

BRITISH BRYOLOGICAL SOCIETY  
**TROPICAL BRYOLOGY GROUP**  
**NEWSLETTER**

Edited by Joanna Wilbraham

No. 25

October 2010

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**TBG MEETINGS**

**British Bryological Society - Tropical  
Bryology Group AGM  
11 September 2010  
Natural History Museum, London**

*Present:* Jeff Duckett, Len Ellis, David Holyoak, Aline Horwath, Liz Kungu, Silvia Pressel, Brian O'Shea, Ray Tangney, Jo Wilbraham  
*Apologies:* Howard Matcham

1) **TBG committee** - The BBS website currently lists an '*Executive Committee*' for TBG and the BBS secretary has asked if this can be updated. ACTION: An updated list to be sent to BBS secretary. A committee group is a convenient way to discuss issues arising as and when via email and it may be an idea to make more use of this to improve communication.

2) **Mascarene Islands Project**

a) Herman Stieperaere has briefly discussed with JW the unpublished documents and illustrations of Theo Arts which relate to his planned flora of Réunion. These documents currently reside at Meise (BR). ACTION: Jo to get in touch with Herman about what exactly is included here which would be relevant to a future moss flora work.

b) Future project work –some consideration was previously made to continuing the Mascarenes project with a similar workshop on Mauritius. Some tentative initial investigations into this have been made by Claudine Ah-Peng. ACTION: Jo to get back in touch with Claudine & co about this; potential funding sources need to be elucidated; a small working group to be set up to carry this forward more effectively.

3) **Publishing news and activities of TBG** – Suggestions: 1) to produce an annual summary of TBG news/activities aimed at the Field Bryology ‘news and society business’ section? ACTION: JW to contact Ian Atherton to discuss possibility of this. 2) Produce a ‘news from the TBG’ column for IAB’s Bryological Times?

4) **Update documentation on current location of all collections from TBG expeditions to Uganda and Malawi** – There is still some uncertainty on the whereabouts of all collections from Uganda & Malawi expeditions of the 1990’s. ACTION: 1) Brian to locate most

current list of collections distribution and content. 2) Jo to contact Reading University as to whether any collections still remain here.

5) **Update on all open TBG projects: MALOU project, work on Malawi collections and the Generic Guide to African Bryophytes.** Some of these projects are very long running and the meeting group felt an update on where we are up to, and what can be done to fill in gaps if needed, would be useful. ACTION: Where are we up to with these – Families not yet worked on from Uganda & Malawi expeditions to be highlighted. Jo and Brian to follow up with relevant persons.

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## TBG PROJECT UPDATES

### Bryophytes of the Mascarenes

It is now two years since the taxonomic workshop and field meeting was held on La Réunion in September 2008. Since that time collections have been worked on and sets of specimens sent to Réunion University herbarium. A joint paper by the participants is currently in press with *Journal of Bryology* reporting on 34 new taxa records for the island. The additional data now available on the distribution of Réunion

bryophytes has allowed work to be done to highlight species and areas in most need of conservation attention. A provisional red data style assessment of the liverworts is currently *in press* and a similar effort for the mosses is being worked up at the moment. For more information about the project see the TBG website.

*Jo Wilbraham, Natural History Museum,  
Cromwell Road, London, UK*

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## NEWS OF MEMBERS

### Fissidentaceae of Réunion

This revision of the Fissidentaceae of the Mascarene Islands of La Réunion, Mauritius and Rodriguez was published earlier this year by Ida Bruggeman-Nannenga and Theo Arts †. It comprises keys, descriptions and illustrations of the 35 species known from this region. Eighteen species are reported as new to La Réunion.

M. A. Bruggeman-Nannenga, T. Arts. 2010. A revision of the Fissidentaceae (Musci) of La Réunion (including all species known from Mauritius and Rodriguez). *Journal of Bryology* 32: 170–207

*Ida Bruggeman-Nannenga, The Netherlands*

### Tropical typifications

*Species Muscorum Frondosorum* by J. Hedwig was published posthumously in 1801 and

embodies the official starting-point for moss nomenclature. It fell to C.F. Schwägrichen, the author’s student, to edit and publish the work, and over subsequent years he also produced a series of supplementary volumes. Many novel moss species were described in *Species Muscorum Frondosorum* and its supplements, but with the passing of two centuries, the associations between these species and the specimens upon which their descriptions were based (type specimens) have often become obscure. The present rules of nomenclature require that taxa should be precisely typified, and most of the original collections of these particular species are conserved in the Hedwig-Schwägrichen Herbarium held by the Conservatoire et Jardin Botaniques, Geneva (G).

In April and June of 2010, funded by G, and generously hosted by the herbarium’s curator, Dr Michelle Price, I was allowed to examine and typify original material of species described by Schwägrichen in the tropical moss genera *Calymperes* and *Syrrhopodon* (family

Calymperaceae). The results of my research, to be published in due course, will hopefully lend stability to the nomenclature of these taxa.

*Len Ellis, The Natural History Museum,  
Cromwell Road, London, UK*

### News on bryology in Latin America

**Robbert Gradstein** attended the 10<sup>th</sup> Latinamerican Botanical Congress in La Serena, Chile (4-9 October 2010), and presented a keynote lecture about the "*Impact of deforestation and climate change on tropical bryophytes*". He also participated in the 8<sup>th</sup> symposium of the Latinamerican Bryological Society (SLB), which took place during the same congress. The programme of the symposium included 32 poster presentations from students from all over South America, including Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Peru and Venezuela, and from the West Indies (Dominican Republic, Puerto Rico). Lecture presentations were given by **Yelitza León** (Venezuela) on the *ecology of bogs in the Venezuelan Andes*; **Denise Pinheiro da Costa** (Brazil) on *conservation of bryophytes in Brazil*; **Juan Larraín** (Chile) on *molecular phylogeny of Chilean mosses*; **Yelitza León** on *epiphyte diversity in an Amazonian and Andean forest of Venezuela*; **Angel Benitez** (Ecuador) and **Robbert Gradstein** on *new additions to the bryophyte flora of Ecuador*; **Ines Sastre-De Jesús** (Puerto Rico) on the *methodology of bryophyte inventory in a tropical cloud forest of the Dominican Republic*; and **Javier Martínez-Abaigar & Encarmen Núñez-Olivera** (Spain) on the *impact of global change and ultraviolet radiation on bryophytes*.

A one-day bryological excursion went to famous Fray Jorge National Park, a relict temperate cloud forest at ca. 500 m along the Pacific coast of Chile south of La Serena. The weather was beautifully sunny and the participants enjoyed spectacular views of the snow-covered Andean cordillera, the ocean, the semi-desert vegetation, and the lush bryophyte vegetation of the remnant cloud forest of Fray Jorge, with abundant presence of pendent moss species, thick mats of various leafy liverworts and tiny epiphyllous species occurring on the leathery leaves of evergreen trees.

The 2-day bryological symposium, which was very well attended, was a great success and showed that bryology is thriving and well in

tropical America. A new executive council was elected for the Latinamerican Bryological Society, with Dr. Jaime Uribe (Colombia) as the new president. It was also decided that the homepage and the newsletter (*Briolatina*) of the society, which have been offline for the last two years, will be reinstated. For further information on the society write to Jaime Uribe, juribem@bt.unal.edu.col

### New publications from Robbert Gradstein

- Désamoré, A., Vanderpoorten, A., Laenen, B., Gradstein, S.R. & Kok, P. 2010. Biogeography of the "Lost World" (Pantepui area, South America): insights from bryophytes. *Phytotaxa* 9.
- Gradstein, S.R. & Culmsee, H. 2010. Bryophyte diversity on tree trunks in montane forests of Central Sulawesi. *Tropical Bryology* 31: 95-105.
- Gradstein, S.R. (in press). A Guide to the Liverworts and Hornworts of Java. Biotrop scientific publications, Bogor, Indonesia. *Contains keys and illustrations for the identification of about 450 species recorded from Java, Indonesia. A supplementary volume to the just-published checklist of Java by Söderström et al. (2010). To appear in 2011.*
- Gradstein, S.R. & Ilkiu-Borges, A.-L. 2009. Guide to the Plants of Central French Guiana. Part IV. Liverworts and Hornworts. *Memoirs of the New York Botanical Garden* 76, 4: 1- 140, 83 plates. *A full-fledged Flora with keys, descriptions and full-page illustrations for about 175 liverwort species from northern South America.*
- Gradstein, S.R. & Sporn, S.G. (in press). Diversity of epiphytic bryophytes along land use gradients in the Tropics. In: *Nova Hedwigia Beiheft* 139 (to appear November 2010). *A brief synthesis of ten years of research on this subject in tropical America and Indonesia.*
- Jácome, J., Kessler, M, Bach, K. & Gradstein, S.R. & Kessler, M. (in press). Responses of epiphytic bryophyte communities to simulated climate change in the Tropics. In: *Z. Tuba, N. Slack & L. Stark (eds.), Bryophyte Ecology and Climate Change.* Cambridge University Press (to appear November 2010).
- Mandl, N., Kessler, M. & Gradstein, S. R. 2009. Effects of environmental heterogeneity on species diversity and composition of

- terrestrial bryophyte assemblages in tropical montane forests of southern Ecuador. *Plant Ecology & Diversity* 3: 313-321.
- Mandl, N., Lehnert, M., Kessler, M. & Gradstein, S. R. 2010. A comparison of alpha and beta diversity patterns of ferns, bryophytes and lichens in tropical montane forests of southern Ecuador. *Biodiversity & Conservation* 19: 2359-2369.
- Mota de Oliveira, S., ter Steege, H., Cornelissen, J.H.C. & Gradstein, S.R. 2009. Epiphytic bryophyte communities in the Guianas are niche assembled. *Journal of Biogeography* 36: 2076-2084. *Shows that contrary to the seed-plants, dispersal limitation does not play an important role in the distribution and ecology of bryophytes in tropical rain forests.*
- Söderström, L., Gradstein, S.R. & Hagborg, A. 2010. A checklist of the hornworts and liverworts of Java. *Phytotaxa* 9.
- Sporn, S.G, Bos, M.M., Keßler, M. & Gradstein, S.R. 2010. Vertical distribution of epiphytic bryophytes in an Indonesian rainforest. *Biodiversity & Conservation* 19: 745-760.
- Sporn, S.G., Bos, M.M., Hoffstätter-Müncheberg, M., Kessler, M. & Gradstein, S.R. 2009. Microclimate determines community composition but not richness of epiphytic understory bryophytes of rainforest and cacao agroforest in Indonesia. *Functional Plant Biology* 36: 171-179.

*Robbert Gradstein, Muséum National d'Histoire Naturelle, Paris, France*

### **Phylogeography of *Sanionia uncinata***

A recent paper by Lars Hedenäs reports on results of a molecular study into the phylogeography and origin of European *Sanionia uncinata* (Amblystegiaceae). This paper discusses possible origins of high elevation tropical African populations of this species.

Hedenäs, L. 2010. Phylogeography and origin of European *Sanionia uncinata* (Amblystegiaceae, Bryophyta). *Systematics and Biodiversity*, 8: (2) 177 – 191

*Lars Hedenäs, Swedish Museum of Natural History, Stockholm, Sweden*

### **Liverworts of Ethiopia**

The bryophyte flora of Ethiopia remains among the least studied of all Africa countries though Ethiopia is clearly much more diverse for bryophytes than is conveyed by the previous checklists. In this paper, 89 species of liverworts are reported from an area of highlands in SW Ethiopia. Of these, 51 species are newly recorded for Ethiopia.

Hylander, K., Pócs, T. & Nemomissa, S. 2010. Liverworts of Southwestern Ethiopian montane forests: ecological and biogeographical notes. *Journal of Bryology* 32: 92-100.

*Kristoffer Hylander, Stockholm University, Stockholm, Sweden*

### **Bryophytes of Singapore and their possible roles in waste water remediation**

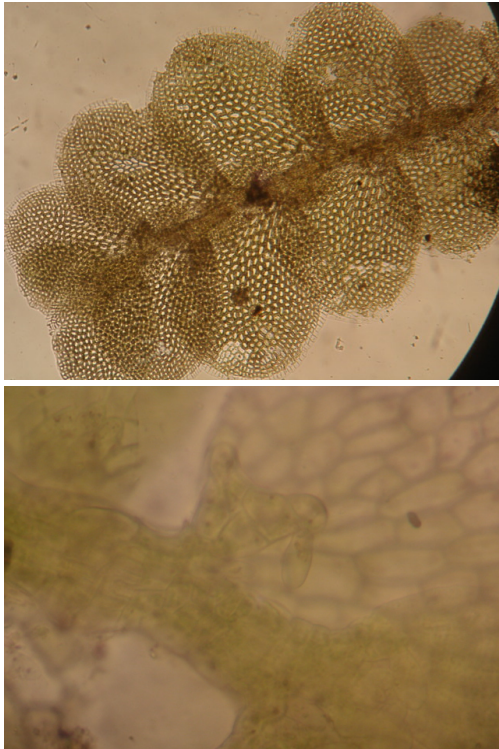
My current group is looking at moss as bioremediation agents for cleaning urban waters. This is important for Singapore as we have a significant interest to re-cycle waste waters as potable waters. One major project currently in operation is the containment of run-off waters into an area known as Marina Barrage. A river estuary is being dammed up to provide a reservoir for water activities as well as containment of flood waters during heavy tidal inflows. A second Botanic Gardens is planned beside the dam where part of the collected waters will be re-cycled through artificial marshes and lakes to bioremediate the waters. One idea is the creation of moss gardens as a possible partner in the bioremediation process and as a pleasing addition to the gardens.

I am in the process of isolating local mosses, identifying them and looking at their potential as bioremediating agents in the near future. There is no moss interest group locally in Singapore and the research environment is mainly targeted at biomedical research. We do have Prof Benito Tan, who is the curator at the Botanic Gardens, and also an eminent bryology expert in Asia. I would be most happy to interact with other tropical bryologists who are pursuing similar research interests in bryophytes.

*Gordon Lim, Ngee Ann Polytechnic, 535 Clementi Road, Singapore 599489*

### ***Cololejeunea jonesii* reported from Kenya**

Itambo Malombe and colleagues report on the first record of *Cololejeunea jonesii* in Kenya (Ngangao hill) having been hitherto known only from the type locality of the Ulunguru's in Tanzania where it was last collected in 1975. This revised distribution therefore enhances the hypothesis that the biodiversity hotspot of the Eastern Arc mountains does indeed extend to the Taita Hills in South Eastern Kenya. These data are part of an ongoing research on epiphyllous bryophytes in Taita Hills.



*Itambo Malombe, National Museums of Kenya, Nairobi, Kenya*

### **A new species of *Fissidens* from Ecuador**

Pursell, R. A. & D. H. Norris. 2010. *Fissidens minutifrons* (Fissidentaceae), a new rheophilous species from Ecuador. *Bryologist* 113: 129-131.

I am currently working on a revision of the Erpodiaceae and hope to have the manuscript ready for publication by the end of this year.

*Ronald A. Pursell, The Pennsylvania State University, U.S.A.*

### **Systematics of the Orthotrichaceae in sub-Saharan Africa**

Earlier this year I published a taxonomic update on the *Macromitrium* of Réunion Island and surrounding region. This included a number of new synonyms for the genus which has helped towards a more accurate picture of the diversity and distribution patterns of *Macromitrium*. I am currently working on resolving the taxonomy of *Schlotheimia* from Réunion, with the aim to produce a floristic account of the Orthotrichaceae for the Mascarenes.

I have recently embarked on a joint project with Silvia Pressel investigating phylogeny of *Macromitrium* in the Indian Ocean Islands, which we hope will provide some illuminating insights into the evolutionary relationships of this group. In other news, Howard Matcham and I report on an interesting disjunctive distribution with *Zygodon oeneus* found new to Africa (Uganda) having been previously known from Bolivia.

Wilbraham, J., Ellis, L. 2010. Further taxonomic studies on the families Calymperaceae (Musci) and Orthotrichaceae (Musci) in the bryoflora of Réunion Island, with notes on taxa from other islands in the western Indian Ocean. *Cryptogamie, Bryologie* 31(1): 31-66.

Wilbraham, J.; Matcham, H. 2010. *Zygodon oeneus* Herzog (Bryophyta: Orthotrichaceae) new to Africa and Uganda. *Journal of Bryology* 32: 236-239

*Jo Wilbraham, Natural History Museum, Cromwell Road, London, UK*

**Request for collaboration rather than piracy**

*We recently received this letter which raises some serious issues of how scientists approach work in overseas countries.*

“We wish to bring to your attention a matter that has affected at least three island nations of the Indian Ocean. The Mascarenes, Comoros and Seychelles form, with Madagascar, a hot spot of biodiversity. Our islands have relatively small populations and those of us who are still developing nations tend to have limited expertise in certain scientific fields, for example botanical taxonomy. We therefore welcome collaboration with overseas universities and research institutions, and particularly value cooperation with visiting specialists who can assist with taxonomic identification, training, advice, etc.

It is therefore with some regret that we report on unethical behaviour of some visiting scientists to one or more of our islands, who over the past few years have visited, collected specimens even within protected areas without due authorisation and sometimes failed to contact the authorities or work alongside our local botanists, some of whom may not be specialists but who know where information is lacking and therefore

welcome cooperation with specialists. In addition, duplicate specimens have not been deposited in our national herbaria and subsequently published papers and books have not been brought to our attention by the visiting botanists, nor have copies been provided for our national institutions. This behaviour is totally disrespectful of the local authorities and population, and goes against the ethic of being a field biologist.

In Seychelles at least, suitable legislation regarding the collection and export of genetic material is still in preparation, but all of our states have national protocols and procedures which are neither complex nor lengthy unless there are serious issues with the research. I therefore wish to reiterate that we welcome and encourage mutually beneficial collaboration with visiting scientists, some of whom have developed long-lasting and beneficial relationships with their institutions, and I trust that such negative behaviour is not widespread. I hope that future visiting botanists will cooperate with local scientists and authorities, rather than exploit our national flora for their own benefit.

Concerned biologist,  
Katy Beaver, Seychelles ”

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**NOTICEBOARD**

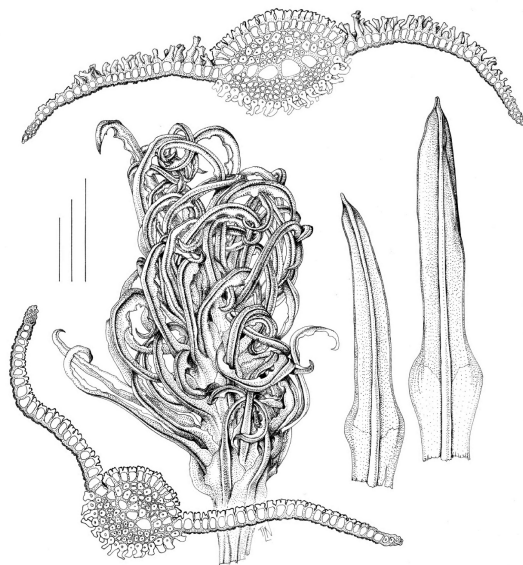
**Bryophyte Illustrations**

Do you need publication quality illustrations of bryophytes?

I am a trained botanist, very familiar with bryological material, and have experience of illustrating for publication. Send me slides of leaves, sections, material for habit sketches, and I can produce a beautiful and accurate plate for your publication at a very reasonable rate.

Contact: Tracey at [t.nowell@sanbi.org.za](mailto:t.nowell@sanbi.org.za)

(Left: An example plate of *Hypodontium* sp.)



**New contact details for Robbert Gradstein**

Robbert Gradstein has left Germany following his retirement from the University of Göttingen, and has moved to Paris where he has taken an office at the Museum of Natural History, as an honorary research associate.

His new address is:

Muséum National d'Histoire Naturelle,  
Systématique et Evolution, UMS 7205,  
Case Postale 39, 57 rue Cuvier, 75231  
Paris cedex 05, FRANCE.  
Tel.: +33-01-4079-3178  
gradstein@mnhn.fr; sgradst@gwdg.de

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**Contributions to TBG newsletters**

The TBG newsletter relies on contributions from members, especially for the section 'news of members', and for information on bryological research activities, information on publications and for any features included. Digital photographs accompanying articles are also very welcome.

Please send your contributions for future TBG newsletters, at any time, to the coordinator (details below).

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TBG coordinator: **Joanna Wilbraham**  
Botany department, Natural History Museum, Cromwell Road, London SW7 5BD.  
Email: [j.wilbraham@nhm.ac.uk](mailto:j.wilbraham@nhm.ac.uk)

Published by: **British Bryological Society – Tropical Bryology Group**