>2</sub> exchange and growth rates of mosses growing at different altitudes. The acclimatization potential of CO<sub>2</sub>-exchange rates will be studied in transplantation experiments and in bryophytes cultivated under controlled conditions. The position is based in Oldenburg, northern Germany, and involves extensive fieldwork in Panama.

The successful applicant will hold an MSc-degree or equivalent in Biology or a related discipline and have an interest and, preferably, experience in bryology, plant ecophysiology, ecology, tropical biology and mathematical modelling. Further requirements include an analytical and critical mindset, the ability to work independently in primitive tropical field conditions, good English writing skills and a willingness to learn German and Spanish.

Closing date: April 17, 2009, or when the position is filled.

Starting date: May 1, 2009, or as soon as possible. For further information: [maaike.bader@uni-oldenburg.de](mailto:maaike.bader@uni-oldenburg.de) or [gerhard.zotz@uni-oldenburg.de](mailto:gerhard.zotz@uni-oldenburg.de). Please send your application, including CV and the contact details of three references, to the first email address above or to: Dr. Maaike Bader, Functional Ecology of Plants, Department of Biology and Environmental Sciences, University of Oldenburg, P.O. Box 2503, D-26111 Oldenburg, Germany.

<http://www.fun-eco.uni-oldenburg.de/en/>

The Carl von Ossietzky University of Oldenburg is an equal opportunity/affirmative action employer. In order to increase the percentage of female faculty members, female candidates with equal qualification will be given preference. Applicants with disabilities will be preferentially considered in case of equal qualification.

Maaike Bader, University of Oldenburg, Department of Biology and Environmental Sciences, Functional Ecology of Plants, P.O.Box 2503, 26111 Oldenburg, Germany

Tel: +49-441-7983343, Fax: +49-441-7983331, Email: [maaike.bader@uni-oldenburg.de](mailto:maaike.bader@uni-oldenburg.de)  
Homepage: [http://www.uni-oldenburg.de/fun\\_eco/](http://www.uni-oldenburg.de/fun_eco/)

## Country contacts

What are country contacts? During the several years that I edited *The Bryological Times*, I have tried to increase contributions for this newsletter and therefore contacted a number of people to act as country contacts for *The Bryological Times*. The role of these country contacts is to gather information on issues that can be of interest for the wider bryological community and hence worthwhile for publication in *The Bryological Times*.

Some of these country contacts are also actively involved in other IAB-affairs. However, the system of country contacts was set up the purpose of this newsletter!

May I ask country contacts, who are no longer able or in a position to contribute to *The Bryological Times* to contact me (and if possible to suggest a new country contact)?

Geert Raeymaekers

| Country           | Name                            | E-mail address                                                                                            |
|-------------------|---------------------------------|-----------------------------------------------------------------------------------------------------------|
| Austria           | Harald Zechmeister              | harald.zechmeister@univie.ac.at                                                                           |
| Australia         | Rod Seppelt                     | Rod.Seppelt@aad.gov.au                                                                                    |
| Belgium           | Herman Stieperaere              | herman@br.fgov.be                                                                                         |
| Canada            | René Belland<br>Michael Simpson | <a href="mailto:Rene.belland@ualberta.ca">Rene.belland@ualberta.ca</a><br>mjs14@ualberta.ca               |
| China             | Cao Tong                        | CT1946@263.net                                                                                            |
| Colombia          | Jaime M. Uribe                  | juribem@ciencias.unal.edu.co                                                                              |
| Czech Republic    | Jiri Vana                       | vana@natur.cuni.cz                                                                                        |
| Estonia           | Kai Vellak                      | kvellak@ut.ee                                                                                             |
| Finland           | Viivi Virtanen                  | viivi.virtanen@helsinki.fi                                                                                |
| France            | Denis Lamy                      | lamy@mnhn.fr                                                                                              |
| Germany           | Volker Buchbender               | Volker.buchbender@planet-interkom.de                                                                      |
| Hungary           | Tamás Pócs                      | colura@chello.hu                                                                                          |
| India             | Virendra Nath                   | drvirendranath2001@rediffmail.com                                                                         |
| Japan             | Tomio Yamaguchi                 | yamatom@hiroshima-u.ac.jp                                                                                 |
| Kenya             | Min S. Chuah-Pétiot             | petiot@wananchi.com                                                                                       |
| Lithuania         | Ilona Jukonieme                 | lilonet@botanika.lt                                                                                       |
| Malaysia          | Benito Tan                      | Dbsbct@nus.ed.sg                                                                                          |
| Netherlands       | Laurens Sparrius                | sparrius@blwg.nl                                                                                          |
| Norway            | Kristian Hassel                 | <a href="mailto:Kristian.Hassel@bio.ntnu.no">Kristian.Hassel@bio.ntnu.no</a>                              |
| Panama            | Noris Salazar Allen             | SALAZARN@si.edu                                                                                           |
| Poland            | Ryszard Ochyra                  | Ryszard.Ochyra@ib-pan.krakow.pl                                                                           |
| Spain             | Javier Martinez-Abaigar         | javier.martinez@daa.unirioja.es                                                                           |
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**UPCOMING MEETINGS**

**2009**

March 24-27: So be Free 14. Central Sierra Nevada, USA. Contact: [Paul.Wison@csun.edu](mailto:Paul.Wison@csun.edu).

March 26-29. Workshop on loess mosses, Germany. Contact: [mail@lueth.de](mailto:mail@lueth.de)

April 29 – 3 May: excursion Dutch Bryological Society, Northern French coastal area. [www.blwg.nl](http://www.blwg.nl)

May 26-31: The 2009 Crum Workshop. Walpole, Maine. Contact: [bbuck@nybg.org](mailto:bbuck@nybg.org)

June 14-20: Sphagnum mosses and other wetland bryophytes. Jon and Blanka Shaw. Eagle Hill Seminars (see website below)

July 5-11: Mosses, liverworts and Hornworts. Nancy G. Slack. Eagle Hill Seminars (see website below)

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

Aug 16-20. South Africa. IAB World Congress. See the IAB-website

Eagle Hill Seminars website:

<http://www.eaglehill.us/programs/nhs/nhs-calendar.shtml>