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Computers and Authors of scientific names

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Almost all bryologists today are using computers and word-processors for producing, transferring and storing texts and data. Some of us also receive scientific papers on a diskette or in the form of electronic mail.

One of the great advantages of using a computer for storage of texts and data, is the enhanced possibility of searching through a large volume of texts for very specific types of information. Most word-processors have facilities of this kind, and there are also several specialised programs for this purpose on the market.

A successful search for information in a large computer volume depends upon the use of properly defined keywords. The search systems require a defined spelling of keywords, which with few exceptions is no problem in ordinary English texts. Most authors and searchers know how to handle the difference between British and US spelling and choice of words - Labour/labor, lift/elevator etc.

The spelling of scientific names is now completely standardized. Old texts

may offer some variations - such as Racomitrium/Rhacomitrium and Weisia/Weisia - but we are all very aware of this problem and know how to overcome it.

The remaining difficulty is how to write the names of authors in connection with scientific names. The authors' names are often abbreviated, ending with a full stop (.), and furthermore they are often combined with initials or other letters, which form separate words, and thus cause problems for many computer programs.

A special problem is the fact that ASCII means "American Standard Code for Information Interchange". Thus many search programs do not work properly with non-English letters, and even if you have a program that is well adapted to your own language, it will most likely not work with letters from another non-English language. "Latin" names are not a problem in this context, but authors' names certainly offer a difficulty.

Thus I see a need for a standardized

writing of authors' names. For my own use I have formulated a number of rules, which over many years have served me well, and which I have written down here in the hope that they may be considered also by people interested in e.g. nomenclatural problems. Furthermore I have for many years collected the names of authors, authors and collectors in a WordPerfect file, which I have deposited in the IAB Software Library in Duisburg as number #451. This file is far from complete, but may constitute a beginning, if there is a general interest among bryologists in standardizing abbreviated authors' names.

I recommend the following rules:

* Never abbreviate a name by deleting only one letter. Nothing at all is gained as a full stop must be used to replace the removed letter. Thus write:

Duby for *Jean Étienne Duby* 1798-1885 - not Dub.

* I suggest that we refrain from abbreviating a name by deleting two letters

only. The gain is so small and the full name is much less ambiguous. Thus I propose:

Hedwig for *Johann Hedwig* 1730-1799 - not Hedw.

Hooker for *William Jackson Hooker* 1785-1865 - not Hook.

* Do not shorten a name to such a degree that it becomes ambiguous. Thus write:

Hornem. for *Jens Wilken Hornemann* 1770-1841 - not Horn.

Hornsch. for *Christian Friedrich Hornschuch* 1793-1850

* It is sometimes necessary to use the initials to separate two botanists with the same name. In that case place the initials before the name - full name or abbreviated - in upper case and without any separating full stop or blank. Thus write:

EWJones for *Eustace Wilkinson Jones* 1909-1993

HArn. for *Hampus Wilhelm Arnell* 1848-1932 - not H.Arn. or H. Arn.

SArn. for *Sigfrid Wilhelm Arnell* 1895-1970 - not S.Arn or S. Arn. or Arn.f.

* If there is a father and son relationship between two botanists, the son can be identified by adding an upper case F to the name. Thus write:

HedwigF for *Romanus Adolf Hedwig* 1772-1806 - not Hedw.f.

HookerF for *Joseph Dalton Hooker* 1817-1911 - not Hook.f.

* Eliminate the special accents in French, Spanish, Portugese and many other lagnuages, many of which can not be reproduced at all on my word-processor. Thus write:

Ther. for *Marie Hypolite Irénée Thériot* 1859-1947 - not Thér.

Pocs for *Tamás Pócs* 1933- - not Pócs

* Do not use ç but the ordinary c. At the moment I can not find any example to illustrate this.

* Do not use the German letter ü, but replace it with ue. Thus write:

Duell for *Ruprecht Peter Georg Düll* 1939-

* Do not use the Germanic letter ä, but replace it with ae. Thus write:

Schwaegr. for *Christian Friedrich*

Schwägrichen 1775-1853

* Do not use the Germanic letter ö, but replace it with oe. Thus write:

Joerg. for *Eugen Honoratius Jörgensen* 1862-1938

* Do not use the North Germanic letter å, but replace it with aa. Thus write:

Aaberg for *Johann Gerhard Åberg* 1868-1940

but as we have the same name in the genus Aongstroemia, I suggest we conserve the spelling:

Aongstr. for *Anders Jonas Ångström* 1813-1879

* In case of double surnames, use the first one. Thus write:

Bridel for *Samuel Elisée de Bridel-Brideri* 1761-1828 - not Brid.

Casares for *Antonio Casares-Gil* 1872-1929 - not CasGil

Brugg. for *Maria Alida Bruggeman-Nannenga* 1944-

I would like, however, to make an exception for the well established:

PBeauv. for *Ambroise Marie François Joseph de Palisot de Beauvois* 1752-1820 - not P.Beauv.

* Ignore all "de", "van" or "von" etc. Thus write:

Berghen for *Constant Vanden Berghen* 1914-

Sloover for *Jean Louis de Sloover* 1936- - not DeSloover nor DeSl.

I would like, however, to make an exception for the well established:

DeNot. for *Giuseppe de Notaris* 1805-1877 - not De Not.

* Very common names require special attention. Thus I suggest:

OFMueller for *Otto Friederich Müller* 1730-1784

FAMueller for *Franz August Müller* (or Muller) 1799-1871

CMueller for *Carolo (Karl) August Friedrich Müller* of Halle 1818-1899

FJHMueller for *Ferdinand Jacob Heinrich von Mueller* 1825-1896

JMueller for *Jean Müller Argovienensis* 1828-1896

KMueller for *Karl Müller* of Freiburg 1881-1955

JESmith for *James Edward Smith* 1759-1828 - not Sm.

Searching for capsules

For my Ph.D. studies I am establishing in vitro cultures of different bryophyte species, using spores as starting material. For that purpose I am looking for intact sporophytes of *Dicranum scoparium* Hedw., *Plagiochila asplenioides* (L.) Dum. (*P. major* (Nees.) S. Arn.) and *Scapania nemorea* (L.) Grolle (*S. nemorosa* (L.) Dum.). If you know capsule producing populations of these species or happen to find them, I would very much appreciate if you send them (with locality and habitat data) to me, under the address given below. The material should be recently collected (not old herbarium specimens) and should, if possible, have about 20 sporophytes. It can be sent either living or carefully air dried.

Thank you for your help.

Christine Bitterli, School of Pharmacy, Kleinhüeningeranlage 3, CH-4057 Basel, Switzerland.

Keyword thesaurus available

The bryological bibliography provided by Janice Glime can be very useful because of its large size (12.600 references, available free compressed as a zip-file in dBase format as # 441 in the IAB software library on HD disk). For bibliographic searches, the knowledge of the keywords used can be a great advantage. Some years ago, Alain Empain compiled such a cumulative list of all keywords used. For those who are interested, this thesaurus can be received from Jan-Peter Frahm, Universität Duisburg, FB 6, Botanik, D-47048 Duisburg, Germany.

CSmith for *Christen Smith* 1785-1816

DRSmith for *Douglas Roane Smith* 1930-

AJESmith for *Anthony John Edwin Smith* 1935-

GLSmith for *Gary Lane Smith* 1939-

What is a Hypnoid peristome?

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The structure of pleurocarpous moss peristomes varies strongly between different taxa. Nevertheless, certain traits that are common to the peristomes in many taxa are present, and this has led to the recognition of certain basic peristome types, such as Bryoid, Neckeroid and Hypnoid peristomes. What does then this terminology imply? The natural thing would of course be that we deal with peristomes of basically similar structures when we deal with taxa having peristomes of the same kind (Bryoid, Neckeroid etc.). What could also be implied in the terminology is a phylogenetic relationship between taxa having peristomes of the same kind. To a certain extent this is of course true, but if one studies both the literature and the peristomes more carefully, it soon becomes evident that the use of these terms as is currently done leads to much oversimplification.

In the literature, pleurocarpous mosses with an unreduced peristomes are usually said to have Hypnoid peristomes. However, this seems to mean only peristomes which are not "reduced", since there are certainly many different kinds of unreduced peristomes among the pleurocarpous mosses. For example, while called Hypnoid, the peristomes of members of the Brachytheciaceae and of the Amblystegiaceae are differing in characters such as exostome colour, exostome border and perforation of endostome processes. Some Bryalean (sensu Buck & Vitt 1986) mosses also have peristomes which entirely or in parts are virtually indistinguishable from those of most pleurocarpous mosses with unreduced peristomes.

Specialised peristomes, which are usually (but not always) called "reduced", while they lack some or all de-

tails of the unreduced peristomes, have also got special names among the pleurocarps. They are often called Neckeroid or Leskeoid, seemingly depending on where they are believed to belong in the system. Within, for example, the Neckeraceae, there are both taxa with "Neckeroid" (e.g., *Neckera*) and "Hypnoid" (*Homalia*) peristomes, according to the prevailing nomenclature. And what should the more strongly reduced peristomes in some *Homalothecium* species be called, while they can hardly be called "Hypnoid". Thus, also in this case the terminology is confusing. To call these peristomes "reduced" is correct in the sense that all details of the perfect peristomes are not present. On the other hand, these peristomes represent specialisations to habitats of certain kinds (most species with this kind of peristomes seem to grow in relatively exposed habitats, such as tree stems, rocks and mountain heaths) and are thus in a way not at all reduced.

How could this situation be improved? The most obvious answer, it seems to me, would be to provide detailed descriptions of the endo- and exostomes instead of generalising and rather uninformative ones, such as "peristome Hypnoid" or "peristome Leskeoid". This may require some general agreements about what a reasonable description of a peristome should include. From my experience I would suggest the following standard information (besides measures, if that is informative in the specific case):

Exostome: Colour, general shape of teeth, pattern of outside (lower and upper), presence / absence of a median furrow, border development, dentation (if present) of margin, development of trabeculae.

Endostome: Colour, general development of basal membrane, processes and cilia, papillosity (other ornamentation), perforations of processes, number and kind of cilia (appendiculate / nodose).

Another issue in this context, is the value of "reduced" peristomes in defining genera from other, closely related genera with unreduced peristomes. To my mind, the "reduced" peristomes can very often be viewed as a (larger or smaller) collection of apomorphic traits present in one or several species within a larger taxon. This means that the presence of these "reduced" peristomes does not automatically mean that a species, or several species, having these apomorphies should be separated as a taxon (above the species level) of its own, while the remaining species (with unreduced peristomes) would then form a paraphyletic taxon.

Thus, there are many questions concerning peristome terminology and the use of peristomes in taxonomy in mosses, which need some clarification or debate. There are still too many new publications where details of the peristomes have not been studied or described (it is difficult to know which, when they are not described), or where the details of the peristomes have not been thoroughly discussed in a phylogenetic context, when deciding how to interpret the found patterns in taxonomy.

(I thank A. Touw for comments on the suggestions above).

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Towards a World Red List of Bryophytes. II ¹⁾

Benito Tan*, Patricia Geissler** & Tomas Hallingbäck***

Conservation column. Send contributions to the column editors: T. Hallingbäck, Swedish Univ. of Agric. Sci., P.O.Box 7072, S-75007 Uppsala Sweden, or E. Urmi, Inst. für Syst. Bot. der Univ., Zollikerstr. 107, CH-8008 Zürich, Switzerland

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 Conservatoire et jardin botaniques de Geneva, 1292 Chambes, Switzerland; *Swedish University of Agricultural Sciences, P. O. Box 7072, S-750 07 Uppsala, Sweden.

Additional species

The following names have also been submitted for inclusion in the Red List. For reasons of disagreement of opinions among authorities, insufficient knowledge of the taxonomy and distribution of the species, insufficient information on habitat threats, etc. we have excluded them from the first listing.

Acaulon fontiquerianum Casas & Sergio and *A. piligerum* (De Not.) Limpr. - The genus *Acaulon* needs a worldwide monograph. Several morphologically similar species described from the Mediterranean, American and Australian regions may prove conspecific. Because of the rather inconspicuous occurrences of many species in arid habitats, opinions often differ on the conservation status of each individual.

Bryoxiphium norvegicum var. *mexicanum* (Besch.) Sharp - The taxonomic value of this variety from Mexico is doubted.

Cololejeunea magnilobula (Horik.) Hatt. - The genus is in need of revision.

Cyclodictyon arsenei Thér. - More information is needed about its taxonomy and distribution.

Dicnemon robbinsii (Bartr.) Allen - According to H. Streimann (pers. comm.), this species is not threatened with extinction for the time being.

Diphyscium chiapense Norris - More information is needed about its taxonomy and distribution.

Drepanolejeunea senticosa Bischler.

Drepanolejeunea spinosa Herz.

Funariella curviseta (Schwaegr.) Sergio - Although uncommon, but not rare, in the Mediterranean region, several of its local sites are not threatened according to published information.

Fissidens beccarii (Hampe) Broth. - Known only from Sarawak, North Borneo, where the species is locally abundant.

Forsstroemia stricta Lazar. - Little is known about the ecology of this endemic species from the Ukraine. In addition, its species distinctness has been questioned by a recent monographer.

Haesselia roraimensis Grolle & Gradst.

Holomitrium xolocotzianum Crum - Known only from western Mexico. No report of local habitats being threatened.

Hypnobarlettia fontana Ochyra - Although the species is known only from the type locality, the Waikaropupu Limestone Springs Reserve on South Island of New Zealand, and has interesting phyletic position in the Class Musci, its habitat is now protected and not threatened.

Lindbergia ovata Thér. - More information is needed about its taxonomy and distribution.

Mielichhoferia macrocarpa (Hook.) Bruch & Schimp. - Known from several sites in western North America and Newfoundland and Arctic Archipelago of Canada. The report from Central America needs confirmation.

Neomeesia paludella (Besch.) Deguchi - According to Deguchi (pers. comm.), "it seems appropriate to consider this for the red book, although the species can be regarded to be rather widely distributed in southern South

America." It seems best to classify it as a vulnerable species, but not in the category of immediately threatened taxa.

Neosharpiella aztecorum Robins. & Delg. - Reportedly common at local sites visited in 1993 (W. R. Buck pers. comm.).

Plagiochila allorgei Herz. & Perss. - This species needs critical taxonomic investigation. It is only known from the type locality. Source: C. Sergio pers. comm.

Pleurophascum grandiglobum Lindb. - Reportedly abundant in Tasmania and New Zealand (A. Fife & H. Streimann pers. comm.).

Pterobryella papuensis Dix. - Endemic to New Guinea where it is locally abundant. Better classified as a vulnerable species.

Pterygoneuron kozlovii Lazar. - Although sporadic in distribution, this species of arid and semi-arid habitats is known from several localities in the former Czechoslovakia, Ukraine, and British Columbia.

Pterygoneurum sampaianum (Mach.) Mach. - Reported as an endemic in the Iberian Peninsula. The genus is an ephemeral and the actual range of this species needs further documentation.

Quathlamba debilicostata Magill - According to R. Magill (pers. comm.), the single habitat/locality of this rare southern African species is rather isolated and far from settlements and is not threatened.

Stephensoniella brevipedunculata Kash. - Pant et al. 1992 consider this species as rare but not declining.

Syrhodon isthmi Reese - Known only from the type from Cerro Jefe,

¹⁾ The first part was published in Bryological Times No. 77

Panama, where the species seems to be extinct due to forest destruction, and from a recent second locality in the Chocó Department of Colombia (leg. Frahm & Gradstein). The potential distribution of this species may not yet have been fully explored.

Tortula velenovskii Schiffn. - The species is reported from Europe and South America. It may be rare in Europe, but its range on the American continent is uncertain. Since most members of the genus *Tortula* can propagate asexually, this species may have a wider range than reported in the literature.

Tylimanthus azoricus Grolle & Perss.

Tylimanthus madeirensis Grolle & Perss.

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Why do we need author citations?

In all bryological papers, the citation of authors after the taxon name seems to be a must. Although the nomenclature is often said to follow a standard flora, authors are added again and again in every simple floristic list. This looks very scientific, but is it really necessary? I have often asked myself the question whether it is really important if I write *Ceratodon purpureus* (Hedw.) Brid. instead of just *Ceratodon purpureus*, but this will apparently never be accepted by any editor of a journal. For example, when I wrote a floristic paper about the bryophyte flora of the Vosges Mountains in France, I did not include the authors names, and submitted it to "Herzogia". As to be expected, the authors' names had to be added. But why?

1. For most readers, authors' names are absolutely superfluous. They know what is meant when I list *Distichium capillaceum* and there is no more information if I write *Distichium capillaceum* (Hedw.) B.S.G. (This does not refer to taxonomic papers, of course).

2. The addition of the authors' names in floristic papers is not necessary. There is no possibility to confusing *Ceratodon purpureus* with any other species if I do not add the authors.

3. If somebody needs to go back to the authors (and surely not the user of a floristic paper), he can consult a standard reference book, e.g. a standard flora for the region or the Index Muscorum.

In autumn 1993, there was a discussion in the Taxacom Bulletin Board on Internet concerning the need for the citation of authors in lists of species. It started with the question of somebody who had to compile a list of taxa, and who asked whether it would be not easier to refer to a standard list for the citation of authors instead of adding them to every species. The discussion revealed:

1. Authors names are necessary for taxonomy and thus necessary in taxonomic works, but not in lists or floristic papers:

„Why do you need authors? The report is presumably not a taxonomic work. Authors are only needed to distinguish homonyms, which are a relatively rare occurrence. (oh, and I forgot, also for the gratuitous glorification of erudite and distinguished botanists).

Unfortunately there is a pretentious tendency to use authors in general and ecological papers in the belief that it lends some sort of scientific credibility to the work. For nearly all uses of botanical names they are totally unnecessary. Who cares who described *Eucalyptus baxteri* first and who later moved it to where it is today? It is the fact that you are talking about *Eucalyptus baxteri* that is important. If scientific veracity is your goal, cite a voucher specimen rather than an author.“

From: Jim Croft - jrc@ANBG.GOV.AU

2. In the discussion on Internet, it was figured out that zoologists can live without citations of authors' names and even in taxonomic papers cite only the author of the basionym (the latter is, of course, not possible for botanists since we have to live with the bible of the International Code). Citations of authors in general lists or ecological papers, but also on herbarium labels, has no other function than to increase the scientific credibility of the paper.

The only case in which the citation of authors is necessary is in the case of homonyms. However, the only homonym I know in the European bryophyte flora is *Pleuridium subulatum*.....

The author is the „authority“ for the circumscription of a species. But is this really an authority? Many species in the European moss flora are not even typified, and the original descriptions are often vague or not easily available. In many species it can be doubted whether the current use of the name is identical with the original material of the author which could be used for lectotypification. In such cases, the authority is not the author, but rather the author of the book which was used for identification,

I A B Committees

The following persons are members of the IAB committees:

Endangered Species Committee

Patricia Geissler, R. Gradstein, T. Hallingbäck (Chairman), N. Hodgetts, C. Matteri, T. Pócs, H. Streimann, B. Tan.

Advances in Bryology Committee

R. Longton (Editor).

Tropical Bryology Committee

I. Sastre de Jesus, B. Tan (Chairman), T. Pócs, B. O'Shea, N. Nishimura.

S. Hattori Prize Committee

Y. Asakawa, J. Duckett, R. Gradstein (Chairman), R. Magill.

Stanley Greene Research Grant Committee

J.-P. Frahm, Z. Iwatsuki, T. Koponen (Chairman), D. Vitt.

Hedwig Medal - Spruce Plague Committee

W. Frey, T. Pócs (Chairman), H. Ramsay, W. Reese.

Dale Vitt

or the reference specimens with which the specimens was compared.

Maybe it is useful to review our working practices from time to time. Ballast accumulates in bryology over time, and I feel that the citation of author's name is such a ballast.

Jan-Peter Frahm, Universität
Duisburg, FB 6, Botanik, D-47048
Duisburg, Germany.

Internet sources for bryological information

Although IBIS, the International Bryological Information System was established to provide a rich source for bryological data and botanical programs, there are other sources for data and programs, which are summarized here. Although many of the files are also available from IBIS, these are more regularly updated at their original location.

IBIS is accessible by gopher uni-duisburg.de (cf. *Bryol. Times* 76). Its contents was listed in the *Bryol. Times* 64: 11

Internet access was explained in the suppl. volume to *Bryol. Times* 62/63.

The use of gophers was explained in the *Bryological Times* 74.

Files and programs accessible by the ftp command

FLORA ONLINE edited by R. Zander. Includes, amongst others, the Pottiaceae of North America, a bibliography for the Pottiaceae, a checklist of the mosses of the Interior Highlands, a list of bryophytes of Kentucky, a list of bryological journals in print, a list of bryological societies, and a list of the mosses of China.

-huh.harvard.edu 128.103.108.123

PHYLIP (Cladistic program) evolution.genetics.washington.edu, IP No. 128.95.12.41

DELTA (Taxonomic descriptions and keys)

-huh.harvard.edu 128.103.108.123 pub/software/delta

-life.anu.edu.au 150.203.38.74 pub/biodiversity/delta

-spider.ento.csiro.au 138.44.23.1/delta

PAUP (cladistic program)

-onyx.si.edu 160.111.64.54

MACCLADE Updater

-bio.indiana.edu /mac

-felix.embl-heidelberg.de /pub/software/mac

-behs.uh.edu /pub/gene-server/mac

The original versions of MacClade

and Paup for Macintosh (with handbooks) are available from:

MacClade: Sinauer Associates, Inc., 108 North Street, Sunderland, Mass. 01375, USA

Paup: Center for Biodiversity, Illinois Natural History Survey, 607 E Peabody Dr., Champaign, Ill. 61820, USA

Files and programs accessible by Gopher server:

gopher.mobot.org (Missouri Bot Gard)

- Moss type Database (MOSTY) with 3300 records

- Index Herbariorum (USA)

- Index of Botanical Authors

- Index to Plant Chromosome numbers

- Manual of the Plants of Costa Rica

- Catalogue of Poaceae of Argentina

- Flora of North America

- Peru Checklist

gopher.life.anu.edu.au

Subdirectory /biodiversity

- Australian Moss Catalogue

- Plant names in current use

- Tropical database

- Gray Herbarium Index

- Directory of biologists

- Herbarium Information Standards

- Taxonomic Standards

gopher.nmnhgoph.si.edu (Smithsonian Institution, PI No. 160.11.64.84)

- Type specimen register for the US National herbarium (88.000 records)

- Index to historical collections (1600 records)

- Biological Conservation Newsletter

- American Society of Plant Taxonomists Newsletter

- Biological Conservation bibliography (6000 records)

- Checklist of the Plants of the Guianas

- PAUP and related software

gopher.minerva.forestry.umn.edu

- Urban Forestry Bibliography

- Tropical Forest Conservation and development Bibliography

Jan-Peter Frahm, Universität Duisburg, FB 6, Botanik, D 47048 Duisburg, Germany.

The "Flora Briológica Ibérica" Project

The bryoflora of the Iberian Peninsula, one of the most diverse in Europe, still presents a large number of taxonomic and chorological problems. During the last few years a great increase in bryological research in the Iberian Peninsula, including investigations of many poorly known or unknown areas has allowed the growth of the herbaria, the publication of taxonomic and chorological revisions and several regional catalogues of taxa. Of these, the chorological bibliography is outstanding. These efforts have made it evident that the lack of a good modern flora after those of Casares (1919, 1932) and Machado (1925, 1928) is an urgent problem. The checklist of mosses by Casas (1981, 1991) is another basic work, which provides very valuable information about the Spanish mosses, but which, lacking keys and descriptions, is useful mainly for professional botanists.

For these reasons, a "Flora Briológica Ibérica" project has been started to provide a moss flora for the Iberian Peninsula. Particular attention will be paid to critical studies of the nomenclature, to the verification of all bibliographic references and to the provision of original illustrations of endemic species. Detailed descriptions of the species will be provided, including information about the ecology (as far as is known) and distribution, based on material checked by the author(s) of each genus. The flora will treat all mosses native to, or naturalised in the Iberian Peninsula.

The "Flora Briológica Ibérica" staff includes a Spanish-Portuguese Editorial Committee with five members. The editors are: Dra. R. Cros (Autonomous
Cont'd p. 9

Local floras - publish or be damned?

Jeff Bates, Department of Biology, Imperial College at Silwood Park, Ascot, Berkshire, SL5 7PY, UK.

In my opinion J.-P. Frahm (1993) is over-pessimistic in his views about the prospects for publishing local bryophyte floras in today's 'international' bryological journals. I would also suggest that his basic contention, that floristic contributions are generally considered out of date, is not entirely fair; however, I strongly support his view that we should continue to make and publish relatively parochial studies of the floras of different regions. Frahm's article raises several issues which are worthy of further discussion.

Local floras are essentially censuses of the bryophyte populations in a given area. It is probably true that in most instances the objectives for the survey are not rigorously thought through at the start but this does not necessarily reduce their value to a range of later readers. All bryologists have to 'relive' the experiences of their forbears to some extent to understand what's what; there is no better way of getting to grips with bryophytes than to study and enumerate the species in your local 'patch'. It is even better if you can study two 'patches' with different environments. Of course this is an activity that both amateurs and professionals can undertake and as such it is an important focus for the activities of bryological societies. As a professional bryologist I have found that my 'amateur' involvement in local flora projects, undertaken during holidays and at weekends, has been a fertile provider of questions, some of which I have been able to tackle by more 'focused' observations or experiments. Few of us can afford to tackle the flora of a whole country but a study of a single province is within the scope of enthusiastic individuals and information of wider generality may be gleaned.

Why do we look at published local floras? First, to see if a species occurs at all, to see how common it is, and perhaps as a guide to allow us to find it ourselves. At a deeper level we might be interested in the factors which con-

trol its distribution and in changes which have occurred in the distribution, especially those related to man's influence. A local bryophyte flora also ought to tell us something about the occurrence and seasonality of propagules, of sporophytes and discuss particular identification problems with critical taxa. It should also relate the local flora to that of the whole nation or continent. If all these matters are addressed thoroughly the flora will be valuable to future students of that region, it will also provide a 'sample' for plunder by those writing national or continental floras. For instance, the authors of individual accounts appearing in *Atlas of the Bryophytes of Britain and Ireland* relied heavily on a few particularly well constructed local floras such as those of Jones (1952, 1953), Birks & Birks (1974) and Hill (1988).

Frahm (1993) rightly points out some of the shortcomings of 'amateur' local floras. At present there is undue emphasis on mapping alone without collection of data on substratum, population size, sex, presence and state of development of sporophytes, etc. In Britain many bryologists use the tick cards intended for the national 10-km square survey; there is no room on these for details of individual habitats and they are not really suitable for local flora surveys. Moreover, one frequently sees experienced bryologists adding new finds to an existing record card so that it is impossible to distinguish dates and there is usually no room to add any other information. The species' accounts in floras based on such data can be no more than subjective summaries of 'remembered' habitats rather than proper analyses of factual information. There is much to be said for the humble notebook with chronological entries and plenty of space for habitat notes, cross-referencing etc. Another answer would be to set guidelines about the minimum requirement for an acceptable record and design recording materials accord-

ingly.

For the reasons discussed above I would argue that it is important for local floras to be subject to 'quality control'. This means that, like other scientific papers, they should go through a refereeing process. The absence of refereeing would be my principal objection to Frahm's suggestion of a computer-based data system; another is that at some stage someone somewhere will want to cite a reference. Local bryophyte floras are generally much slimmer than vascular plant floras and these days they are rarely published as separate books. Sometimes it is possible for them to be published as sections of a comprehensive local flora covering all major plant groups but with time such works go out of print and they become unavailable. Publication in an international journal can be advantageous from the point of view of wide and continued accessibility. In recent years I have managed to publish modest floras of two small islands and a nature reserve (Bates, 1989, 1991; Bates, Perry & Proctor, 1993) in 'international' journals and I hope soon to have similar success with a new flora of my home county. *Journal of Bryology* has not been alone in its willingness to publish well-researched local floras and under my editorship I hope that it will continue to do so. My fear is not that we cannot publish local floras but that, in the current rush to get to the tropics, we will overlook important vanishing floras nearer to home. Our knowledge about almost all aspects of bryology is still so slight that local floras from all parts of the world will surely continue to be an important source of information for the foreseeable future.

References

- Bates, J. W. 1989. A bryophyte flora of Alderney. *Cryptogamie, Bryol. Lichénol.* 10: 147-170.
- Bates, J. W. 1991. Bryoflora of Belle-Ile, Brittany and comparison with the Channel Islands. *Cryptogamie,*

Cont'd p. 9

KARTBASE, a new Dbase application for mapping projects

There are several dBase applications in the IAB software library which make use of the dBase package to allow the inexperienced computer user to make easier use of databases. Instead of directly communicating with the database program by commands and an easily forgettable syntax, lists, reports, labels or searches are offered in a menu and executed just by pressing a key. The facility that dBase can be programmed is still an advantage and is the reason that this oldtimer program is still in use and often easier to use than modern database programs. The difference can be illustrated by an example: to get a list of species collected at a certain locality, the following commands might typically be typed in dBase:

```
USE &name ORDER locality
SET ALTERNATE TO herbar.loc
SET ALTERNATE ON
? DATE()
LIST locality,species,collection
SET ALTERNATE OFF
```

The same report also can be generated by pressing the appropriate key in the menu option:

3. List of all species from one locality

Such programs are available for bibliographic databases (INFO), for herbarium loans (LOAN), for herbarium

labels (LABELS3), for storing of collection data (HERBAR), for citation of specimens in taxonomic papers (TAXBASE), and for citation of taxa in taxonomic papers (TAXBASE).

A simple application has yet to be realized for entering data for mapping projects. This requires you to type in the field book data (species, locality, habitat, elevation, observer, date and grid map). The problem in this case is that the locality data are identical for what is sometimes a long list of species. In contrast to a field book, where the locality data appear in the header followed by a list of species, the locality data must be added to every species. This problem stimulated me to test several of the modern database programs running under MS-Windows, which allow you to copy and paste the records and to overwrite the species field. This was, however, not as simple as it sounds. Mostly the copy and paste functions had to be performed by the mouse, which does not allow a speedy input of data if after typing of each species name the hand must be taken from the keyboard. Some programs come with additional questions ("Shall the changed record be stored", or similar), which must be quit again by a mouse click. So I came back to the ten year old dBase III+ and set

up a small program for this purpose. One of the options is entering of data. A mask comes up with the fields, which always contains the data of the last record. If the fields are filled out, the record will be stored and the same data are displayed again. In this way, only the species (or, if necessary, the habitat) needs to be overwritten.

The program has additional options to erase or to change data, and list all species and the grids in which they were found, and all species found in a particular grid. It can thus be recommended for smaller mapping projects.

The program KARTBASE is available by sending a blank 5,25" DD disk. To run the program, dBase III+ (or later version) is required.

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New Bryophyte collection in Missouri Botanical Garden

The Missouri Botanical Garden (MO) has obtained the bryophyte collection of Eberhard and Pirkko Hegewald. The herbarium contains over 12,000 specimens, mostly collected personally by the Hegewalds since the 1960s, but it also includes material received on exchange. The collection is particularly strong on modern, well documented specimens from Germany and from Peru, with approximately 4,000 of the former and 5,000 of the latter. It forms the basis of their important series of contributions to our knowledge of the moss flora of Peru, "Eine Moossammlung aus Peru," which appeared in *Nova Hedwigia*. The collection will be completely repackaged and intercalated into the bryophyte herbarium of the Missouri Botanical Garden over the next several years, with each specimen bearing an identifying stamp indicating its origin.

M. Crosby

Local florae (cont'd from p. 8)

Bryol. Lichénol. 12: 111-148.

Bates, J. W., Perry, A. R. & Proctor, M. C. F. 1993. The natural history of Slapton Ley National Nature Reserve. XX. The changing bryophyte flora. *Field Studies* 8: in press.

Birks, H. J. B. & Birks, H. H. 1974. Studies on the bryophyte flora and vegetation of the Isle of Skye I. *Flora. J. Bryol.* 8: 19-64 & 197-254.

Frahm, J.-P. 1993. A paperless journal? *Bryological Times* 76: 11-12.

Hill, M. O. 1988. A bryophyte flora of North Wales. *J. Bryol.* 15: 377-491.

Jones, E. W. 1952, 1953. A bryophyte flora of Berkshire and Oxfordshire. *Trans. Br. bryol. Soc.* 2: 19-50 & 220-277.

Flora Briologica Iberica

(cont'd from p. 7)

Barcelona University), Dra. E. Fuertes (Madrid Complutense University), Dr. J. Guerra (Murcia University), Dra. C. Sérgio (Lisboa University) and Dn. J. Muñoz (Instituto Asturiano), who revise and edit the manuscripts, aided by an Advisory Committee (which members review the manuscripts to make sure that their scientific contents are correct and complete). Each genus will be prepared by one or several authors, supervised by the family editor, before being sent to the various committees.

*Prof. Dra. E. Fuertes Lasala,
Dpto. de Biología Vegetal I, Facultad
de Biología, Universidad Complu-
tense, 28040 Madrid, Spain.*

Bryophyte Nomenclature - a further response

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

R. M. Schuster, 22 Breckenridge Rd., Hadley, Mass. 01035, U. S. A.

Dear Dr. Glime,

In Issue 74 of the "Bryological Times" Dr. Hedenäs continues a discussion you initiated in an earlier issue on bryophyte nomenclature. Two unrelated elements are involved in these discussions: (1) Name changes resulting from "nomenclatural manipulation" - often "malicious" lectotypification (the usage of the term is not mine originally but the late Eustace Jones') and (2) changes in taxonomic concepts - today, to a large extent the result of improvements in refining our phylogeny. While I join the majority of "working" taxonomists in decrying the former, it should - and must - not be confused with the latter, even though the end result (name changes) may be superficially similar. I have always prided myself that each new name I introduced was the result of phylogenetic necessity and not nomenclatural "opportunity". In Vol. I, p. 9 of "The Hepaticae and Anthocerotae of North America" I noted that many

pages were spent on nomenclatural "hair splitting" by people like Auguste Le Jolis - a name probably unknown today to 99% of bryologists - and emphasized that "the work of Auguste Le Jolis stands as a fitting memorial to the futility (and transience) of nomenclatural endeavor."

Having had to cope for five decades with the results of "simple" and "mechanical" taxonomy (e.g., some fifteen taxa with ciliate leaves / leaf margins were placed in a portmanteau "genus" *Blepharostoma*; they fall into at least five families and two or three suborders whose phylogenetic "bearings" are quite disparate), I see no need for any "defense" of modern, phylogenetically oriented taxonomy. Having grown up during the days when electrons and protons were the particles of the physicist, I find it difficult to think in terms of quarks. But I would never have the temerity to tell physicists that they are

making life too difficult; that they are "splitting" too fine.

In any case, your complaints are almost a quarter of a millennium old. In Vol. 1 (p. 10) of "The Hepaticae and Anthocerotae of North America" I admitted my "dismay" at the lack of nomenclatural stability and quoted a letter from Peter Collinson (April 20, 1754) that taxed Linnaeus with "changing names". He wrote "we ... are much concerned that you should perplex ... Botany with changing names that have been well received, and adding new names quite unknown to us. Thus Botany, which was a pleasant study ... is now become, by alterations and new names, the study of a man's life, and none but real professors can pretend to attain it."

To paraphrase the French: the more things change, the more they stay the same.

Bryological Data - an alternative approach

Jan-Peter Frahm argues the case above (page ##) for a 'niche' product - a program that satisfies one particular need perfectly. Although I have argued the benefits of niche products in the past (e.g. the DMAP distribution mapping program), I think the use of such products should be for specialist purposes only. Particularly where the data involved is common across functions, I would like to put the case for a more integrated tool.

I don't pretend not to have an axe to grind - my TAXA program has covered exactly the function Jan-Peter Frahm requires for well over 2 years,

and is still being developed extensively, but the perception may be that such systems take more effort to use. In my view, the advantage of such systems is clearly the vast reduction in duplication of effort that they give, and the greatly increased integrity of data. There is only one list of taxa, one list of collections, one list of localities, one list of accessions and so on - and only one bit of software needed to perform the required functions. This means that adding a mapping capability is just a matter of extracting the data that is already captured as part of the collection data (principally grid reference and taxon name)

and then passing this to a mapping function. In the case of TAXA, this involves just an option on the menu that passes the data to DMAP, displays and saves/prints the map, and then returns to the menu. The 'collection book' is merely a listing of the collection file in collection number order for a particular range of collection numbers, grouped by locality. If such a facility was not already available, it would take perhaps 30 minutes to develop and test. A further area where the advantages are great are in the ability to enter data once, and

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Bryological Data

(cont'd from p.10)

then never again. Once a taxon has been entered, you will never again have to type that long list of authorities - it's all there on file and will be churned out whenever the taxon is referred to (or it can be omitted, if the fashion changes, but the data is still there on file if you need it).

Whether you are entering collection book details or chromosome numbers, the method of identifying which taxon you are referring to is always the same, and only the minimum input is needed. Unfortunately the niche approach means that you will end up with numerous different version of a taxon list, each one with different mistakes, and each one needing amending when a revision takes place. Following a revision, the investment that needs to be made for instance in managing synonyms and the circumstances in which they are used can be quite great, and doing this is only acceptable if you only have to do it once, and it has a long term value. There seems little point in doing this for a 'lean, mean' collection book or mapping program.

Just because a program is large and comprehensive doesn't mean that it can't be used simply, for simple tasks. Those of us fortunate enough to use powerful, Windows-based word processors (I am using Word for Windows to write this note), would expect to be able to produce a sophisticated newsletter with pictures and varied fonts, or a scientific paper with footnotes and an index, but would also expect to be able to write a note to Aunt Ethel thanking her for the lovely Christmas present of handkerchiefs. The same should be true of the integrated package. Unfortunately botanical software is unlikely to have had hundreds of man years of effort expended on it, so we can't always achieve the sophistication and ease of use of commercial packages, but because they help us with the tasks we do, they can be tremendously productive aides in our daily lives, and make avail-

D I A R Y Cont'd.

September 10-11. Excursion to Schonnen (the Netherlands) with the Dutch Bryological and Lichenological Society to look at coastal dunes. Contact Dr. A. Aptroot, G. v. d. Veenstr. 107, NL-3762 XK Soest, the Netherlands. All DBLS are open for non-members.

September 23-25. Annual General Meeting and Symposium Meeting, Preston Montford Field Centre, Shrewsbury, Shropshire. Further information from Dr. Martha Newton, Department of Botany, Liverpool Museum, William Brown Street, Liverpool L3 8EN, U.K. Phone 051 2070001.

Late September. LeRoy Andrews Foray. The 19th Annual Foray will be held in southern New Hampshire in southern New Hampshire. Further information from: Cyrus B. McQueen, Department of Environmental Sciences, Bently Hall, Johnson State College, Johnson, VT 05656. Phone (802) 635-2356, ext 326; Fax (802) 635-7614.

October 2-8. VI Congreso Latinoamericano de Botanica to be held at Mar del Plata, Argentina. Further information from Celina M. Matteri, Museo Arg. Cs. Nat. B. Rivadavia, Av Angel Gallardo 470, C.C. 220, 1405 Buenos Aires, Argentina. Fax: (54) 1 982 4494 or (54) 1 982 5243.

November 24-29. 10th John Child Bryophyte Workshop, Waipoua Forest, North Auckland, New Zealand. Further information from Lisa Forester, Department of conservation, P.O.Box 842, Whangarei, New Zealand.

1995

April 5-12. Spring field meeting at Ambleside, Cumbria. Further information from Peter Bullard. Work address: Cumbria Wildlife Trust, Cumbria, LA22 0BU Phone 05394 32476. Home address: 36 Castle Garth, Kendal, Cumbria LA9 7AT Phone 0539 732699.

August 7-12. Tropical Bryophytes: Biology, Diversity and Conservation. IAB Conference in Mexico City (see BT77). Contact C. Delgadillo, Instituto de Biologia, UNAM, Apartado Postal 70-233, Del. Coyoacan, 04510 Mexico, D.F.Mexico, Fax (525)555-1760, email: moya@redvax1.dgsca.unam.mx.

1996

August 4-8. 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 will be invited shortly. The BBS summer field meeting in west will take place immediately afterwards in the west and central Highlands.

able to us services that allow us to do jobs and to cooperate in ways that previous generations would not even have attempted.

For those interested in using TAXA, a description is given in Bryological Times 73, but the product is now available as a compiled program, and so you don't need to have the dBase product to use it. The system is now documented, is more robust and contains a lot of new features, and also contains

more taxon names (about a thousand more from Africa). The system is available from the IAB software library, as 6 HD (1.4Mb) 3.5" disks for the full version including all the Malawi distribution data and collections (you may not be interested in the data, but it may be useful as an example), or as 3 disks just containing the taxa and basic control data.

Brian O'Shea, 141 Fawnbrake Avenue, London SE24 0BG

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 LH), **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 the publication shortly afterwards. Shorter notes may be accepted later if there is still space.

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Assistant Editor

Henrik Weibull, Stockholm.

Column Editors

J.-P. Frahm & B. O'Shea (computer techniques); J. M. Glime (ecology); T. Hallingbäck & E. Urmi (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).

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

Production

Lars Söderström, Trondheim

For details regarding membership of to *International Association of Bryologists* (currently US \$ 10.- per year) write to Dale H. Vitt, Department of Botany, University of Alberta, Edmonton, Alberta, Canada T6G 2E9.

Send contributions to:

D I A R Y
D. H. Vitt, University of Alberta,
Department of Botany, Edmonton,
Alberta, Canada T6G 2E9

1994

June 1-6. Annual assembly of the Swiss Bryological and Lichenological Association, with paper reading sessions and excursions to Bondo, Val Bregaglia (Southeastern Swiss Alps). Further information from Patricia Geissler, Cons. & Jardin Botaniques, Case postale 60, CH-1292-Chambésy, Switzerland.

June 6-9. Sociedad Española de Briología: "XIV Reunión de Briología", incl. SEB General Meeting. The objective is to study the rich bryophyte flora of Liébana valley (Cantabria, north Spain). Further information from Jesús Muñoz, IATEV, Apdo 8, E-33120 Pravia, Spain. Phone +34-8-5822977.

July 4-11. Australian Bryological Society Conference on "Australian Tropics". Lake Tinaroo (Atherton Tableland west of Cairns). Further information from Elisabeth Brown or Helen Ramsay, Nat. Herb. of New South Wales, Royal Botanical Gardens, Sydney N. S. W., Australia 2000. Fax (61) (02) 251 4403.

July 10-15 (tentative). Workshop on Chinese Bryophytes and Lichens. Place: Shengyang, China. Contact Officers: Cao Tong, Department of Plant Resources, Institute of Applied Ecology, Academia Sinica, Shenyang 110015, China and Lai Ming-Jou, Institute of Landscape Architecture, Tunghai University, P. O. Box 1-4, Sanchung, Taiwan 241.

July 13-27. BBS Summer meeting in Ireland. Based at Ballyvaughan, County Clare, for the first week and Clifden, County Galway, for the second week. Further information from Donal Synnott, Botany Section, National Botanic Gardens, Glasnevin, Dublin 9, Ireland. Phone 353 1374 388.

July 18-28. The 1994 field meeting of the Dutch Bryologische en Lichenologische Werkgroep van de KNNV will be held in SW Carinthia, Austria. The meeting will be based at Weissbriach, c. 15 km W of Villach in the Gailtaler Alpen. Excursions will be extended to the Karnische Alpen, near the Italian border, and to the Kreuzeckgruppe of Hohe Tauern in the north. Further information from Leo Spier, Kon. Arthurpad 8, 3813 HD Amersfoort, The Netherlands, or Othmar Breuß, Naturhistorisches Museum Wien, Botan. Abt., Burg-ring 7, Wien, Austria.

August 7-11. American Bryological and Lichenological Society Annual Meeting will be held in Knoxville, Tennessee. Further information from: Chicita F. Culberson, Department of Botany, Duke University, Durham, NC 27706.

August 26-31. Bryologisch-Lichenologische Arbeitsgemeinschaft für Mitteleuropa, annual fieldtrip in Carinthia, Austria. Details can be obtained from Dr. Adolf Schriebl, A 9412 St. Margarethen 200, Austria.

September 4-9. International Symposium: Endangered Bryophytes II, together with the meeting of the European Committee of Conservation of Bryophytes. Zürich. For information contact: E. Urmi, Inst. für Systematische Botanik, Zollikerstr. 107, CH-8008 Zürich. Phone: (41)1/385.44.41. Fax: (41) 1 385 42 04.

September 9-12. Excursion to Wägital (Schwyz, northern prealps) with the Swiss Bryological and Lichenological Association's annual field trip. Further information from Patricia Geissler, Cons. & Jardin Botaniques, Case postale 60, CH-1292-Chambésy, Switzerland.

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