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Principles of checklists

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While compiling bryophyte checklists for Hunan (Rao et al. 1997) and Jianxi (Fang et al. 1998) Provinces of China we met several difficulties. First, some of the records for Hunan and Jianxi were mere lists of names without documentation, and second, some of the records are doubtful on the basis of the general known distribution of the taxa. Also, some records cited in earlier checklists were based on literature not available to us, or even on unpublished manuscripts. We feel it necessary to discuss the methodology of checklist making here.

PRINCIPLE 1

The basic principle of all checklists is that they should be based on herbarium specimens which can be traced and the identity of which can be checked, when or if necessary.

Checklists are a useful tool of floristics and phytogeography, and a summary of the flora of a certain area. The area dealt with may be a country, some smaller area such as a province, or more rarely a continent or some other larger

geographical area. Examples of all these can be cited and are listed by Lane (1978) and Greene & Harrington (1989). Basically, two different kinds of lists have been published. Some checklists are mere lists of the flora existing in the area dealt with, while some others carefully document all the knowledge by citing published records. The method and layout partly depend on the area dealt with. In many European countries, North America, and Japan the checklists may be mere lists without any further information. This is easily understood; for instance, it might be difficult to find a publisher for a checklist including references to all published records of *Ceratodon purpureus* (Hedw.) Brid. for Finland, while to cite the records of *Ceratodon* for Pakistan is still reasonable. Most useful checklists are those which give the reasons for nomenclatural changes, list the synonymies, and cite the additions to the flora. This is done by citing the papers dealing with nomenclature and floristic publications. Floristic publications cite, or should cite, the specimen

on which the record is based, and the museum or herbarium in which this voucher is kept. Some checklists include floristic novelties, Grolle & Piippo (1984) being a good example of this method. The discussion above leads to the first principle.

PRINCIPLE 2

Flora's lacking documentation should be used very critically as basis of checklists.

The bases for any checklist are the floras of the area dealt with, if such works exist. Fortunately, the bryologists of earlier generations were careful in their documentation. Such works as Fleischer's (1904-1923) flora of Java, Brotherus' (1923) Fennoscandian flora, Bartram's (1939) Philippine flora, as well as some modern floras (Gangulee's 1969-1977, Whittier 1976, Magill 1981, 1987, Allen 1994, Bai & Zhao 1997) cite specimens. This tradition should be continued when the floras of imperfectly known areas are published. This can be done very shortly e.g. by

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Principles of checklists

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citing the specimens of which the figures of the work were drawn, or by citing widely distributed exsiccata (e.g. Noguchi 1987-1994). We have found it most unfortunate that Eddy (1988-1996) did not continue this tradition.

The neglect of documentation in floras creates problems for checklist writers. How are we to deal with records of taxa which are highly doubtful on the basis of the general distribution of the taxon? We give here one example. Chang (1978) in her flora published a description and illustration of *Mnium venustum* Mitt. (*Plagiomnium venustum* (Mitt.) T. J. Kop.) and cited it for many Chinese provinces. However, *P. venustum* is an endemic of the Pacific coast of North America; the illustration in Chang's flora does not present it; and no Chinese specimens have been available (Koponen 1981, Koponen & Lou 1982). Redfearn et al. (1996) noted these references and did not accept *P. venustum* as valid for China.

PRINCIPLE 3

Popularizing books and plant sociological papers lacking documentation should be omitted or used very critically as basis of checklists. Records in unpublished manuscripts and data files not generally available should not be used as bases of checklists.

The records published in popularizing books, or in works dealing with forestry or describing vegetation are often not documented. These can be doubted on the basis of the general distribution of species, although all distributions are not yet known in detail. Checklists should not be based on unpublished manuscripts, undocumented mimeographed lists or electronic files not generally available.

PRINCIPLE 4

The information in the checklists should be given in an easily available form.

Well documented checklists are useful sources of information and using them should not be time consuming. The references to the literature should

be given directly in the list, not through a code of numbers (cf. Piippo 1990 and Redfearn et al. 1996). Miller et al. (1978) contains vast knowledge of the floristics of the Pacific area. The distribution of taxa is readily available, but finding the references for a certain taxon within a certain group of islands is laborious. Nomenclatural and floristic additions can be cited through notes (e.g. Koponen et al., 1977, Corley et al. 1981).

Acknowledgements. Grants nos. 10134229 and 153706 from Academy of Finland to Timo Koponen are cordially acknowledged.

REFERENCES

- Allen, B. 1994: Moss flora of Central America. Part 1. Sphagnaceae-Calymperaceae. - 242 pp., Missouri Botanical Garden, St. Louis.
- Bai, X.-L. & Zhao, Z.-T. 1997: Flora bryophytarum intramongolicarum. - 541 pp. Typis Universitatis Intramongolicae.
- Bartram, E. B. 1939: Mosses of the Philippines. - Philipp. J. Sci. 68: 1-437.
- Brotherus, V. F. 1923: Die Laubmoose Fennoskandias. - Flora Fennica 1:1-635. (Facsimile 1974, Koenigstein.)
- Chang M.-S. 1978. Bryophyta in Flora Tsinglingensis. Tom 3. Bryophyta (Par. 1). Science Publisher, Beijing. 329 pp.
- Corley, M. F. V., Crundwell, A. C., Düll, R., Hill, M. O. & Smith, A. J. E. 1981: Mosses of Europe and Azores; an annotated list of species, with synonyms from recent literature. - J. Bryol. 11: 608-689.
- Eddy, A. 1988, 1989, 1996: A handbook of Malaysian mosses. 1-3. - 1. Sphagnales to Dicranales. - 204 p. 1988; 2. Leucobryaceae to Buxbaumiaceae. - 256 p. 1989; 3. Splachnobryaceae to Leptostomataceae. - 277 p. 1996.
- Fang, Y.-M., Enroth, J., Piippo, S. & Koponen, T. 1998: Annotated checklist of the bryophytes in Kiangsi Province, China. - Hikobia
- Fleischer, M. 1904-1923: Die Musci der Flora von Buitenzorg, zugleich Laubmoosflora von Java. 1-4. Leiden.
- Gangulee, H. C. 1969-1977: Mosses of eastern India and adjacent regions. 1-6. Calcutta.
- Greene, S. W. & Harington, A. J. 1989: The conspectus of bryological literature. Part 2. Guide to national and regional literature. - Bryophytorum Bibl. 37: 1-321.
- Grolle, R. & Piippo, S.: Annotated catalogue of Western Melanesian bryophytes. I. Hepaticae and Anthocerotae. - Acta Bot. Fennica 125: 1-86. 1984.
- Koponen, T. 1981: A synopsis of Mniaceae (Bryophyta). VI. Southeast Asian taxa. - Acta Bot. Fennica 117: 1-34.
- Koponen, T., Isoviita, P. & Lammes, T. 1977: The bryophytes of Finland: An annotated checklist. - Flora Fennica 6: 1-77.
- Koponen, T. & Lou, J.-S. 1982: Miscellaneous notes on Mniaceae (Bryophyta). XII. Revision of specimens in the Institute of Botany, Academia Sinica, Beijing, China. - Ann. Bot. Fennici 19: 67-72.
- Lane, D. 1978: A geographical guide to bryophyte floras of the world 1. - Miscellanea Bryol. Lichenol. 8: 15-34.
- Magill, R. E. 1981, 1987: Flora of southern Africa. Bryophyta. 1, 2. - 1, Sphagnaceae-Grimmiaceae, i-xv, 1-291 p. 1981. - 2, Gigaspermaceae-Bartramiaceae, i-ix, 292-443. - Government Printer, Pretoria.
- Miller, H. A., Whittier, H. O. & Whittier, B. A. 1978: Prodrum florae muscorum Polynesiae. - Bryophytorum Bibl. 16: 1-334.
- Noguchi, A. 1987-1994: Illustrated moss flora of Japan 1-5. - Hattori Botanical Laboratory, Nichinan.
- Piippo, S. 1990: Annotated catalogue of Chinese Hepaticae and Anthocerotae. - J. Hattori Bot. Lab. 68: 1-192.
- Rao, P.-C., Enroth, J., Piippo, S. & Koponen, T. 1997: Annotated Checklist of the bryophytes in Hunan Province, China. - Hikobia
- Redfearn P.L. Jr., B.C. Tan & S. He, 1996: A newly updated and annotated checklist of Chinese mosses. - J. Hattori Bot. Lab. 79: 163-357.
- Whittier, H. O. 1976: Mosses of the Society Islands. - x, 410 p. The University Presses of Florida, Gainesville.

Holomitrium-complex

I am a graduate student at Missouri Botanical Garden. My thesis topic will be a revision of the Holomitrium-complex (consisting of *Holomitrium*, *Eucamptodontopsis* and *Schliephackea*) in the Dicranaceae. I would be interested in receiving specimens of members of this complex from all parts of the world.

Michelle Price, Missouri Botanical Garden, P.O. Box 299, St. Louis, MO 63166-0299, USA, E-mail mprice@admin.mobot.org, Fax: (314) 577-9594

Activities of the Sociedad Española de Briología (SEB)

The Sociedad Española de Briología (SEB) was constituted in 1989 to promote the study of bryophytes in the Iberian Peninsula. The first President of the SEB was Dr. Creu Casas (Universidad Autónoma de Barcelona), the most important Iberian bryologist of this century and the key impetus for the creation of the Society. After her term of office, Dr. Juan Guerra (Universidad de Murcia) took the chair, and nowadays the Council of the SEB is formed by Dr. Francisco Lara (President, Universidad Autónoma de Madrid), Dr. Javier Martínez Abaigar (Vice-President, Universidad de La Rioja), Dr. Ricardo Garilleti (Secretary, Universidad Europea de Madrid), Mr. Patxi Heras (Treasurer, Museo de Ciencias Naturales de Álava), Dr. Montserrat Brugués (Elected Member, Universidad Autónoma de Barcelona), Dr. Felisa Puche (Elected Member, Universidad de Valencia) and Dr. María Jesús Cano (Elected Member, Universidad de Murcia). At the present time, the SEB is composed of 60 members, mainly from Spain and Portugal. Applications for membership can be addressed to the Secretary, from whom additional information may be obtained. Annual dues are 3,000 peseta, approximately US \$ 20 (1,000 peseta for student members).

The SEB's Bulletin, *Boletín de la Sociedad Española de Briología*, is published twice a year, and the 12th number will appear next May. Bryological contributions not longer than five pages are accepted for publication after a revision made by two SEB's members, and informative notes are also welcome. At least one of the authors must be a member of SEB.

Members of SEB regularly attend the Symposia of Cryptogamy held biennially in Spain, where phycologists, mycologists, lichenologists and pteridologists share their scientific knowledge together with bryologists.

The SEB also organises a biennial field meeting, usually of a week's duration, in Spanish zones of bryological interest. These meetings represent the continuation of those held by Spanish cryptogamists (particularly bryologists) since the First Course of Bryology in Barcelona (1968). Field meetings have been successively held in such diverse places as Vigo (Galicia), Canarias, Cabo de Gata (Almería), the Iberian Range (Sierras de Albarracín, Titaguas, Gúdar, Javalambre, Demanda and Moncayo), Ancares (provinces of Lugo and León), Páramos de la Lora (Burgos), Arribes del Duero (Salamanca), Sierra Morena (Badajoz) and La Liébana (Cantabria), covering a wide ecological range of the Iberian environments. As a consequence of bryological work carried out in the meetings, 11 scientific papers written by almost 20 authors were published in Spanish journals under the common name "Aportaciones al conocimiento de la flora briológica española".

The most recent field meeting of the SEB was celebrated in the Natural Park of Sierra de Aracena and Picos de Aroche (province of Huelva, western Andalucía) between 9 and 13 February. This zone constitutes the westernmost part of Sierra Morena, one of the more underexplored zones of Andalucía. Fourteen members of SEB coming from Madrid, Murcia, Barcelona and La Rioja attended and enjoyed five sunny days of a premature Andalusian spring in the middle of winter. The "Finca Valbono" was chosen as the meeting headquarters; situated at 1.5 km far from Aracena (10,000 people), it had the advantage of being near enough from the town so as to make logistics easier but far enough to feel ourselves completely in the field, surrounded by pretty "dehesas". Precisely the "dehesas" of *Quercus rotundifolia* and *Q. suber*, together with chestnut (*Castanea sativa*) and olive (*Olea europaea*)

groves, and riparian forests (with plenty of sclerophylls such as *Viburnum tinus* and *Arbutus unedo*) were particularly surveyed. The abundance of hornworts and thallose liverworts was remarkable, but we all were convinced that in two weeks bryophytes would have been considerably better for sampling, since many species were still immature. Bryological exploration was conducted every day until the evening, and afterwards some bryological contributions reflecting the present research projects in which members of SEB are involved were presented. These presentations had the aim of enriching the scientific content of the meeting. We must also confess that we did a two-hour quick trip to Jabugo, the hometown of "jamón serrano" (cured ham), a tasty morsel obtained from black pigs fed with *Quercus* acorns. Bryophytes collected in this meeting will be the subject of a paper that will be published shortly in the SEB Bulletin.

Finally, it is a pleasure to inform that three members of SEB will contribute invited lectures to the IX OPTIMA Meeting (Organization for the Phyto-Taxonomic Investigation of the Mediterranean Area), that will be held in Paris next May. Drs. Francisco Lara (Universidad Autónoma de Madrid), Rosa María Ros (Universidad de Murcia) and Cecilia Sérgio (Universidade de Lisboa) will respectively speak on "Diversity and originality of the genus *Orthotrichum* in the western Mediterranean basin", "The genus *Aloina* in the Mediterranean basin: taxonomy and distribution" and "Bryological research as a base for validating the Mediterranean isoclimatic zone in Portugal". Iberian bryology enjoys good health by now!

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Report on the August 1997 meeting of the American Bryological and Lichenological Society, Montreal, Quebec, Canada.

The ABLS meeting just completed in Montreal was a success in many respects. A large number of students participated, assisted by ABLS travel awards from a fund generated by gifts from members (that are matched by funds from the Society).

I would like to thank the field trip organizers (Jacques Brisson as overall coordinator; Oana Spinu and Catherine Boudreault for the pre-meeting trips; Francois Lutzoni, Ernie Brodo, and Stephen Clayden for the four-day post-meeting trip) as well as the symposium organizers ("Phylogeny of Lichens" organized by Francois Lutzoni; "Phylogeny of Bryophytes" organized by Barbara Crandall-Stotler, Efrain De Luna, and myself; and "Recent Advances in Bryology and Lichenology for Undergraduate Teaching" organized by Paula DePriest). In addition, a special thanks to Joan Crowe, Linda Ley and Pak Yau Wong for organizing a lab session on basic identification ("A Hands-on Introduction to Lichen, Liverwort and Moss Identification"), and to Lars Söderstrom and Alan Weakley for organizing a stimulating session on bryophyte and lichen conservation (which has resulted in the formation of an ABLS Conservation Committee to interface with European and IAB efforts).

Congratulations are due for several prizes announced at the Montreal meeting. The 1997 A.J. Sharp Award for best student paper at the annual meeting was presented to Katherine A. Preston for her paper entitled: "Ecological and developmental studies on the dwarf male breeding system of the moss *Dicranum scoparium* in the North Carolina Piedmont." The Sullivant Award for best paper on bryology published in *The Bryologist* during 1996 went to Catherine La Farge-England for "Growth form, branching

pattern, and perichaetial position in mosses: cladocarp and pleurocarpy redefined."

The Tuckerman Award for best paper on lichenology published in *The Bryologist* during 1996 went to A.M. Shirazi, Patricia Muir, and Bruce McCune for "Environmental factors influencing the distribution of the lichens *Lobaria oregana* and *L. pulmonaria*."

The newly elected officers of the Society are: President-Elect Robert Egan, Secretary-Treasurer James Lawrey, Members-at-Large Paula DePriest, Katherine Glew, and Barbara Thiers

The ABLS annual meeting next summer will be June 11-16, 1998, in San Juan, Puerto Rico, along with the Mycological Society of America. The ABLS program organizer will be President-Elect Bob Egan (egan@unomaha.edu). Abstracts on the proper forms must be received on or before January 28, 1998. Forms are available from Bob, or from the MSA program organizer (Mary Berbee, phone: (604) 822-3780, FAX: (604) 822-6089, or e-mail: berbee@unixg.ubc.ca). This will be a great opportunity for the lichenologists to interact with their mycological colleagues, and for bryologists to enjoy this first tropical meeting of the ABLS. Thus, I hope to see you all there!

Blomquist Foray

The Eleventh Annual Blomquist Bryological Foray will be held this year at DeSoto State Park, near Fort Payne, Alabama. It is located just east of I-59 on Lookout Mountain. Several cabins (with kitchenettes) have been reserved, with prices ranging from \$65.00-\$82.00 per night. They will hold 3-4 people each, so the cost per person is quite reasonable. Meals will be available at the park Lodge, or you may prepare your own meals in the cabins. Field trips are

Report from the ABLS field trip, August 1997

A four-day excursion was held in conjunction with the American Bryological and Lichenological Society (ABLS) meetings in Montréal, Canada. The foray focused on lichens and bryophytes of the Laurentian Highlands and the St. Lawrence River Valley. The four organizers, Irwin Brodo, Stephen Clayden, François Lutzoni, and Claude Roy, did an excellent job of organizing the field trip to many diverse habitats. These included: 1) the north temperate deciduous forest of the St. Lawrence Lowlands (sugar maple-yellow birch-beech forests at Mont Wright); 2) the boreal conifer forests of the Canadian Shield dominated by balsam fir-white birch (at Forêt Montmorency); and 3) a unique dry lichen woodland of open black spruce and *Cladina* species in the Parc des Grands-Jardins, where arctic-alpine species co-occurred with typical boreal species. There was also collecting of aquatic lichens and bryophytes (at the Chute de la rivière Noire), bog species (at Lac Barrette), and cryptogams on shoreline rocks of the St. Lawrence estuary (at Port-au-Saumon).

Accommodations were at scenic, well-equipped field stations and we had access to laboratories with microscopes in the evenings to work on identifications. A species list is being compiled by Claude Roy.

Congratulations to the organizers for making the field trip such a success. A great time was had by all participants!

Tracey Mattock, student, University of Alberta, Edmonton, AB, Canada.

planned along the West Fork of Little River in DeSoto State Park, and in nearby Buck's Pocket State Park. For further information, please contact Molly McMullen, Cryptogamic Herbarium, Department of Botany, Box 90338, Duke University, Durham NC, 27708-0338, USA. Telephone: (919) 660-7300; e-mail mmcm@duke.edu.

BRYOTROP goes.....

The German BRYOTROP project was one of the largest bryological projects in the past. It was established in 1981 with the goal of making a comparative study of three rain forest areas in South America, tropical Africa and SE-Asia. The project "Geography, Ecology, Phytosociology and Systematics of Tropical Rain Forest Bryophytes" was supported by the German Research Foundation and directed by Wolfgang Frey (Berlin) and Jan-Peter Frahm (Bonn). Several bryologists from Germany (Wolfram Schultze-Motel, Harald Kürschner, Georg Philippi, Mario Menzel, Eberhard Fischer) took part at least in some of the projects, and many "guest scientists" (Patricia Geissler, Rob Gradstein, Tamas Pócs, Rainer Lösch, Haji Mohamed) cooperated at least in part, as did numerous graduate students. Aims of the BRYOTROP studies were interdisciplinary studies of scientists from different disciplines in one study area, a new approach in bryology.

Field studies were carried out in Peru (1982), in Borneo (1986) and in Zaire/Rwanda (1991). According to an UNESCO recommendation, study areas in different parts of the world were selected and compared, and following recommendations of the International Union of Biological Sciences, transect studies were performed. Along such transects from the tropical lowland forest to the forest line, hectare plots were studied in intervals of 200 m altitude.

The BRYOTROP project included six topics:

- ◆ An inventory of the species of the hectare plots, documenting the diversity of tropical bryophytes, supported by the compilation of checklists. In total about 10,000 numbers of herbarium specimens were collected. These and additional exsiccate series were distributed in many duplicates all over the world. The increased floristic knowledge of the collecting activities can be shown by Central Africa. Although 65 bryo-

logical papers on this area were already published, 9 species were found there as new to Africa, 12 species were described as new, 94 were reported as new to Rwanda and 70 as new to Zaire.

- ◆ **Systematic studies** of different groups of tropical bryophytes resulting in several monographs and revisions.
- ◆ A **phytosociological study** of the bryophyte communities on tree stems. Such studies were hardly ever made before in the tropics. Within this work, the Braun-Blanquet method could successfully be applied to tropical bryophyte communities.
- ◆ **Ecological studies** of the relevance of bryophytes in the ecosystem tropical rainforest resulted in data on the phytomass and water storing capacity.
- ◆ **Morphological and anatomical studies** and studies on life strategies yielded insights into structural adaptations of the bryophytes in different elevations of the rain forests. Especially water conducting and water storing structures as well as life forms were regarded as strategies to fill ecological niches in different altitudes. Also asexual reproduction was found to be dominant within the montane cloud forest bryophytes, expressed in the life strategy of the Perennial Shuttle Species.
- ◆ **Ecophysiological studies** were carried out in the field (datalogger measurements) and in the lab (gas exchange measurements).

The comparison of all the data of the different disciplines along a transect opened the chance to define altitudinal zones of tropical rain forests by bryophyte floristics, cover, phytomass and stem epiphyte communities.

The results of the three projects were published in 91 publications with altogether 1525 pages:

	# publ.	# pages
BRYOTROP I	21	337
BRYOTROP II	31	678
BRYOTROP III	39	510

Most of the Peru results were published in a supplementary volume to *Nova Hedwigia*, most of the Borneo results were published in the journal *Willdenowia* (edited by the Berlin Botanical Museum) and most of the results from Africa were published in *Tropical Bryology*.

Many colleagues worldwide, who cannot be named here, supported the work by identifications of groups of taxa.

.....BRYOAUSTRAL comes

As a continuation of the most successful BRYOTROP project, a study of the temperate rainforests of the southern hemisphere was initiated by Wolfgang Frey. The basic idea is that our knowledge of the bryology of tropical rainforests is still poor, but certain results are available now through the activities of the BRYOTROP project and the activities of Rob Gradstein and his students in the neotropics. In contrast, our knowledge of the temperate forests of the southern hemisphere is still quite limited, perhaps with the exception of the floristics of New Zealand. Again with support of the German Research Foundation, field studies will be carried out during 1998 in New Zealand and, after completion of the results obtained in New Zealand, also in southern Chile. This new project shall focus on the temperate rain forest and shall include again basic studies on the diversity, ecology, bryosociology and life strategies. The resulting data will allow comparisons of temperate and tropical rain forests as well as the temperate rain forests in New Zealand and Chile. In contrast to the previous BRYOTROP-project, BRYOAUSTRAL will measure the divergence of the bryoflora and bryovegetation of these study areas not only by comparative floristic or ecological data but also by molecular data. Based on the consideration that New Zealand and Chile were both part of the former Gondwana continent, the genetic distance of taxa from both regions

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It's Time to Sign Up For The Third Annual Spring Outing

Botanical Excursion, Foray, Retreat, and Escape to the Environment (SO BE FREE 3) at the James San Jacinto Mountains Reserve of the University of California near Idyllwild in southern California March 26 - 29, 1998

For a truly WILD time please plan to join in this year's spring outing, hosted by the Bryolab (<http://ucjeps.berkeley.edu/bryolab/>) at UC Berkeley and open

to all botanists. The main focus will be on bryophytes, but we hope to also have experts on lichens, ferns and flowering plants along. We welcome specialists in these groups, as well as generalists or amateurs who are interested in an overview.

We will continue our tradition of a four-day, three-night schedule with communal cooking and eating, in inexpensive and remote biological field stations. Evening slide shows and informal talks will be presented

as will keying sessions with microscopes. In addition to seeing interesting wild areas and plants, important goals for SO BE FREE include keeping west coast bryologists (and friends) in touch with each other and teaching beginners.

The first year (1996) we stayed at the UC Granite Mountain Reserve in the center of the Mojave Desert, and Comet Hyakutake was at perigee (one of the brightest comets of this century). The second year (1997) we stayed at the UC Angelo Reserve, on the Eel River on the northern California coast in a large stand of old growth Douglas Fir and Redwoods, and Comet Hale-Bopp (an even bigger comet) was at perigee. We can't promise a celestial show to beat those comets this year, but who knows? We can promise interesting plants, fascinating ecological diversity, a collegial and convivial atmosphere, and a chance for all to learn.

This year's venue will be the James San Jacinto Mountains Reserve (<http://nrs.ucop.edu/reserves/james.html>), part of the UC Natural Reserve System. It has a lab/dorm complex and has immediate access to an incredible variety of habitats ranging from low desert with palm oases through chaparral to oak/pine woodlands and mixed conifers, along one spectacular road, the Palms to Pines Highway (Hwy. 74) from Palm Desert to Idyllwild. Judy Harpel did a detailed floristic study of mosses of the mountain range for her Masters Degree, and while she regrettably won't be able

to attend, she will help suggest the itinerary and provide handout materials. We will aim to generate a list of bryophytes (and lichens?) for the Reserve itself, as well as an interesting new satellite reserve, the Oasis de los Osos, nearby at the base of the San Jacinto Mountains, north of Palm Springs. Thus the foray will not only be enjoyable and educational, but will provide the Reserve with a list of species for management purposes. Dr. Michael Hamilton, an old friend of mine, is the Director of the Reserve and is very enthusiastic about our visit. Expenses will be quite reasonable (\$5/person per night for lodging plus a share of the joint food costs). We are planning to shop for the group ahead of time and bringing meals up for the group to cook communally. The actual food costs can't be set at this time, but will be in the neighborhood of \$15-20 total per person. Cheap flights are available to Ontario Airport if you would prefer not to drive (and we can possibly arrange a pickup there, with advance notice of arrival time).

Plan on arriving in Idyllwild in the late afternoon on Thursday, March 26 (dinner that night will be our first communal meal) and staying through until Sunday, March 29th — breakfast that day will be our last communal meal and we will begin to disperse after a morning collecting stop — some people will need to drive home quite a distance, and there will be a group heading down to Ontario Airport for mid-afternoon flights.

Please make a reservation asap. I will be sending a more detailed mailing to those who reply, and it will have to be first come-first served for the 30 beds that are available indoors (although camping is a possibility).

It should be a wonderful opportunity to see unusual habitats, learn new plants, and socialize with other west coast bryologists (and friends).

Hope to see you there!

Brent Mishler

Bryoaustral comes

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shall be determined with the help of DNA sequencing. The studies will help focus on temperate rain forests as interesting, rare and partially endangered habitat and to understand the bryoflora and -vegetation of these temperate southern rainforest as relicts of a cretaceous flora.

Fieldwork in New Zealand will be carried out in February - March 1998 by Wolfgang Frey and Jan-Peter Frahm with graduate students. Along a N-S transect through both islands, several small altitudinal transects will be studied. Hectare plots will be analysed with regard to their floristic diversity, bryophyte communities on stems and rotten wood, life forms and life strategies, ecology, phytomass and phytogeographical evaluation. All data will be compared with regard to the N-S and the altitudinal gradient. DNA-studies will contribute answers to the question of whether morphologically identical species in New Zealand and Chile are genetically identical and how far sister species in New Zealand and Chile are genetically distant.

As in the BRYOTROP project, the aim of the new project is again to get a synthetic view of the bryophytes of these rain forests, to cover as many aspects of bryophyte biology as possible and not be confined to floristic studies as it is usually the rule.

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NEW PUBLICATION

Churchill, S.P., Linares, E.L. 1995. *Prodromus Bryologiae Novo-Granatensis. Introduccion a la flora de musgos de Colombia. Biblioteca „Jose Jeronimo Triana“ No. 12. 2 vols. hardbound, 924 pp. Bogota. Price \$60. Available from the second author Edgar L. Linares, Instituto de Ciencias Naturales, Museo de Historia Natural. Facultad de Ciencias, Universidad Nacional de Colombia, Ap. Aereo 7495, Bogota, Colombia.*

The main problem for tropical Bryology is the lack of floras which allow the student to identify his collections. How else should we interest students in bryology in tropical countries, if identifications are made impossible? And this is frustrating. This problems concerns especially tropical Africa, where no floras are available, which is expressed in the extremely low number of bryologists in this part of the world (4!). The gap for SE-Asia is being filled with Allan Eddy's Malesian mossflora. For the richest and best studied tropical bryoflora, the neotropics, there were at least the classical moss floras of Guatemala by Edwin Bartram and the now completed mossflora of the Guianas by Mrs Florschütz and her late husband, but both floras were geographically relatively marginal and in the case of the Guianas also relatively poor in species. The new Mexican moss flora includes only a small part of the neotropical moss flora. To fill the gap and to give students something at hand, specialists have prepared small local floras, e.g. Dana Griffin for Manaus and Merida, which were also not easily available. But so far, there was no comprehensive flora. This gap is now filled with a Colombian mossflora. In fact, a Colombian mossflora can be used in many parts of South America, at least also in Venezuela and Ecuador, but it will be also of some use down to Bolivia and in adjacent Central America. Because of this background, the authors won the Hattori Price for this book at the IAB Symposium in Beijing, an award given

every second year for the best bryological publication during this period. It is of course very difficult to state which publication is the best, and there are surely equally good publications in terms of scientific innovations. However, this was a book which was needed urgently and it will be very useful for many bryologists, professionals, amateurs and students.

The book consists of two volumes with almost 1000 pages and it is the only tropical mossflora of this size published simultaneously and not in a series of publications. The title sounds a first a bit confusing. Why must it be a latin title and why is "Novo Granata" applied here as geographical term, especially because this term is not identical with present Colombia but was more widely used. The text is in Spanish, which makes the book usable for Latin American students. The first volume contains an introduction with a review of the bryological exploration of Colombia, herbaria with collections from Colombia, an account of the diversity of mosses in Colombia, a chapter on phytogeography (phytogeographical elements and altitudinal zonation), ecology, an introduction to morphology of mosses, a chapter on how to collect mosses and suggestions for further studies, keys to families and genera. It is thus specially designed for students. The keys for families and genera are probably the first for the neotropics.

In the taxonomic part, 899 species are treated. The arrangement of the families is somewhat strange. Families are treated in alphabetical order from Adelotheciaceae to Trachypodaceae. This is perhaps unusual for most bryologists but perhaps easier for students. The convention of placing synonyms under notes and not under the species is also unusual. Families and genera are described in detail and the descriptions are completed with ecological remarks, notes and references. The keys to genera and species have already been tried in courses given by Steve

Churchill. We used them in Venezuela during a course and they generally worked very well. The species are not described in detail (this would have raised the volume to another 100 pages and also the price). The illustrations (by Gloria Mora Gonzalez) show diagnostic of the important parts, and thus every third or forth page is a plate. A glossary, a bibliography and a list of collectors completes this magnificent flora. It has to be kept in mind that monographs were available for only a small part of the genera, and that most of the taxonomic treatment had to be compiled for the first time. Steve Churchill has spent years collecting in Colombia, published almost a dozen papers on the mosses of Colombia and all this experience is now summed up in this book. This book is a real breakthrough for the neotropics, and it is a pity that such a book exists only for mosses and not also for hepatics.

Jan-Peter Frahm

V. Virchenko, 1997. Index of papers on bryophytes, bryology and bryologists that published in the *Ukrainsky botanichny zhurnal* (Ukrainian botanical journal) within the recent 75 years (1921-1996). Kyiv: TOV "Mizhnar. Fin. Agentsiya". 18 pp. (In Ukrainian). Available from V. Virchenko, Inst. Of Botany, Tereshchenkiyska 2, 252601 Kyiv, Ukraine

The booklet includes titles of ca. 250 papers mostly of Ukrainian bryologists which was published in the *Ukrainsky botanichny zhurnal* (UBZh). The publications pertain to different fields of bryology: floristics, geography, taxonomy, ecology, cytology etc. Apart from numerous data on Ukrainian bryophytes there are some contributions to the bryophyte flora of Moldavia, Belarus, Caucasus, Middle Asia and Siberia (especially the Far East) in this journal. Almost all bryological papers of the UBZh are written in Ukrainian; as a rule they have an abstract in the

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international language. If someone is interested in translation of the index (or other bibliography of Ukrainian bryologists) into English, please write to me.

Urmi, E., Schnyder, N., Müller, N. & Bisang, I. 1997 ['1996']. *Artenschutz-Konzept für die Moose der Schweiz. Schriftenreihe Umwelt 265: 1-48. Price: CHF 10:-. Available from: Dokumentationsdienst, Bundesamt für Umwelt, Wald und Landschaft, CH-3003 Bern, Switzerland.*

The Swiss bryophyte conservation plan consists of two parts, available in German and French. The first, which is the one cited above, is a report that describes the preconditions, the methods employed in the survey of the Swiss endangered bryophytes, and its results. It ends with a plan describing how bryophyte conservation should be managed in the country. This plan is scientifically sound, and its recommendations are based on studies of more than 500 individual records of the rarest (with at most four localities) and / or endangered taxa that were chosen on the basis of the Swiss Red Data List (categories R and E; Urmi et al. 1992). Around 200 populations of the selected endangered and rare species were searched for in the field to assess their present status. About 1/3 of the latter were found. However, whereas half of the populations in the Alps were found, the corresponding proportion in the Swiss Plateau (Mittelland) was only 20%. One part of the report is devoted to the legal foundations for species conservation in Switzerland, an important part that is often forgotten in the species conservation context.

The second part ("Dokumentation") is provided for each of the 26 Swiss cantons separately. It consists of data sheets, in total about 140, for the confirmed and some additional selected populations, basically for the populations found in the field, and for those populations of the selected species that were newly discovered since 1984. There is also a brief account of the status of the bryoflora for

each canton. The data sheets document the locality and status of the particular population and propose conservation measures. In addition, each sheet includes a general part with a brief description of the taxon in question, its ecology, distribution, and threat status within Europe. Two map sections, indicating the location and, when appropriate, an area of suggested special protection, are included. The documentation is mainly intended for practical use by the Nature Conservancy Offices of the Swiss Cantons, and is available free of charge from the same address as the report.

One aim of bryophyte conservation in Switzerland is naturally to ensure survival of the rare mosses in the country, but another, which is at least as important, is that common mosses should remain common. The strongest threat against bryophytes, like in most other geographical areas in Europe, comes from habitat destruction due to increasing human activities. To achieve the goals of conservation it is thus recommended that all natural habitats should be protected, under as natural conditions as possible. Habitat variation is also considered to be important, as is the monitoring of less visible changes, e.g., due to deposition of atmospheric pollutants.

My general impression of the work is positive, and I believe we have here a good framework that can be used as a guide to bryophyte conservationists in other countries. However, in a few cases the authors have failed to make quite clear what they mean. For example, it is suggested that Switzerland has a greater responsibility than the other European countries for protecting bryophytes because a large proportion (60%) of the European bryoflora is found on the small surface of the country (0.5% of the European surface). To my mind this motivation is completely invalid unless it is also considered how endangered the species found in Switzerland are in a wider context.

I was also surprised by one of the statements in the Swiss federal law, where the aim is said to be to protect

"indigenous plants and animals and their natural habitats" [my translation]. If literally understood this means that anthropogenous habitats, such as farmlands, building ground, tourist installations, and forestry-influenced areas are excluded from protection measures, because these are certainly very far from natural. Pity for those rare species that are nowadays restricted to this kind of habitat.

Reference

Urmi, E., Bisang, I., Geissler, P., Hürli-mann, H., Lienhard, L., Müller, N., Schmid-Grob, I., Schnyder, N. & Thöni, L. 1992. *Die gefährdeten und seltenen Moose der Schweiz - Rote Liste*. BUWAL (ed.). EDMZ, Bern.

Lars Hedenäs

Heinrich Handel-Mazzetti: A botanical pioneer in South West China (unabridged English translation by David Winstanley). 192 pp., soft covers. Published 1996 by David Winstanley, ETS, 20 St Thomas Road, Brentwood, Essex, CM14 4DB, England.

The Austrian botanist Heinrich Handel-Mazzetti went exploring in China in 1914, just before the First World War started. Due to the outbreak of the war, he was marooned in China until 1919. Handel-Mazzetti collected bryophytes fairly extensively in many provinces, and his moss collections were published by V. F. Brotherus in 1929 in the 4th part of *Symbolae Sinicae*, edited by Handel-Mazzetti. He wrote a detailed diary of his long trips in China; the original German text has now been published in English. The text is certainly of interest to bryologists dealing with the flora in those parts of China that were visited by Handel-Mazzetti. It can also help rectify some misinterpretations concerning, for example, the exact provenance and collector of numerous specimens. For instance, in H we have specimens collected in the Jiangxi and the collector is given as Handel-Mazzetti in the labels. However, he actually never visited the province but sent a Chinese helper there to collect speci-

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mens for him. After sending several consignments of plants to Handel-Mazzetti the poor helper disappeared and, according to the diary, was probably killed by a tiger in Hunan. The exotic China!

Handel-Mazzetti gives detailed descriptions – including botanical ones – of the places he visited and therefore the book should make interesting reading for all botanists, whether bryologists or not.

Johannes Enroth

Sean R. Edwards, "English Names for British Bryophytes". British Bryological Society Special Volume No. 5. 68 pp., limp covers. Published December 1997. Available from: Dr. S. R. Edwards, The Manchester Museum, Manchester University, Oxford Road, Manchester M13 9PL, United Kingdom. Price (payment in sterling): UK and European Union £2.50 post-free, outside European Union £3.00 including postage.

This list covers the English or "common" names of bryophytes of Britain and Ireland together with some non-British taxa. The need for common names for particular groups of organisms is not universally accepted among biologists although, as the Introduction in the present booklet points out, they are often useful and necessary.

The booklet presents an interesting overview of the history and geography of the common names and contemplates their construction and structure. The list itself is alphabetical according to the scientific names. The author traced more than one published name for many taxa, and for those the preferred name is given in bold and followed by synonyms. The preferred names are also listed alphabetically in a separate list.

The list certainly serves a purpose as a standard reference to the common names. I have taught moss identification to Finnish laymen and most of them are not interested in the scientific names but want to learn the *real* names; the situation is probably not any different

in Britain. Also, as I recall, some time ago in BRYONET someone was asking, what is "Shaggy Moss". At least *Racomitrium lanuginosum* and *Rhytidadelphus* were proposed. According to this list, the latter is correct; *R. lanuginosum* should be called Woolly Fringe-moss. Hopefully this useful list will help to consolidate the usage of English names of bryophytes also outside Britain.

Johannes Enroth

Population Studies

Advances in Bryology 6

This volume reflects advances in many aspects of bryophyte population biology and population genetics. The contents is:

H. Bischler & M. C. Boisselier-Dubayle: Population Genetics and Variation in Liverworts.

A. J. Shaw & S. C. Beer, Gametophyte-Sporophyte Variation and Covariation in Mosses.

H. J. During, Bryophyte Diaspore Banks.

H. Rydin, Competition Among Bryophytes.

N. G. Slack, Niche Theory and Practice: Bryophyte Studies.

L. Söderström & T. Herben, Dynamics of Bryophyte Metapopulations.

P. C. Marino, Competition, Dispersal and Coexistence of Splachnaceae in Patchy Habitats.

R. Wyatt & G. S. Derda, Population Biology of the Polytrichaceae.

The volume can be ordered from Gebrüder Borntraeger Verlagsbuchhandlung, Johannesstrasse 3A, D-70176 Stuttgart Germany. The price is 170 DEM (94 USD). IAB members get a 25 % discount (mention you are a member with your order).

Volumes 1-5 in this series are still available from the publisher at the following prices: vol 2 80 DEM, vol 3 (Bryophyte Ultrastructure) 120 DEM, vol 4 (Bryophyte Systematics) 160 DEM and vol 5 (Biology of *Sphagnum*) 180 DEM (25 % discount for IAB members).

ABLS/MSA Meetings, June 11-16, 1998, San Juan, Puerto Rico

The Annual Meeting of the American Bryological and Lichenological Society (ABLS) will take place in San Juan, Puerto Rico. Organized in cooperation with the Mycological Society of America (MSA), this meeting will give mycologists, lichenologists, and bryologists an opportunity for scientific exchange in a small group setting. Regular contributed sessions will be held from Sat. June 13 to Tues. noon June 16 at the Condado Plaza Hotel and Casino. Located on the beach in the Condado region of the city, the hotel offers spectacular views of the ocean and the attractions of nearby historic Old San Juan. Forays and workshops will emphasize tropical biodiversity.

ABLS is currently planning a one day field trip before the paper sessions to the Caribbean National Forest in the Luquillo Mountains. A second 2-3 day trip may be organized (with sufficient interest) after the formal ABLS sessions. ABLS and MSA hope to have a meeting with a strong international flavor and we especially encourage scientists from Central America, South America, Mexico, and throughout the Caribbean to participate.

The planning for this meeting is coordinated for ABLS by Bob Egan (program) and Bill Buck (field trips). MSA organizers include MSA Mary Berbee (program chair) and Hal Burdsall (local arrangements). For more information and registration forms please see the ABLS web site at: <http://ucjeps.berkeley.edu/bryolab/ABLS.html> or contact Bob Egan at: egan@unomaha.edu. The organizers believe that this first Caribbean ABLS/MSA meeting will be a truly memorable experience for all attendees.

Reserve the dates and meet with us in sunny Puerto Rico!

Robert Egan, President-Elect, ABLS

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.

Deadlines for material to the *Bryol. Times* will be January 15, March 15, May 15, July 15, September 15 and November 15 with publication shortly afterwards. Shorter notes may be accepted later if there is still space.

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Column Editors

J.-P. Frahm & B. O'Shea (computer techniques); T. Hallingbäck (conservation); A. R. Perry (news from the herbaria); T. Pócs (tropical bryology); J. Vána (floristics and phytogeography).

The *Bryological Times*, founded in 1980 by Stanley Wilson Greene (1928-1989), is distributed from Canberra (Australia), Edmonton (Canada), Eger (Hungary), Geneva (Switzerland), Hiroshima (Japan), Moscow (Russia), Praha (Czech Republic), Reading (U.K.), Shenyang (China), St. Louis (USA) and Trondheim (Norway).

Production

Lars Söderström, Trondheim

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

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DIARY

1998

April 15 - 19. Stuttgart: 30 years BLAM (Bryologisch-Lichenologische Arbeitsgemeinschaft für Mitteleuropa). Meeting with invited contributions and excursions. Information: Staatl. Museum f. Naturkunde (c/o Ingo Holz), Rosenstein 1, D-70191 Stuttgart (Germany). Fax +49-711-2228-251. email: 100726.3375@compuserve.com (Subject: BLAM-Tagung)

May 1-3. SVBL Annual Meeting in Vordemwald (Canton Aargau) in the center of the Swiss plateau in a region with old beech forest; paper reading and excursions. Information. Dr. Christoph Scheidegger, WSL, CH-8903 Birmensdorf (christoph.scheidegger@wsl.ch).

June 19. Aspetti briogeografici dell'Italia. Meeting with the Bryology group of the Italian Botany Society in Camerino, Italy. Contact: Dr. Michele Aleffi, via Pontoni 5, I-62032 Camerino (MC), Italy. Tel +39 (0)737/40522-632527. Fax +39 (0)737/40528. E-mail: botanica@camserv.unicam.it

August 26-30. SVBL Annual field trip. Champex (Western Swiss Alps). Information: Patricia Geissler, Conservatoire botanique, C. P. 60, CH-1292 Chambésy (geissler@cjb.unige.ch)

August 1-6. Excursion and Annual General Meeting with the Nordic Bryological Society in the mountains in Pite Lappmark, northern Sweden. Contact person: Henrik Weibull, Blodstenvägen 14, S-752 58 Uppsala, Sweden. Tel. +46 18 506159. E-mail: Henrik.Weibull@nvb.slu.se.

August 31-September 4. 3rd European Conference on the Conservation of Bryophytes. The Scientific Basis for Bryophyte Conservation. Trondheim, Norway. Information from Lars Söderström, Dept. of Botany, Norwegian University of Science and Technology, N-7055 Dragvoll, Norway. Tel. +47 73596061. Fax: +47 73596100. Email: Lars.Soderstrom@chembio.ntnu.no.

October 2-4. Annual Blomquist Bryological Foray. Contact person: Molly McMullen, Cryptogamic Herbarium, Box 90338, Duke University, Durham NC, 27708-0338, USA. Phone: (919)-660-7300. Fax: (919) 660-7293. e-mail: mmcm@duke.edu

1999

August 1-7. XVI International Botanical Congress and IAB Biennial Meeting in St. Louis, Missouri, USA. Information to follow in next *Bryological Times*.

Recent deaths

It is with great sadness that we have to report that the following persons has passed away.

Charles B. Arzeni, b. 1927, d. October 1997

Aaron J (Jack) Sharp b. 1904, d. 9 November 1997

Frans Stafleau b. 1921, d. 15 December 1997

George A. M. Scott b. 1933, d. 23 March 1998