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Yet another bryophyte-consuming beast.

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Irene Bisang et al. wrote in *Bryological Times* 86 about a hornwort-consuming beast: the crane-fly larva. We thought we could continue with a note about another bryophyte-consuming beast, though a bit bigger – the bear!

Thomas and Bjørn are taking their Master of Science degrees on the food-habits of the brown bear (*Ursus arctos*), and they are among other things analyzing the content of bear-faeces. They have found several faeces containing between 50% and 90% bryophytes! The bryophytes were examined, and found to be mainly *Pleurozium schreberi*.

Earlier works on bear feces have also reported mosses among the content, but then in a rather low percentage. Generally the mosses have been regarded as accidental (Elgmork & Kaasa, 1992).

In this study also the faeces containing bryophytes in high quantities are regarded as exceptions. They belong to a mother and her two cubs, and they were found at the same time, in the beginning of May. Eating bryophytes may have happened only at one occasion for these individuals when there was low avail-

ability of high quality food. But even so the bears must have been eating a considerable amount of mosses at the time, and they must have intended to do so.

We also found faeces containing 15% *Brachythecium reflexum*, but here the moss may have happened to come along while the bear was eating ants (*Formicidae*).

Relatively few mammals are reported to feed on bryophytes (Richardson 1981, Longton 1984 and 1992), and the digestibility of mosses by caribou and reindeer (*Rangifer tarandus*) seem to be low (White & Trudell 1980, Person et al. 1980). We think that the same counts for bears since the mosses passed the digestive tract relatively undestroyed. The digestibility of grasses, that are also easily recognizable after been through the tract, seems to be pretty low in bears. Only about 17% of the total energy in grass is absorbed by the bears (Harting 1987). The energy content of mosses is considered to be a bit lower than the energy content in higher plants (Longton 1984) and we are still wondering what sort of non-optimal foraging our bears

have been up to..... Bears in general are not bryophyte-consuming beasts, anyway.

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Ecology Column: Send contributions to the column editor: Janice M. Glime, Department of Biological Sciences, Michigan Technological University, Houghton, Michigan 49931.

Aquatic Bryoecology

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Recently I got an exciting invitation to be a keynote speaker in a session on aquatic bryophytes. The exciting thing was that this is not for a bryological conference, but is from the North American Benthological Society. They are doing a session on stream bryophytes!

We all know that non-bryologists have largely ignored bryophytes, and studies on streams and lakes are no exception. However, recently, a number of ecologists have acknowledged the importance of this group.

In contrast, one ecologist I will not identify wrote that he was distressed about using his tax money to culture aquatic bryophytes as a detector of inorganic pollutants because the aquarium cultivation techniques have not yet been perfected. A respondent pointed out that perhaps the organisms that are easily cultured in aquaria may not be sensitive to pollutants and we need to learn more about others if we are going to assess damages. Philosophy aside, we have learned cultivation techniques for many bryophyte taxa, in axenic culture, terrariums, incubators, aquaria, and gardens. That no longer seems to be an impediment to experimentation.

The research project that precipitated these dollar-based comments is being conducted by Andy Montano, U.S. Bureau of Reclamation. Andy is growing *Hygrohypnum ochraceum* and stated that the first part of his experiment was to find a successful culture method. He will measure chlorophyll:phaeophytin ratio and determine bioconcentration rates for selenium and zinc from solution using GHAA and ICP. He will then determine the rate at which these elements return to the water by placing the moss in "clean" (no zinc or selenium) water for 10 days and measuring metal

concentrations in the water.

Another research biologist / forester, Stephen P. Rae of Napa, CA, who is also a bryologist, is looking at bryophytes as possible in-stream monitors for water quality of fisheries habitat on private land subject to timber harvest. He hopes they will prove to be a conservative organism for indicating the quality of the habitat and a useful indicator for cumulative effects. A researcher at another location is investigating the possibility of using mosses to sequester or break down organic compounds.

Yolanda Aguila, graduate student at the University of Arkansas, Fayetteville, AR 72701, is also studying the "Effects of forestry practices on stream ecosystems" in the Ouachita National Forest. She will assess the effects of four different silvicultural strategies on the moss coverage in selected streams by measuring biomass, assessing invertebrate communities in the moss, and examining retention by the moss of particulate inorganic and organic matter. To measure moss coverage she will assess area covered on all available substrata in a 100 m section of the stream.

It is encouraging to see members of government and other agencies recognizing the role of bryophytes in ecosystems. The knowledge in the field of bryophyte ecology is growing by leaps and bounds compared to its growth prior up to about 15 years ago, and it appears to be time for us to begin to understand the role bryophytes play in their various ecosystems.

In spite of Paul Richards' admonition about the takeover by *Fontinalis antipyretica* when introduced into a South African stream, Chris Mueller, in Madison Wisconsin, is exploring the possibilities of using bryophytes in reservoirs,

hopefully naturalizing them, to attract insects - a slightly larger scale cultivation! These reservoirs are alkaline and he hopes to use species of *Fissidens*. Hopefully he will have better luck than the South African group who found that instead of gaining aquatic insects, they lost the rock-inhabiting taxa that were already there.

Dr. Mark Johnston of the Centre for Northern Forest Ecosystem Research, Thunder Bay, Ontario, Canada, is involved in a study on the effects of harvesting on lake ecosystems. His group is developing a riparian zone vegetation classification in which bryophytes are considered an important component. They are finding that bryophytes carry a lot of ecological information indicating disturbance and other environmental conditions.

Of course, wetland work on bog / fen habitats has been prolific in northern Europe, and more recently in the northern part of North America as well. One area of concern, as we learn of the wonderful potential of peat moss for cleaning up oil spills or heavy metals, and making diapers more absorbent and bacteria free, is the recovery of our peatlands after disturbance. Dale Vitt and his associates have been working with Johnson & Johnson on optimizing recovery; Martha Nungesser, a graduate student in Virginia, is looking at factors responsible for stability in hummocks and hollows, particularly following disturbance, and undoubtedly numerous others are examining various aspects of *Sphagnum* growth and requirements for survival, dispersal, and regeneration.

There appears to be an exciting immediate future for the field of aquatic bryology!

ABLS meeting, 4-8 August 1996

The American Bryological and Lichenological Society is meeting in conjunction with the Bryological and Lichenological Section of BSA at the AIBS meeting in Seattle, Washington, 4-8 August 1996. Brent Mishler (bmishler@garnet.berkeley.edu), President-Elect of ABLs, and Paula DePriest (depriest@onyx.si.edu), Chair of the BSA Section, invite you to attend this meeting and present your latest research.

The focus of this year's meeting is "The Student," defined broadly to include graduate students, undergraduates, and amateurs. We want to make a special effort this year to attract all students interested in these organisms, to interact socially and scientifically, and thus to promote the future of the Society and the Section. To assist this effort, at the ABLs meeting last summer the membership voted to provide an extraordinary number of student travel awards. For this meeting only, all duly registered gradu-

ate and undergraduate students that give presentations can receive \$200 travel awards (up to a \$5000 cap — if we have more requests than funds, the individual awards may be pro-rated to not exceed the \$5000 maximum from ABLs). The Bryological and Lichenological Section of BSA will pool its allocated funds with those of ABLs to further support student travel awards. We plan to have special events focused on students, including a session on fund-raising with an NSF program director and a graduate student organized panel discussion on future trends and needs. We would welcome suggestions of other special events that would be of value.

Katie Glew and Judy Harpel have done a wonderful job designing a two-part bryophyte and lichen foray that will precede the meeting (described below). For social events we will have the traditional 7:00 Monday breakfast, and a Tuesday evening social. There will be a symposium on "The Regeneration Niche: Dis-

persal and Establishment of Bryophytes and Lichens" organized by Robin Kimmerer and Dale Vitt.

For further information about presenting a paper or poster, contact Brent Mishler (University and Jepson Herbaria, 1001 Valley Life Sciences Building, University of California, Berkeley, CA 94720-2465) for a title submission form and abstract form (abstracts are due to Mishler by March 1, 1996). If you wish to apply for a student travel award, please indicate so in a short letter accompanying the abstract, with some biographical information including your school, degree sought, and advisor. You will receive notification about travel awards in March. The A.J. Sharp award will again be given for the best student paper; if you wish to be considered for this please check item 11 on the title submission form.

This meeting promises to be an exciting one in all respects, and because of the focus on students it should be important to the future of our discipline. Please plan to come yourself and encourage all your students to attend.

ABLS Foray, 2-4 August, 1996

August 2-3 will be a two day trip on the Olympic Peninsula. This trip will give the participants a chance to see North American Temperate Rain Forest systems as well as some of the drier areas within the Puget Sound. It will be limited to 35 people and reservations have been made at the Rosemary Inn on Lake Crescent. Total cost is \$130.00, this includes the following: Accommodations, three meals (Friday dinner, Saturday breakfast, and sack lunch), the use of a conference room, ferry fees and transportation. Breakdown of the total price is: Accommodations: \$40.00, with your own sleeping bag, or \$10.00 extra for bedding. Transportation: \$90 for the entire trip, plus to and from Seattle. The trip will begin and end at the dormitories on campus.

August 4 will be a one day trip to the central Cascades, with a chance to see both subalpine and alpine environments

and the coniferous forests of Washington State. This trip will be limited to 45 people; it will begin and end at the dormitories on campus. Total cost is \$40.00 and will include lunch.

You may register for either trip alone, or both, as you choose.

As we will be going into areas that will require collecting permits these permits will be arranged ahead of time. Thus limited collecting will be allowed on both trips. Exsiccata collecting will not be allowed under the permit restrictions.

For more information please contact:

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Deceased

Prof. Paul Westmacott RICHARDS (Cambridge, Bangor, Tropical Rain Forest) died on 4 October 1995. He was the longest standing member of the British Bryological Society, having joined as a boy in the early 20's, and he was instrumental in bringing the Society out of the doldrums after the last War. His herbarium was presented to NMW in 1977. His classic book *The Tropical Rain Forest* will appear this year in a second edition which it is a great pity he did not live to see. A tribute to his great bryological vision will appear in the *Journal of Bryology*.

Roy Perry

The Bryological Society of Ukraine

The Bryological Society of Ukraine was founded in June 1994 when Prof. S. Rob Gradstein was on a visit to Lviv. During his presence, a meeting of bryologists elected Dr. O. T. Demkiv, head of the Department of Ecomorphogenesis at the Institute of Ecology of the National Academy of Sciences in Ukraine, as the chairman of the society, and Cand. Scient. O. V. Lobachevska as secretary. Before this, most bryologists of Ukraine were members of the Ukrainian Botanical Society, which had no separate bryological section.

The organization of bryological investigations in Ukraine is tightly connected with the scientific activity of the eminent Ukrainian botanists D. K. Zerov (1895-1971) and A. S. Lazarenko (1901-1979), who developed vast floristic-geographic studies of the bryoflora of Ukraine, as well as of some other regions of the former Soviet Union. As a result of their research, descriptions and handbooks were published on the moss (Lazarenko 1936, 1955), peat moss and liverwort (Zerov 1935, 1939) floras of Ukraine, and on moss floras of the Far East of the former Soviet Union (Lazarenko 1951), and Byelorussia (Lazarenko 1951).

Continuing floristic and taxonomic investigations by Kiev bryologists, headed by D. K. Zerov, focused more and more on the phylogenetic aspects as can be seen from the book "Outlines of non-vascular plant phylogeny" (Zerov 1972). At that time the Kiev bryological school was represented by scientists such as L. J. Partyka and H. F. Bachurina. The well known Byelorussian bryologist G. F. Rykovsky and the Tadjikistan bryologist B. Barabadjabov also had their origin in this school. The present generation of bryologists of the Kiev school is represented by M. F. Bojko, professor of the Herson Pedagogical Institute, and V. M. Virchenko and P. P. Bolyukh, Department of Spore Plants, Institute of Botany, National Academy of Sciences of Ukraine. These bryologists have carried out complex investigations (taxo-

nomic, geographic, ecological) of bryophytes, including inventories of the bryophyte floras of national parks and nature reserves, research concerning life strategies and sexuality, the conservation of rare species and effects of anthropogenic factors.

In 1945 Prof. Lazarenko left Kiev for Lviv and created a new school, heading the systematic investigations of the bryoflora of West Ukraine, in particular of the Carpathian. The first representatives of the Lviv school were K. O. Ulychna, V. M. Melnychuk and M. P. Slobodjan, as well as the Tadjik bryologist O. K. Mamatkulov.

In 1963 the Department of Experimental Morphology of the Botanical Institute of the Academy of Sciences of the Ukrainian SSR was founded in Lviv. From its creation, the work at this department was guided by A. S. Lazarenko. The bryological research of the department included studies of moss karyotaxonomy, morphology (especially apogamy), the physiology of development, particularly of the early protonema stages, and aspects of evolution, especially the species concept. To evaluate the ecological and geographical heterogeneity of moss species, chromosomal analysis and experimental studies of ontogeny in individual populations in laboratory cultures were conducted by A. S. Lazarenko, E. I. Vysotska and E. N. Lesnyak. The results of their investigations were summarized in the "Atlas of chromosomes of leafy mosses of USSR" (1971), and in several papers.

At present the main directions of bryological research that were initiated by A. S. Lazarenko in Lviv are developed at the Department of Ecomorphogenesis, headed by Dr. O. T. Demkiv. Chromosomal analyses to evaluate the ecological and geographical diversity of moss species and their infrastructure (I. S. Danylkiv) are presently carried out in connection with cytophotometric estimations of DNA content (O. V. Lobachevska) and electrophoretic analyses of proteins and enzymes (O. L. Baik). Experi-

mental work concerning the effects of physical and chemical factors on moss protonemata are continuing. The localization, polarity and rhythm of metabolic changes closely connected with cell differentiation are investigated cytophotometrically and cytofluorometrically (O. T. Demkiv, O. R. Kardash). Experimental studies of two-dimensional growth in the protonemata of *Tetraphis pellucida* are also in progress (J. D. Chorkavtsiv). Data on experimental apospory and apogamy of mosses, in particular for *Pottia intermedia*, are used for the biological characterization of the decisive events causing the determination of sporophytic and gametophytic morphogenesis (R. T. Ripetsky, N. A. Kit, V. I. Matasov). Recently, studies have begun on the influence of environmental pollution on the diversity, distribution, and frequencies of mosses (Z. I. Mamchur, L. O. Demkiv). Further studies will investigate gravitropism in mosses (C. I. Chaban), and S. V. Hapon, originally from the Lviv bryological school and now professor of the Poltava Pedagogical Institute, studies the bryophytes of the Ukraine forest-steppe zone.

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Dr. Orest T. Demkiv, Department of Ecomorphogenesis, Institute of Ecology of the Carpathians, Academy of Sciences of Ukraine, Stefanik St. 11, 290 000 Lviv, Ukraine.

News from Duke

JOHN SHAW has accepted a position as Associate Professor of Botany at Duke University, beginning September 1, 1996. BERNARD GOFFINET will also join the Department of Botany, at Duke, to work with Dr. Shaw as a Postdoctoral Associate, at the same time. Current research interests in the lab include molecular phylogenetics, genetic approaches to biogeography, hybridization in mosses, and experimental studies of mating structure in natural populations. Students interested in pursuing graduate studies in bryophyte systematics and evolution at Duke should contact: Office of Graduate Studies,

News from the Bryological Society of Japan

The Bryological Society of Japan elected new officers for January 1996 - December 1997, at its annual meeting in Okinawa, 28-30 July, 1995.

President: T. Seki (Hiroshima University)

Secretary: H. Kanda (National Institute of Polar Research)

Treasurer: S. Imura (National Institute of Polar Research)

Auditor: Z. Iwatsuki (Hattori Bot. Lab., Okazaki Branch)

Editor: N. Nishimura (Okayama University of Science)

Associate Editors: J. Hasegawa (Miyazaki University) and T. Furuki (Natural History Museum and Institute, Chiba)

Council members: H. Kiguchi (Saitama), H. Shirasaki (Niigata), Y. Sumiyoshi (Nagano), J. Hasogawa (Miyazaki), C. Miyagi (Okinawa), H. Deguchi (Hiroshima), H. Doei (Wakayama), M. Higuchi (Ibaraki), T. Higuchi (Fukushima), and K. Yamada (Mie).

The 25th annual meeting of the society will be held at Nagano-ken (Central Honshu), 26-28 July, 1996. The events include a paper reading session, a society banquet, a business meeting, and a field excursion. All inquiries about the meeting should be addressed to Dr. Z. Iwatsuki, Hattori Botanical Laboratory, Okazaki Branch. 10-3 Mutsuna-shinmachi, Okazaki-shi, Aichi-ken 444, Japan.

N. Nishimura, Hiruzen Res. Inst., Okayama Univ. of Sci., Kawakamison, Maniwa-gun, Okayama 717-06, Japan.

Department of Botany, Duke University, Box 90338, Durham, NC 27708-0338.

Lewis E. Anderson, Department of Botany, Duke University, Box 90338, Durham, NC 27708-0338

A new book helping African Bryology

Grolle, R.: The Hepaticae and Anthocerotae of the East African Islands. An Annotated Catalogue. Bryophytorum Bibliotheca 48. 178 pp. J. Cramer in der Gebrüder Borntraeger, Berlin - Stuttgart 1995. ISBN 3-443-62020-5

Riclef Grolle's new catalogue is much more than an annotated checklist of **Afr 3** (in the sense of Index Muscorum). He has not only taking the painstaking task to collect the very scattered literature data on the Hepaticae of the endemic rich Indian Ocean islands, but he has also studied many types not previously seen by modern authors. Other critical specimens from 18 herbaria have been examined and many colleagues (of who four already died) were consulted. He solved many taxonomic problems, established new synonyms and dealt in detail with a few difficult genera.

The **Introduction**, containing the history of exploration of East African Islands, followed by a taxonomic arrangement of the genera indicating the number of species in each. Then taxonomic notes on critical genera (e.g. *Lophocolea/Chiloscyphus*, *Plagiochila*, *Lejeunea/Rectolejeunea*) and important nomenclatural remarks on the generic name of *Archilejeunea* are supplied. *Meta-lejeunea* Grolle is described as a new genus, based on *Microlejeunea cucullata*.

The middle chapter, an **Alphabetic list of the species**, enumerates confirmed records on 436 liverwort species from the area (with an additional 11 uncertain records), belonging in 103 genera. After the synonymy of each species the distribution is given with detailed references from the islands or island groups, as the Comoros, Madagascar, Mascarenes (if no distinction of island

in the original publication), Mauritius, Rodriguez, Réunion and the Seychelles. Finally references to the available illustrations of the species are also supplied. The species names used are carefully revised. In the enumeration 8 new names and 38 new synonyms are used (e.g. it is established, that *Bazzania borbonica* is identical with the SE Asian *Bazzania praerupta*, see appendix at the end of volume) and 15, mostly *Plagiochila* species are newly lectotypified. In the enumeration there are many valuable annotations for particular species.

I could find only a very few records missing, for example *Diplasiolejeunea zakiae* Tix., *Lindbergia* 4: 123 (1971) from Madagascar, should be added. (See the story about this species by Grolle & Pócs in Bizot & Pócs 1982: 16-17). On the other hand, *Diplasiolejeunea runsorensis* Steph. (p.57) does not occur in the area. Stephani's record (1916: 920) from Madagascar according to Jones 1974: 555 refers to var. *australis* E. W. Jones (l.c.), which was later synonymized by Tixier (1984: 21) with *Diplasiolejeunea villaumei* Steph., which is confirmed also by Grolle himself.

The Annotated Catalogue should prove to be extremely helpful for all those who are working on the identification, taxonomic revision or phytogeography of tropical African liverworts. We are very grateful to Dr. Riclef Grolle for taking this troublesome task to provide us with such a useful guide book for studies of East African island hepaticae. [Tamás Pócs, Eger]

Wanted: *Rhacocarpus purpurascens* from Réunion

Last year I finished a revision of the genus *Rhacocarpus*, which will be published soon in *Cryptogamie, Bryologie et Lichenologie*. During the revision it emerged that there is no holotype of *Rhacocarpus purpurascens* in the Bridel-herbarium at Berlin, which is apparently not complete. Due to the lack of any other *Rhacocarpus purpurascens* specimen in the Bridel herbarium, there is no reasonable chance for lectotypification. Therefore a neotypification is required. It would be nice if the neotype could be from the type locality. The type locality is "In caespiticibus humentibus et ad saxa basaltica madida in Planitie des Chicots Insulae Borboniae hucusque tantum lectum est. Clar. Bory St. Vincent detexit et communicavit", which is Plain des Chicots on Réunion. Réunion is a touristic place today and the Plain des Chicots is still a well known place visited by the numerous bryologists collecting in the island. I would be grateful if bryologists having visited Réunion could check whether they have *Rhacocarpus purpurascens* from the type locality so that this specimen may be used as neotype.

Jan-Peter Frahm, Botanisches Institut, Meckenheimer Allee 170, D 53115 Bonn, Germany.

The Dutch Bryological and Lichenological Society (DBLS)

This year the DBLS commemorates its fiftieth anniversary with several festive activities.

Program of activities in 1996.

Saturday, 27: January. Field meeting 1. Bryophytes around Assen. Field meeting 2. Bryophytes in the dunes near Rotterdam.

Sunday, 28 January. Field meeting 1. Bryophytes near Maastricht. Field meeting 2. Lichens around Amersfoort.

Saturday, 3 February. Meeting-day for bryologists and lichenologists, on which problems are discussed and bryophytes and lichens brought, can be identified with the help of others.

2nd half of February. A fortnight's field meeting to Gran Canaria.

Saturday, 9 March. Utrecht. Lectures by several speakers on bryological and lichenological subjects. This day will have a festive character.

Sunday, 10 March. Field meeting. Lichens round Budel.

Saturday, 23 March. Field meeting. 1 Bryophytes in the new polder of Zuidelijk Flevoland. Field meeting 2. Bryophytes round Nijmegen.

Saturday, 13 April. Field meeting. Bryophytes round Mariëberg.

26-30 April. A four day spring field meeting at Woerden.

Saturday, 1 June. Field meeting. Bryophytes and lichens round Hoorn

21-31 July. A ten day field meeting in Devonshire, England. We will be based at Bovey Tracey, east of Dartmoor National Park.

September. Special festive edition of *Natura*, completely dedicated to subjects on bryophytes and lichens.

20-22 September. Fieldmeeting on the island of Schiermonnikoog.

Autumn of 1996. Festive presentation of the new Dutch Flora of Liverworts.

L. Spier, Kon. Arthurpad 8, NL-3813 HD Amersfoort, Netherlands

DIARY

Continued

1996

August 5-8. To celebrate the 100th anniversary of the British Bryological Society, a symposium entitled 'Innovations in bryophyte research' will be taking place at the University of Glasgow. Contributions are being invited. Local Secretary: Dr J.H. Dickson, Department of Botany, The University, Glasgow, G12 8QQ. Tel.: 0141 339 8855, Fax: 0141 330 4447.

August 9-16. Bryophyte course: "Mosses and Liverworts". Tutor: Dr. Martha Newton, Preston Montford Field Centre, Montford Bridge, Schremsbury, SY4 1DX. Offering individual guidance at all levels. Details from the Warden, Ms. S. Townsend.

August 10-17. The BBS summer field meeting in Ballachulish, Argyll, Scotland. Local Secretary: Gordon Rothero, Stronlonag, Glenmassan, by Dunoon, Argyll, PA23 8RA. Tel.: 01369 706281

August 16-23. Bryophyte course: "Mosses and Liverworts of the Lake District". Tutor: Dr. Martha Newton, Blencathra Field Centre, Threlkeld, Keswick, Cumbria, CA12 4BR.. Offering individual guidance at all levels. Details from the Warden, Dr. R. Lucas.

August 17-24. BBS summer field meeting in Braemar, Kincardine & Deeside, Scotland. Local Secretary: Dr. Noel Pritchard, Foresters' Cottage, Durris, Kincardine, AB31 3BD. Tel.: 01330 811215.

August 21-25. Field work at Champex, Valais (Central Alps). Information: P. Geissler, Conservatoire et jardin botaniques, C. P. 60, CH-1292 Chambésy/Genève. FAX 41-22-738 45 97. email: geissler@cjb.unige.ch

August 27-29. The Linnean Society of London is holding a conference in Belfast, Northern Ireland on 'Systematics and Biological Collections'. Further information from Cathrine R. Tyrie, Department of Botany, Ulster Museum, Belfast BT9 5AB, N. Ireland. Phone 01232 381251. Email: crt@belumreg.demon.co.uk.

September 1-6. Course: "Woodland Bryophytes". Tutor: Dr. Martha Newton, Rhyd-y-creuau, Drapers' Field Centre, Bets-y-coed, Gwynedd, LL24 0HB. Offering individual guidance at all levels. Details from the Warden, Mr. K. Iball.

September 7-17. Bryophyte course: "Mosses and Liverworts". Tutor: Dr. Martha Newton, Kindrogan Field Centre, Enochdhu, Blarigowrie, Perthshire, PH10 7PG. Offering individual guidance at all levels. Details from the Warden, Dr. A. Gimingham.

October 20-22. BBS Annual General Meeting and Symposium Meeting at Ness Botanic Garden, Wirral. Local Secretary: Dr. Hugh McAllister, Ness Botanic Gardens, The University of Liverpool, Environmental & Horticultural Research Station, Ness, Neston, Wirral, Cheshire, L64 4AY. Tel.: 0151 3530123.

October 8-12. International Symposium of Botanic Systematics and Plant Geography, Herbarium Haussmecht, Jena, Germany.

October 14-17. The ninth Bryological-lichenological days of the Czech bryologists in Jihlava town. Send the applications to RNDr. Ivan Novotný, Department of Botany, Moravian Museum, Preslova 1, CZ-602 00 Brno, Czech Republic. E-mail mzm@mzm.anet.cz.

1997

May 26-30. IAB meeting in Beijing, China. Topic: "2000's Bryology. Followed by two excursions, one to SE China and one to NW China. First circular will be ready in mid 1996. Contact person: Prof. P. C. Wu, Inst. of Botany, Academia Sinica, Xian shan, 100093 Beijing, China. Fax: 0086-010-8319534.

The Bryological Times is a newsletter published bimonthly for the *International Association of Bryologists*. Items for publication are to be sent to the Editors (preferably HW), except for those for the regular columns, which may go **direct** to the column editors.

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Column Editors

J.-P. Frahm & B. O'Shea (computer techniques); J. M. Glime (ecology); T. Hallingbäck & E. Urmí (conservation); A. R. Perry (news from the herbaria); T. Pócs (tropical bryology); M. L. Sargent (techniques); J. Vána & W. R. Buck (floristics and phytogeography); D. H. Vitt (diary, best book buys, taxonomy).

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For details regarding membership of to *International Association of Bryologists* (currently US \$ 11.- per year) write to Dale H. Vitt, Department of Botany, University of Alberta, Edmonton, Alberta, Canada T6G 2E9.

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April 10-16. BBS spring field meeting in Dolgellau, Gwynedd. Local Secretaries: Tim Blackstock & Marcus Yeo, Countryside Council for Wales, Plas Penrhos, Penrhos Road, Bangor, Gwynedd, LL57 2LQ. Tel.: 01248 370444.

April 11-14. Spring excursion of the Bryologisch-Lichenologische Arbeitsgemeinschaft für Mitteleuropa (BLAM): Nahe Valley near Idar-Oberstein (Rhineland-Palatinate, Germany). Further information: Steffen Caspari, Im Falkenbösch 46, D-66606 St. Wendel.

April 26-28. Bryophyte course: Sphagnum Weekend. Tutor: Dr. Martha Newton, Rhyd-y-creuau, Drapers' Field Centre, Bets-y-coed, Gwynedd, LL24 OHB. A chance to learn how to recognize most of the British species in the field, and to study them alongside keys. Details from the Warden, Mr. J. Ellis.

May 22-29. Bryophyte course: "Mosses and Liverworts". Tutor: Dr. Martha Newton, Orierton Field Centre, Pembroke, Dyfed, SA71 5EZ. Offering individual guidance at all levels. Details from the Warden, Dr. R. G. Crump.

June 7-9. Annual assembly of the SBLV with paper reading meeting and excursions: Wägital, Schwyz (northern Prealps). Information: P. Geissler, Conservatoire et jardin botaniques, C. P. 60, CH-1292 Chambésy/Genève. FAX 41-22-738 45 97. email: geissler@cjb.unige.ch

July 11-13. Second International *Sphagnum* Field Trip and Symposium in New Jersey, New York and Quebec. Further information from Dr. Line Rochefort, Phytologie, FSAA, Université Laval, Québec, Canada, G1K 7P4, fax (418) 656-7856 or e-mail LROC@vm1.ulaval.ca.

July 13-14. 4th Annual Canadian Peatland Restoration Workshop at Université Laval, Québec, Canada. Further information from Dr. Line Rochefort.

July 25-28. International Symp. of Plant Character and Diversity of East Asia. Kunming Institute of Botany, Academia Sinica, Kunming 650204, China

July 26-August 2. Course on "Mosses and Liverworts". Tutor: Dr. Martha Newton, Malham Tarn Field Centre, Settle, North Yorkshire, BD24 9PU. Offering individual guidance at all levels. Details from the Warden, Mr. K. Iball.

July 31 - August 5. Summer excursion and annual assembly of the Bryologisch-Lichenologische Arbeitsgemeinschaft für Mitteleuropa: Stubai Alpen (Tyrol, Austria). Further information: Paul Hofmann, Unterer Stadtplatz 8a, A-6060 Hall in Tirol.

August 1-2. Workshop on Conservation of Bryophytes in Europe, Reading, U.K. Topics: 1) Revisions of Red Data Books of Europe and the application of the new IUCN categories. 2) Floristic investigations of Europe: the status of knowledge and identification of areas where more work is needed. Enquires and pre-registration to Royce E. Longton, Department of Botany, University of Reading, Whiteknights, RG6 6AS Reading, U.K. Fax. +44 1 734 753 676.

August 2-4. ABLs Foray. Field trip on the Olympic Peninsula and central Cascades. For more information please contact: Katie Glew, Botany Dept. Univ. of Washington, e-mail: kglew@u.washington.edu phone: 206-685-2428 (lab), 206-725-0433 (home) fax: 206-684-1728 or Judy Harpel, Botany Dept. Univ. of British Columbia, e-mail: harpel@clark.edu phone: 604-822-3344 (lab), 360-254-6671 (home and work)

August 4-8. ABLs meeting in conjunction with the Bryological Section of BSA at the AIBS meeting in Seattle, Washington. Further information from Brent Mishler, University and Jepson Herbaria, 1001 Valley Life Science Building, Univ of California, Berkeley, CA 94720-2465.