

Some perhaps heretical ideas on an eternal nomenclatural tangle: "Sprucean" genera in the Lejeuneaceae

By Patricia Geissler

THERE IS NO UNAMBIGUOUS way of deciding upon the validity of most of the names in the Lejeuneaceae published between Spruce (1884/1885) and Schiffner (1893b) in Engler-Prantl in accordance with the (Sidney) International Code of Botanical Nomenclature (Voss, 1983).

Two extreme interpretations are possible, a formal one keeping strictly to the printed letter of the law, and another one taking into account the intentions of the author and the context of the contemporary period, i.e. a more liberal interpretation of Art. 34.1. The former was extolled in Gradstein et al. (1982) and also in Gradstein (1983), where the context is neatly summarized.

The purpose of the present lines is to advocate and propose for discussion a way of interpretation which goes more with the spirit of the law and tries to do justice to the authors of the new names. My "heresy" would be to contest the application of Art. 42 to the Stephani publications as proposed by Gradstein et al. (1982) and to plead for acceptance of the Sprucean way of presentation, i.e. the new names were combined in *Lejeunea*.

Three main points will be discussed:

1. Spruce (1884/1885), *Hepaticae Amazonicae et Andinae*. This publication was without doubt a revolutionary landmark in the systematics of the Lejeuneaceae to which hepaticologists still refer. Spruce divided the genus *Lejeunea* into 37 subgenera, of which 31 are to date accepted as genera (Grolle, 1983). For 7 of them earlier valid names already existed, e.g. *Thysananthus* Lindenb., 1844 for *Thysanolejeunea*. Spruce himself suggested that most of his subgenera would probably deserve generic rank. In the introductory text he clearly explains how the combinations

have to be used, and that he deals with species in the respective subgenera of the genus *Lejeunea*. Although the combinations in *Lejeunea* are only explicitly used in the index at the end of the second part (p. 582-585, Oct. 1885), they are in my opinion validated in the first part (April 1884) in the protologues, in agreement with Art. 33.1.

2. Schiffner, 1890. *Lebermoose In Forschungsreise... "Gazelle"*. The author sticks clearly to the Sprucean concept in his enumeration of the expedition collection, indicating subgeneric rank by a hyphenated prefix, e.g. "*Phragmo-Lejeunea*" subgenus novum". Unfortunately nowhere does he mention the genus name on its own. But as the Sprucean way of citing "*Phragmo-Lejeunea*" for "*Lejeunea (Phragmolejeunea)*" was current usage at that time by hepaticologists, why can't we accept these 19 new epithets as validly published in *Lejeunea* according to Art. 33.1 and Preamble 9?

3. Stephani (1888-1893). (For references, see Zijlstra, 1982). Stephani's inconsistency in generic attribution in Lejeuneaceae was extremely well demonstrated by Zijlstra (1982). Now and again Stephani adopts Spruce's taxonomy. From all his articles it is evident that his main ambition was to describe new species and that he did not much care for taxonomic concepts. Discussion on systematics and their evaluation are rarely encountered in his papers. He surely had the Sprucean concept in mind when he published new species. This is proved by the taxonomic arrangement in *Lejeunea* / Lejeuneaceae in the midst of an otherwise alphabetical enumeration. In Stephani's (1890) paper on "Die Gattung *Lejeunea* ..." he clearly recognises subgeneric rank for the names in question, following Spruce, although at times he confusingly speaks of "Genus" (see Zijlstra, 1982).

Stephani's other publications of that period are even more confusing. Apparently he was not at all aware of the fact that the Sprucean subgenera had not been given generic rank, and that we nowadays would not understand formally his way of presentation. If we look strictly and formally at the individual publications, the new names are invalid according to Art. 43.1. However, the Sprucean context cannot be denied. If it happens that only one new species has been described in a "subgenus (genus)", it was advocated to validate this "genus" according to Art. 42 (see the nom. rejic. prop. by Gradstein et al., 1982). There are 7 more such cases (see Grolle, 1983). In my opinion it is difficult to prove that Stephani had monotypic genera in mind which would be indispensable to apply Art. 42. Furthermore, these "artificial" validations could also be rejected under Art. 34.1(c). We have no way of proving that the author intended to raise just this single subgenus to generic rank and not the others with several species mentioned.

Nevertheless, that status of the epithets has still to be debated. 123 new species of Lejeuneaceae were published by Stephani (or Jack & Stephani), between 1888 and 1893. 38 species published in 1890 in *Hedwigia*, 29, can clearly be attributed to *Lejeunea*. 15 are combined with a subgeneric name which would be illegitimate or taxonomically superfluous at generic rank. For all these taxa later correct combinations exist (if not nomenclaturally correct, they have been put in taxonomic synonymy by subsequent authors). In all the above-mentioned publications, the index of the volume lists the species under *Lejeunea*, and not always also under the subgeneric name (see Zijlstra, 1982).

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BRYOLOGICAL ACTIVITIES IN NORTH-WEST HIMALAYA - II

A bryophyte foray in the Askot Region of District Pithoragarh (Kumaun Himalaya)

By G. Pant, S.D. Tewari,
M.C. Pargaien & L.S. Bisht

A MINI BRYOPHYTE FORAY was held from 6 to 13 June 1985 in various bryologically-rich areas of Pithoragarh district, viz., Askot (1,141 m), Jaulgibi (1,100 m), Gori Valley (1,000 m), Kali-Gori Valley (1,000 m), Didihat (1,800 m), Ghorpatta (1,860 m), Thal (700 m), Berinag (1,800 m) and Rai Agar (1,700 m). The district of Pithoragarh is situated in the western Himalaya and lies between 29° 3'45" and 30° 48'30" North latitude, and 79° 48'10" and 81° 5'55" East longitude.

On the 6th June, 1985, we started our journey by bus from Nainital to Almora (1,650 m), where we had a night's halt. In the early hours of 7th June we left our base camp for Askot. It was a nine-hour journey in a crowded bus via Sheraghat. On the way to Askot, we noticed many bryologically-interesting areas. We reached Askot at 3.00 p.m. and made a roadside collection in and around Askot proper. The real highlight of the locality was a rich epiphytic orchid flora, almost every other tree having a variety of orchids. Many bryophytes were associated with the orchid roots, the commonest species being: *Frullania squarrosa* Nees., *Lejeunea* sp., *Radula* sp., *Brachythecium buchananii* (Hook.) Jaeg., *Entodon plicatus* C. Muell., *Fabronia pusilla* Raddi and *Herpetineuron toccocae* (Sull. & Lesq.) Card. An aquatic bryophyte community consisting of *Chiloscyphus polyanthus* (L.) Corda, *Dumortiera hirsuta* (Sw.) R. Bl. et Nees., *Ectropothecium cyperoides* (Hook.) Jaeg., *Eurhynchium riparioides* (Hedw.) Richs., and *Fissidens grandifrons* Brid. was observed at a special type of man-made spring water reservoir locally termed a "Naula" by the Himalayan Highlanders. Plenty of moisture in the form of a year-round flow of water and a high humidity made them favourite spots for bryophytes. Some common liverworts and mosses, viz., *Asterella wallichiana* L. et L., *Cyathodium tuberosum* Kash., *Marchantia palmata* Nees., *Plagiochasma appendiculatum* L. et L., *Reboulia hemisphaerica* (L.) Raddi, *Riccia* sp., *Targionia hypophylla* L., *Frullania squarrosa*, *Lophoco-*

lea minor Nees., *Anoetangium thomsonii* Mitt., *Atrichum obtusulum* (C. Muell.), *Brachythecium buchananii*, *Entodon plicatus*, *Funaria hygrometrica* Hedw., *Hyophila involuta* (Hook.) Jaeg., *Plagiothecium denticulatum* (Hedw.) and *Trachypodopsis crispata* (Hook.) Fleisch. were collected from roadsides.

Next day, 9th June, 1985, was wholly devoted to surveying the well-known polymetallic copper deposit of Askot in view of the bryo-colonization of metal-contaminated substrates. The rocks of this area are predominantly schistose. Bryophytes were also collected from an old working site where pieces of copper slag and mixed soil dumps had accumulated. The chief colonizer of such sites was a Bryaceous moss, *Pohlia delicatula* (Mitt.) Broth. The present mining operations have resulted in an accumulation of huge masses of tailing dumps near the mouth of an underground tunnel. A continuous water seepage emerges out of the tunnel, which ultimately mingles into a "gad" - a broad rivulet made up of waters of perrenial springs and streams (Pant and Tewari, 1983). Such moist, mineral-tailing dumps supported a lush population of a lone Pottiaceous moss, *Barbula* sp. mingled with some grasses and ferns. We also noticed some thick, dense, pure patches of what was subsequently identified as *Jungermannia tetragona* Lindenb. which formed a sort of "liverwort peat". The rocky outcrops which are exposed at certain levels do not support any plants and present a bare appearance. A characteristic community of species of *Marchantia* - *Barbula* - *Mielichhoferia* was also noticed along the outer margins of the tunnel receiving continuous seepage water from an underground mineral deposit. Besides collecting bryophytes, we took substrate and water samples for analytical work.

On 10th June, our investigations were aimed at Jaulgibi, Gori Valley, some parts of Kali-Gori Valley and back to Askot. En route from Askot to Jaulgibi we could gather abundant moss material, the premier species being *Campylopus umbilatus* (W. Arn) Par. growing all along the hilly slopes. It was noticeable that the luxuriant growth of this moss was restricted up to the pine-dominated areas of the hillside. It was strikingly absent from forests of *Shorea robusta*. Descending the steep hillside for a distance of 9 km from Askot to Gargia (a village situated near Gori Valley) was a tough job, but an alluring cascade (appr. 30 m high) greeted us at Gargia with a lush and luxuriant growth of aquatic bryophytes. All along the margins of the waterfall were

Dumortiera hirsuta, *Pellia endivaefolia* (Dicks.) Dum., *Aneura pinguis* (L.) Dum., *Chiloscyphus polyanthus*, *Cratoneuron filicinum* (Hedw.) Spruc., *Eurhynchium riparioides*, *Hydrogonium consanguineum* (Thwait. & Mitt.) Hilp. and *Philontis fontana* (Hedw.) Brid. From the local inhabitants of Gargia we learned that the mosses, locally called "Jhian", can be used as a medicine if their burnt ash is mixed with fat ("Ghee") and the thick paste applied to cuts and burns. This paste has a soothing effect and the wounds heal quickly. The surrounding vegetation had changed - *Pinus roxburghii* forest giving way to pure *Shorea robusta* forests. Although the valley displayed a magnificence of orchids, with species of *Bulbophyllum*, *Dendrobium*, *Eria*, *Pholidotus* and *Vanda*, from a bryological point of view the area turned out to be very poor.

From Gargia, we moved along the Gori Valley up to Jaulgibi. Along the roadside we saw numerous mountain springs gushing forth in gay splendour, their sides and edges covered with many bryophytes. Some of these springs were tufaceous in nature. Huge (moss-laden) masses of calc-tufa were very frequent, in which shoots of *Hydrogonium* had solidified. Jaulgibi (1,000 m) was the last station of our trip from where we returned to Askot via Kali-Gori Valley. This valley showed a contrast. The vegetation had changed.

Next day, 11th June, we departed at 6.00 a.m. from Askot to Didihat (1,800 m) by bus. Our first halt was Ghorpatta (1,800 m). Ah! what a site indeed - a bryophytic paradise! The dense mixed oak - *Rhododendron* forest supported a rich epiphytic bryoflora intermingled with orchids. Almost every tree, shrub and sapling of oak and *Rhododendron* was remarkably laden with hanging mosses, viz. *Aerobryidium filamentosum* (Hook.) Fleisch., *Cryptoleptodon flexuosus* (Harv.) Rén. & Card., *Floribundaria floribunda* (Doz. & Molk.) Fleisch., *Meteoriopsis reclinata* C. Muell., *M. formosana* Nog., *Meteorium buchananii* (Brid.) Broth. and *Neckeropsis exserta* (Schwaegr.) Homaliodendron *scalpellifolium* (Mitt.) Fleisch. was also collected, a species new for the western Himalayan moss flora. Another important specimen in our collection from the Ghorpatta region was a species of the genus *Chandonanthus* (Lophoziaaceae), a genus which also appears to be a new record for the western Himalaya. *Aneura pinguis*, *Conocephalum conicum* (L.) Dum., *Dumortiera hirsuta*, *Metzgeria himalayensis* Kash., *Pellia endivaefolia*, *Riccardia*

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Some perhaps heretical ideas on an eternal nomenclatural tangle: "Sprucean" genera in the Lejeuneaceae. [contd. from page 1.]

I would plead for acceptance of these new species under *Lejeunea* which would have the value of stabilising nomenclature and which could still be accepted as conforming with the actual wording of Art. 33.1. A strictly formal interpretation with blinkers ignoring the hepaticological environment between Spruce and Schiffner (who in a footnote in his introduction to Lejeuneaceae genera in 1893b complains about Stephani's misleading way of presentation) could also be defended in a similar way.

4. Pearson (1892), *Lejeuneae madagascarienses* and Schiffner (1893a) Ueber exotische Hepaticae ... One single "*Lejeunea*" was published by another author in that period: "*Lopholejeunea lepidoscypha* Kiaer et Pearson" in Pearson (1892). Pearson mentions in his introduction Spruce's subgeneric concept for his treatment and therefore we could also adopt the name "*Lejeunea* (*Lopholejeunea*) *lepidoscypha*."

The presentation in Schiffner (1893a), published 4 months before the Hepaticae in Engler & Prantl, leaves no formal doubt about the valid treatment in the genus *Lejeunea*.

5. Final Remarks.

It has also been suggested that a paragraph could be added to Art. 13 declaring the Sprucean subgenera as validly published genera. Besides the extreme difficulty of getting such a proposal accepted by the larger botanical world, this would only partially solve our problems. The 7 valid pre-Sprucean genera should then be excluded. It still remains debatable whether subsequent authors published in *Lejeunea* or in a formerly subgeneric name.

The tendency of modern hepaticologists seems to favour a strictly formal interpretation of the Code, i.e. to accept conservation proposal 675-678. It is my intention to play *advocatus diaboli* in pushing the members of the Bryophyte Nomenclature Committee to evaluate also other opinions.

The editors of the *Index hepaticarum* are much embarrassed by the present tangle. Already in Vol. 10, the first published with the new presentation, the collaborators did not treat the epithets published before Schiffner (1893b) in genera based on Sprucean subgenera in the same way.

For the forthcoming volumes we would like to apply a consistent interpretation of the Code. The way suggested above seems to me to be in accordance with the Code unless the wording of Art. 33.1 be changed retroactively in Berlin into a constraint that the particular combination has to be used in full (which would invalidate innumerable combinations not only in hepatics). In all volumes we shall have to deal with these problem cases. Therefore we would be happy to be able to present them in a way acceptable to a majority of bryologists. As there is not much time left before the Berlin Congress, this article is published in *The Bryological Times* as the best way of reaching a maximum number of bryologists, although it was originally intended to be sent to *Taxon*.

Your comments are most welcome.

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BRYOLOGICAL ACTIVITIES IN N W HIMALAYA-II [contd. from p.2.]

sp. and *Distichophyllum* sp. formed a very conspicuous perennial spring water community in this area.

On 12th June 1985 we departed from Thal to Berinag where we collected *Campylopus* sp. and *Pogonatum alloides* (Hedw.) P. Beauv. forma *nessii* (C. Muell.) Gangulee. Next day, on 13th June, we went to survey the old copper mine area at Rai Agar, the final locality of our field trip, but much to our disappointment we could not find any satisfactory material from this spot. However, the exposed magnesite-talc belt revealed the presence of *Hymenostylium recurvirostrum* (Hedw.) Dix. The limestone rocks and boulders were seen to be covered with mosses like *Hymenostylium recurvirostrum*, *Hyophila involuta* and *Tortella tortuosa* (Hedw.) Limpr. We returned to Naini Tal on 14th June.

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- Pant, G. & S.D. Tewari, 1983. An assessment of bryophytic vegetation of Naini Tal and its environs - I. *Jour. Indian Bot. Society*, 62: 268-275.

Bryology Lab. Department of Botany, D.S.B. College, Kumaun University, Naini Tal 263 002, India.

Bryophyta Vogesiaca Exsiccata

BRYOPHYTA VOGESIACA EXSICCATA, a new series with specimens from the Vosges-Mountains, NE-France, will be distributed by J.-P. Frahm. Fascicules 1-11 with nrs. 1-50, including 45 species of mosses and 5 species of hepatics, are issued now. It will be distributed in 50 duplicate sets, and is available on an exchange basis.

This series will be continued and each fascicule will include one representative specimen per species of the approximately 400 bryophyte species of this area.

J.-P. Frahm, Universität Gesamthochschule Duisburg, Fachbereich 6, Botanik, Postfach 10 16 29, D-4100 Duisburg 1, Federal Republic of Germany.

COMPUTER COLUMN *

Book Review

Microcomputers in Biology: a practical approach (1984) ed. Ireland, C.R. and Long, S.P., publ. IRL Press, Oxford (UK) and Allington, VA (USA), ISBN 0 904147 57 6. Price £15 (US\$27). The diskettes are £45 (+15% VAT in UK) or US\$80, or the combined package of book and diskettes is £55 (+VAT in UK) (US\$99).

Microcomputers in Biology is one of several paperbacks in a "practical approach" series. The book is issued optionally with two floppy diskettes containing 'over 50' of the programs listed in the book, although this was not seen and is thus not reviewed here. (The diskettes are available for the Apple II, IBM PC or BBC 'B'). The book consists of two chapters of introduction to computers and their interfacing to the outside world, two chapters covering topics of general interest to those using computers in the biological sciences (data logging and graphical techniques) and then a series of chapters dealing with more specific technical matters: analysis of enzyme reactions, analysis of nucleic acid sequences, spectrophotometry, chromatography, centrifugation, and environmental control - all chapters of the book apart from the first two containing sample programs.

The introduction, by the editors, is a patchy but reasonably wide-ranging description of microcomputers as they are likely to be met by the bryologist. It describes a lot of the technical jargon, but sometimes only in terms of other jargon - such as 'volatile memory', 'x/y plotter', 'finger ball keypad', 'analogue to digital converter' and the like, which make the descriptions difficult to understand without previous knowledge - in which case the introduction would have been unnecessary anyway. Unfortunately the introduction is not only pitched at the wrong audience, but it also contains several typing and grammatical errors (not fortunately a feature of the rest of the book) - a disconcerting start. I think also that the serious-

ness with which it advises on the choice of a microcomputer hides the fact that however carefully such a decision is taken, it may still be wrong: the tyro might well be advised to start with a fairly cheap machine that will allow for the necessary experimentation, without expectations that are too high - this is a very good way firstly of discovering the potential of computers, and secondly, of crystallising thoughts about what the machine could be used for, and revising original ideas of the best way of tackling the problems that it was anticipated the computer might solve.

Another criticism is in the quality of many of the programs. I am quite ready to believe that they work as they should: my criticism is mainly one of style and understandability (and thus maintainability). If you bought a car that worked perfectly, so far as you could tell, but, looking under the bonnet, seemed to be held together with string and sealing wax, you might have doubts about its ability to withstand the rigours of the road. The same is true of some of the programs in this book. There is a rat's nest of convoluted code, with no annotation, and with only an obscure indication of what machine the code was written for. One set of programs, for example, contains only about 1-2% lines of remarks, where I would have expected at least 20%, and exhibited no discernible structure. Although all programs are written in BASIC, they are for a variety of different machines, and the dialect is often difficult to detect, and may only be mentioned casually within the text of the paper. There are also, I am glad to say, exemplary examples of code as well: Beynon's graphics programs are elegantly laid out, crystal-clear and beautifully structured. I managed to convert portions of it from Apple BASIC to IBM PC BASIC with great ease, and the program ran first time.

The text on the whole is of higher quality than the programs. Some papers provide an excellent tutorial on the practicalities of the subject area, such as Smith on nucleic acid sequences: writing programs to simulate or control a real life event has the happy result of making the author think very clearly about the event in question, and programs will only work if the event has been thoroughly understood. Other chapters,

although less educational, (eg Steensgard and Rickwood on centrifugation), nevertheless define precisely the boundary conditions involved, and how to detect them. The technical editing again is not perfect and there are some extraordinary statements, such as that the scan rate of a screen is dependant on its size - which will be surprising news to the providers of television sets - and other statements betray a rather out of date knowledge of market trends.

I have spent much more time criticising this book than praising it, because I think publishers have as much a duty to publish high quality books, as we have a right to expect them, and that this book falls short on quality, even though it tackles a wide area quite competently, and would be invaluable to anyone working in any of the areas described, but even here I have a complaint: the book is bound such that the pages start perforating along the stitching. The programs may not all pass scrutiny as pieces of software engineering, but I am sure they will work as stated, and will thus be similarly useful.

Few enough books are published in this area, and one can only regret this lost opportunity.

B.J. O'Shea, 131 Norwood Road, London SE24 9AF, UK.

Software Service

It is planned to publish a list of free software of interest to bryologists in a future issue of *The Bryological Times*. The list will include:

1. Free software, without copyright (sometimes called 'public domain software' or 'freeware').
2. Programs written by bryologists who are willing to place these programs freely at the disposal of others.
3. Taxonomic data or address files stored on disk, that may be copied by bryologists.

Anyone willing to contribute such software is asked to send information about the programs or data (and the required hardware) for inclusion in this list, to:

J.-P. Frahm, Universität Duisburg, FB 6, Botanik, Postfach 101627, D-4100 Duisburg, FRG.

* Edited by J.-P. Frahm & B. J. O'Shea. For addresses see *Bryol. Times*, 31:9.

Bryological Methods Workshop, Mainz, Germany.

A BRYOLOGICAL METHODS WORKSHOP, sponsored by the IAB, to be held in Mainz, Germany, 17-23 July 1987, has already been announced (Bryol. Times, 34:7). The official language of the Workshop is English. This Workshop will include presentations and discussions of methods, followed by opportunities for laboratory experience. The registration fee includes a book of abstracts, Sunday excursion, conference dinner, refreshments, and workshop supplies. Fees are payable to Professor Hartmann:

	Members - IAB	Non-members	Students
Before 15 October 1986	\$30 (75 DM)	\$40 (100 DM)	\$15 (35 DM)
After 15 October 1986	\$40 (100 DM)	\$50 (125 DM)	\$20 (50 DM)

The second circular is currently being mailed. If anyone requires a letter of invitation, please contact Professor Hartmann or Professor Glime. A very tentative schedule has been planned, and this will be revised based on the interests indicated by the registrants.

Topics

Basile, Culture techniques	Proctor, Methods in Ecology
Rudolph, <i>Sphagnum</i> culture	Berris, Microclimate measurements
Simon, Axenic cultures	Lewis-Smith, Microclimate equipment
McQueen, <i>Sphagnum</i> spore culture	Russell, Microclimate, growth
Cove, Genetics in mosses	Slavick, Herbarium methods
Ashton, Protoplast technique	Brown, Atomic absorption
Bopp, Transport, Protoplasts	Kirchhoff, Cd- and Pb-analysis
Katoh, Callus formation	Muhle, Neutron activation
Bhatla, Mutants of <i>Funaria</i>	Ponciano, Sulfur analysis
Nehira, Germination, Protonemata	Sarosiek, Experimental ecology
Krzakowa, Electrophoresis in taxonomy	Satake, X-ray fluorescence
Odrzykoski, Isoenzyme markers	Frahm, Computer applications
Prus-Glowacki, Serological methods	Empain, Cell measurements
Zawadzki, Methods in Bio-electricity	Michaelis, Growth analysis
Miller, Teaching	Magill, Herbarium application
Seppelt, Illustration techniques	Lightowers, Demonstration STATUS
Mues, Extraction, Analysis, HPLC	Vitt, Numerical taxonomy
Asakawa, TLC, GLC, Terpenoids	Reiss, Freeze fraction
Wilschke, HPLC analysis	Berendsen, Preparation for SEM
Raeymaekers, Chlorophyll, DMSO	Duckett, Preparation for TEM
Tuba, TLC, Spectrophotometry	Nordhorn-Richter, Physics fluorescence
Beutelmann, Lipid analysis	Schaffer, Fluorochromes, NMR
Pfaffmann, Phospholipids, Phospholipases	Hartmann, Calcium CTC
Shimizu, Photosynthesis, Sugars	Ashton, Proton pumps
Whittier, Computer applications	Shukla, Calorimetry
	Wu, Light, Psychrometer
	Janssens, Palaeoecology
	Iwatsuki, Field photography

Correspondence regarding the organization of the experimental programme, demonstrations and registration to: Prof. Dr. Elmar Hartmann, Bryological Methods Workshop, University Mainz, Institut Allgemeine Botanik, Saarstrasse 21, 6500 Mainz, F.R.G. (Tel. 06131 39 2467). Correspondence regarding the organization of the scientific programme and the "Bryological Methods Book", to Prof. Janice Glime, Bryological Methods Workshop, Department of Biological Science, Michigan Technological University, Houghton, Michigan 49931, U.S.A. (Tel. 906/487-2546).

Fortschritte der Botanik

DR. JAN-PETER FRAHM has taken over the editorship of the bryophyte chapter in the series "Progress in Botany" published by Springer. This chapter contains a selected and annotated bibliography arranged by subjects and is published at two-yearly intervals.

Since the bibliographic facilities at Duisburg are not the best, Dr. Frahm kindly asks if colleagues will support him in his work by sending reprints, especially from local circulation, or specialist journals, which are not so easily available.

Universität Duisburg, Fachbereich 6, Botanik, Postfach 10 16 29, D-4100, Duisburg 1, B.R.D.

Stiftung Volkswagenwerk

THE STIFTUNG VOLKSWAGENWERK, founded in 1961, is a private grant-giving foundation. Its aim is to promote science, technology and the humanities in research and university teaching. The foundation is governed by the Board of Trustees. Its capital, today, amounts to about DM 1,360 million. The annual funds at the Foundation's disposal are mostly interest on the Foundation's capital. A further source of income are the annual dividends on the shares of the Volkswagenwerk held by the Federal Government and the State of Lower Saxony. In 1983, it was possible to distribute about DM 118 million for new projects.

The Foundation promotes scientific institutions in the Federal Republic of Germany and abroad; its funding activities are concentrated upon certain programmes in the natural and engineering sciences, medicine and the humanities and social sciences.

Some programmes are particularly well suited for co-operation between German and foreign scientists. The Stiftung Volkswagenwerk increasingly attempts to offer funding possibilities to research institutions in countries with developing science structures. Examples are the programme areas "Research on Contemporary Problems in Southeast Asia" and "Fundamental Developments in Latin America, Asia and Africa".

The "Programme of Partnerships Engineering/Natural Sciences" presented here is directed to the countries of Southern Europe and the Mediterranean as well as to Africa, Asia and Latin America. It is intended to support co-operation and the exchange of information with the Federal Republic of Germany. The grants are primarily earmarked for the co-operating partner abroad. Funds up to DM 100,000 can be made available for a term of two or three years. Applications on behalf of foreign Institutes may be for equipment, literature, supplies, travel to the co-operating Institute in West Germany and costs of working there. Applications are submitted through the co-operating German Institute.

Anyone interested in the possibility of doing co-operative research in a West German Institute is encouraged to write for further particulars to Dr. Jan-Peter Frahm, Universität Duisburg, Fachbereich 6, Botanik, Postfach 101629, D-4100, Duisburg 1, B.R.D.

Sprucean Heresies - A Reply

BY GEA ZIJLSTRA

GEISSLER'S ARTICLE on pages 1 & 3 of this issue, explains quite well the problems in Lejeuneaceae nomenclature: it concerns a conflict between the printed letter of the law (to be applied retroactively) and the original author's intentions. It cannot be said, however, that this is a conflict between the printed letter and the spirit of the Code! If it really were that kind of conflict, it would be necessary to amend the Code, to remove the inconsistency.

Preamble 9

Geissler refers to Preamble 9. Let us consider this provision in detail: (a) "In the absence of a relevant rule...": I suppose Geissler would say that this part is not relevant in our situation; (b) "... or where the consequences of rules are doubtful...": I suppose Geissler considers this phrase to be applicable. In my opinion, however, it is not a matter of doubt about how to apply the rules, but of the unacceptability of the results. (c) "... established custom is followed.": The procedure, advocated by Geissler, is indeed established custom among hepaticologists: i.e. to estimate an author's intentions, and to read what an author wished to say, but did not in fact write down.

Established custom is illustrated, e.g. in the ninth volume of the *Index hepaticarum* (1978) in which binomials under *Lejeunea* are reported as if, for example, Schiffner (1890) had written "*L. rostrata* nov. spec." instead of "*Acro-L. rostrata* nov. spec."

Art. 42

I must admit that originally I also wished to give priority to the author's intentions. I also refused to apply Art. 42 in the cases referred to by Geissler. This can still be perceived in *Index nominum genericorum (plantarum)* (1979), in which those "genera" of Stephani 1888-1892 are missing. (After Bonner's death, these Lejeuneaceae names were left-over problems for ING, and relegated to me. They do not concern just 7 generic names (the number mentioned by Geissler), but at least 16, or even 18, under Note 1 of Art. 42).

Later on I became convinced that by giving way to the author's intentions, you stand on a slippery slope, and sooner or later you will slide down to

a position where you no longer need a Code.

Art. 33.1

With regard to Spruce's book, I can imagine that Art. 33.1 could be considered to be correctly applied by Geissler. However, I have always interpreted this article differently, guided mainly by the examples, in particular the last two lines of Ex. 1 and the second sentence of Ex. 2.

Here another problem arises. Art. 33.1 states that a combination is validly published only if an author definitely indicates that the epithet(s) are to be used in that particular combination. Many taxonomists always took the position that this meant that a combination is not validly published unless the author actually uses the epithet(s) concerned in that particular combination. In the Committee for Valid Publication, we agreed that this is current practice, and thus we concluded we should propose to the Berlin Congress that Art. 33.1 be amended.

Although I realise that it could be felt that Geissler's interpretation of Art. 33.1 might be justified in the case of Spruce's book, I strongly reject the idea that either Schiffner (1890) or Stephani (1888-1893) could be considered to have published combinations in *Lejeunea* in cases in which these authors only used a subgeneric epithet in the place of a generic name. If you accept that idea, you are already halfway down the slippery slope!

Is a radical solution possible?

Despite my rejection of these free interpretations of Arts. 42 and 33.1, I am glad that Geissler has challenged us. On one major point we agree: strict application of the Code will leave us with the continuation, or even an increase, of the present chaos. Conservation of generic names only provides a partial solution, but not for the large number of binomials under consideration. The reason for 'established custom' among hepaticologists is not out of contempt for the Code, but because of the extreme difficulty of how to apply the Code in an acceptable way.

That is why G.A.M. Scott and I recently wrote a proposal to be published in the November issue of *Taxon* (35 (4), 1986), to add a new paragraph to Art. 14 to cover names published by Spruce (1884), as well as names published by other authors, until Schiffner's treatment of the Lejeuneaceae in Engler & Prantl, Sept. 1893. We suggest that (i) Spruce's subgeneric names should be treated also as generic names, dating from that

1884 work; and (ii) species combinations in these names, published by Spruce (1884), or by other authors in the 1884-1893 period, should be treated as combinations in those generic names, and in *Lejeunea*. This is the essence of the Scott & Zijlstra proposal. It would go beyond the scope of this reply to Geissler to give the full proposal here, much less to give its full argument. The text of the proposal is complicated by the fact that Scott and I have different interpretations of Art. 33.1, and even of Prop. A to Art. 33 of the Committee for Valid Publication.

Interpretation of Art. 33.1

In the light of all this, I would appreciate hearing from readers their interpretation of the present Art. 33.1 and of the proposals to amend it, as well as their opinion of the radical solution proposed by Scott and myself.

Because the Committee for Valid Publication could not agree on the question as to whether species combinations and other combinations should be treated in the same way, its report (to be published in the November issue of *Taxon*) includes several proposals:

A. Amend Art. 33.1 to read: "A combination (autonyms excepted) is not validly published unless the author actually associates the (final) epithet with the name (or its abbreviation) of the next higher taxon."

(B. and C.: the present Ex. 1 and 2 rewritten; E: the new example of a section.)

D. Amend Art. 33.1 to read: "The name of a species is validly published only if the author actually associates the epithet with the generic name (or its abbreviation). A combination in the rank of a subdivision of a genus or in infra-specific rank is validly published if the author clearly indicates that the epithet(s) is (are) to be used in that particular combination." (Followed by two new examples: a species and a section).

Questionnaire

Those who are familiar with nomenclatural questions are kindly requested to let me have their opinions. It can be done relatively easily by completing questions I-IV of the questionnaire accompanying this article and sending it to me. I would like to inform the Rapporteurs, (W. Greuter and J. McNeill) of interpretations of Art. 33.1 and its proposed modifications, and of possible support for the Scott & Zijlstra proposal. To have the opportunity to do this in time,

[continued on page 7.]

Publications of the late Prof. W.X. Xu

IN THE ARTICLE ENTITLED "Out and About in the People's Republic of China", the sad news of the death of Professor W. X. Xu, of the Department of Biology of Yunnan University, was announced (*Bryol. Times*, 38: 3, 1986).

The following is a list of Professor Xu's publications:

- Xu, W. X. 1962. The preliminary observation on the vertical distribution and its communities of Mt. Yulong, Lijian, Yunnan. *J. Yun. Univ.* Issue for 1962: 1-34; In Chinese.
- Xu, W.X. 1963. The preliminary survey of Polytrichaceae. *J. Yun. Univ.* Issue for 1962: 1-6; In Chinese.
- Xu, W.X. 1964. Newly discovered *Cyathodium* in China. *J. Yun. Univ.* Issue for 1962; In Chinese.
- Xu, W.X. & R.L. Xiong. 1982. *Taxa nova generis Pogonatum*. *Acta Bot. Yun.*, 4(1): 51-53.
- Xu, W.X. & R.L. Xiong. 1984. *Taxa nova Polytrichacearum Sinensium*. *Acta Bot. Yun.*, 6(2): 173-184.
- Xu, W.X. & R.L. Xiong. 1985. Encalyptaceae, Funariaceae, Polytrichaceae, Blepharostomaceae and Radulaceae. In: *Bryoflora of Xizang*. Beijing, Science Press.

P.C. Wu, Institute of Botany, Academia Sinica, 141 Hsi Chih Men Wai Ta Chie, Peking, China.

Membership of IAB

THE FOLLOWING LISTS for the period 16 March-30 June, 1986 update those already published. The last list appeared in *Bryol. Times*, 37:5.

New Members

Arts, Theo*; Beckmann, Karen G.*; Hofman, Annelies*; Menzl, Maria*; Pike, D. Christine*; Suda, Ryuichi*; Toyota, Misa*.

Addresses

Arts, Theo, Kerklei 87, B-2128 Brecht, Belgie.

Beckmann, Karen G. Botany Dept., Monash University, Wellington Road, Clayton, Australia 3168.

Hofman, Annelies. Vakgroep Genetica, Biologisch Centrum, Vleugel A, Kerklaan 30, 9751 NN Haren, The Netherlands.

SPRUCEAN HERESIES - A REPLY :

[contd. from page 6.]

I would like to receive answers as soon as possible and in any case not later than 4 weeks after receipt of this issue of the *Bryological Times*.

Q.I. Interpretation of Art.33.1, Prop. A and Prop. D with respect to (a) names published by Spruce (1884), e.g. "*Microlejeunea sub-rufula*" (p. 289); (b) names published by Schiffner (1890), e.g. "*Acrolejeunea rostrata*" (p. 26); (c) names published by Stephani (1888), e.g. "*Microlejeunea africana*" (*Hedwigia*, 27:61). Please write yes or no, depending upon whether you consider the author to have published a combination in *Lejeunea* in each of these examples.

Q.II. Would you be in favour (yes/no) of a radical solution for the "Sprucean" names, and for binomials published in them, in the 1884-1893 period, i.e. that the proposal summarized above appears to be "watertight"? (This question only asks if, in principle you might be in favour of such a solution.)

Q.III. If you wish to read the full text of Scott & Zijlstra (in press in *Taxon*) before you can answer Q.II, please ask for a copy. (Wanted/not wanted).

Q.IV. To help evaluate the replies, please supply the following information: (a) whether you work with hepatics and/or mosses Hep./Moss; (b) Are you (more or less) familiar with the problems in Lejeuneaceae nomenclature? (Yes/No); (c) Are you very familiar with these problems? (Yes/No); (d) Are you a specialist in nomenclature of the Lejeuneaceae? (Yes/No); (e) Name, address and date.

Instituut voor Systematische Plantkunde, Heidelberglaan 2, 3584 CS Utrecht, Netherlands.

Menzl, Maria. Botanisches Museum, Konigin-Luise-Strasse 6-8, D-1000 Berlin 33, Germany. B.R.D.

Pike, D. Christine. 196 Poath Road, Hughesdale 3166, Victoria, Australia.

Suda, Ryuichi, Botanical Institute, Hiroshima University, Higashi-senda-machi, Nakaku, Hiroshima 730, Japan.

Toyota, Misa. Botanical Institute, Hiroshima University, Higashi-senda-machi, Nakaku, Hiroshima 730, Japan.

Change of Address

Cowan, R.S., 179 Hillview Terrace, Bentley, W.A. 6102, Australia.

Newton, Angela E. c/o Higher Farm, Yetminster, Sherborne, Dorset DT9 6LF, England, U.K.

Vogelpeol, D.A.J. Carolinenburg 29, 8925 CA Leeuwarden, Holland.

News from Helsinki

Dr. SINIKKA PIIPPO is acting as junior curator in the cryptogamic herbarium at least until 31st December, 1986.

Mrs. LIN PANG-JUAN (South China Institute of Botany, Academia Sinica, Kwangchow (China), shall stay in the Department of Botany and Botanical Museum from ca. 1 September, 1986 for 5 months studying the bryophytes of Giangfengling Mts., Hainan Island, and the family Mniaceae of Guangdong Province in co-operation with Prof. T. Koponen. Her work will be supported by a scholarship from the Finnish Ministry of Education.

Dr. BRONISLAW WOJTUN (Agricultural Academy, Department of Botany and Plant Physiology, Wrocław, Poland) has been in Helsinki from the beginning of April, 1986. He is studying nitrogen metabolism and laboratory cultivation of *Sphagnum* with Prof. Liisa Simola and ecology of *Sphagnum* with Dr. Pekka Pakarinen. He has a scholarship for 5 months from the Finnish Ministry of Education.

T. Koponen, Department of Botany, University of Helsinki, Unioninkatu 44, SF-00170, Finland.

Deaths

JOHN KENNETH BARTLETT of Pakuranga, Auckland, New Zealand, died suddenly on 1st May, 1986. A secondary school science teacher by profession, John was also a tireless collector of New Zealand cryptogams and flowering plants. He was known to many bryological colleagues from his visits to North American and European botanical institutions and as the author of numerous papers on floristics and taxonomy of New Zealand mosses.

His abilities as a collector of mosses are commemorated in the names *Bryobartlettia costata*, *Hyphobartlettia fontana*, and *Bryobartlettia bartlettii*, Hepatic, *Colura pulcherrima* var. *bartlettii*, lichen *Megalospora bartlettii*, and flowering plant *Metrosideros bartlettii* epithets also bear witness to his collecting abilities. John Bartlett's collection of bryophytes and lichens has been deposited at the Auckland Institute and Museum (AK).

Alan J. Fife, Botany Division, Department of Scientific & Industrial Research, Private Bag, Christchurch, New Zealand.

INDIAN

BRYOLOGICAL SOCIETY

SINCE ITS INCEPTION in 1983, the Indian Bryological Society has brought out two copies of its Bryological News Letter. The first was published during September 1984 and included a list of the names and addresses of the 73 enrolled members. The second News Letter was issued in May 1985 and included a Bibliography of bryological work done in India at various centres.

The Society suffered a great setback in the death of its founder President Prof. Ram Udar. Prof. R.N. Chopra of Delhi University was subsequently elected as President and Prof. S.S. Kumar of Punjab University, Chandigarh, as Vice-President.

At present the Society is preparing to bring out No. 3 of the Bryological News Letter, which will incorporate information of bryological activity at the various centres in India. This third issue is likely to be out by the end of July 1986.

S.S. Srivastava, Hon. Sec., Indian Bryological Society, Dept. of Botany, University of Lucknow, Lucknow 226007, India.

Personalia

DR. HÉLÈNE BISCHLER of the Museum National d'Histoire Naturelle, Laboratoire de Cryptogamie, Paris, first Vice-President of IAB, visited the Farlow Herbarium of Cryptogamic Botany and Reference Library, during May, 1986, as the first Geneva Sayre visiting scholar. During her stay she studied the Herbarium's collection of Marchantiales and gave a seminar entitled "Hepatics in the Mediterranean and Mid-Eastern Deserts". She also paid a visit to the New York Botanical Garden before returning to Paris.

THE INTERNATIONAL ASSOCIATION OF BRYOLOGISTS publishes *The Bryological Times* every two months, the *Bulletin of Bryology* twice a year and the *Advances in Bryology* every two years. Material for the *Bryological Times* can be sent at any time, but submission dates for the *Bulletin*, and the *Advances* should be discussed with the Editors, Dr. Diana G. Horton (University of Iowa) U.S.A. and Dr. Norton G. Miller (Albany) U.S.A. respectively. The Editors do not accept responsibility for the views of authors.

For details regarding membership of the International Association of Bryologists (currently U.S. \$8.00 p.a.), write to the Honorary Secretary, Dr. S.R. Gradstein, Instituut voor Systematische Plantkunde, Heidelberglaan 2, 3584 CS Utrecht, The Netherlands.

THE BRYOLOGICAL TIMES is published in Utrecht and distributed from Beijing (China), Eger (Hungary), Kingston (Tasmania), Missouri (U.S.A.), Reading (U.K.), Tokyo (Japan) and Utrecht. All correspondence concerning mailing to: Rob Kruijt, Instituut voor Systematische Plantkunde, Heidelberglaan 2, 3584 CS Utrecht, The Netherlands.

ITEMS FOR THE NEXT ISSUE to be with the Editor, Dr. S.W. Greene, Department of Botany, The University of Reading, London Road, Reading RG1 5AQ, Berkshire, England (Telex 847813 RULIB) by the 1st of October at the latest. Items for the regular columns should be sent direct to the column editors, whose names and addresses will be found in *Bryol. Times*, 31:9, 1985.

DIARY

For explanation of acronyms, see *Bryol. Times*, 31: 7-8, 1985.

1986

Sept. 7. VWGB. Field trip to Lommen and Herk-de-Stad, Prov. of Limburg. Meet 09.30 hrs. at the church in Lommen.

Sept. 12-14. BLAM. Field Meeting in Nordschwarzwald, BRD, based on Karlsruhe. Organizer and leader, Dr. G. Philippi, Erbprinzenstr. 13, 7500 Karlsruhe, B.R.D.

Sept. 19-21. Eleventh annual LeRoy Andrews Foray. Peconic Dunes Camp of Suffolk County, Long Island, New York. Further information from Dr. W.R. Buck, New York Botanical Garden, Bronx, NY 10458-5126, U.S.A.

Sept. 20-21. BBS. A.G.M. and paper-reading meeting. University of Leeds. Local Sec.: Prof. D.J. Cove, Dept. of Genetics, University of Leeds, Leeds LS2 9JT. For preliminary details, see *Bull. BBS*, 47.

Oct. 3-5. 2nd Blomquist Bryological Foray, Tennessee. Staying at Pickett State, Rustic Park, Jamestown, Tennessee. Further details from Dave Smith, Dept. of Botany, University of Tennessee, Knoxville 37996, U.S.A.

Oct. 4-5 or 11-12. SBLs. Taxonomic Workshop with Dr. J. Váňa on *Jungermannia* and *Marsipella*. Zürich, Botanical Institute of the University. Further information from Klaus Ammann, Syst.-Geo-Bot., Institut, Altenbergrain 21, CH-3013, Bern, Switzerland.

Oct. 5. VWGB. Field trip to Oosterzele-Balegem, Prov. of Oost-Vlaanderen. Meet 09.30 hrs. at the church in Oosterzele.

Nov. 1-2. BBS. Taxonomic Workshop, University of Reading. Local Sec.: Dr. R.E. Longton, Dept. of Botany, The University,

Reading RG6 2AS, Berkshire, England. For details, see *Bull. BBS*, 47.

Nov. 9. VWGB. Field trip to Hoogaarden-Meldert, Prov. of Brabant. Meet 09.30 hrs. at the church in Hoogaarden.

1987

April 1-8. BBS. Spring field meeting, Penzance, Cornwall. Local Sec.: Mrs. J.A. Paton, Fair Rising, Wagg Lane, Probus, Truro, Cornwall TR2 4JU. For details see *Bull. BBS*, 47.

July 17-23. IAB. Mainz. Bryological Methods Workshop. For further information see this issue, page 5.

July 24-1 Aug. XIVth IBC Berlin (West). Preceded by IAPT Nomenclature Session, July 20-24. For Second Circular, see this issue, page 8. Congress address: XIV IBC. Bot. Garden and Museum, Königin-Luise-Strasse 6-8, D-1000, Berlin (West) 33, Germany.

July or Aug. BBS. Summer field meeting, Achill Island, Co. Mayo and Westport. Local Sec.: Dr. D.M. Synnott, National Botanic Gardens, Glasnevin, Dublin 9, Ireland. For preliminary notice, see *Bull. BBS*, 46.

Sept. BBS A.G.M. and paper reading meeting, Wye College, Kent. Local Sec.: Dr. M.A.S. Burton, Paris House, East Malling, Maidstone, Kent ME19 6AU. For preliminary notice, see *Bull. BBS*, 47.

Nov. BBS. Taxonomic Workshop. University of Manchester. Local Sec.: Dr. S.R. Edwards, The Herbarium, Manchester Museum, The University, Manchester M13 9PL. For preliminary details see *Bull. BBS*, 47.

1988

June 6th. CEBWG Meeting, Liblice, (Village near Mělník), Czechoslovakia. Further details will be announced later.

SPRUCEAN HERESIES - QUESTIONNAIRE

The Bryological Times, No. 39, 1986, carries two articles dealing with problems of nomenclature in the Lejeuneaceae. The first (pp. 1, 3) is by P. Geissler and the second (pp. 6-7) is by G. Zijlstra. Zijlstra's article is in reply to Geissler's and it ends with four questions which she would like answered. These questions are repeated on this questionnaire which, if you wish to express an opinion, you are asked to complete and return to Drs. G. Zijlstra, Instituut voor Systematische Plankunde, Heidelberglaan 2, 3584 CS Utrecht, The Netherlands. Replies should arrive in Utrecht not later than 4 weeks after receipt of Bryological Times, No. 39, to enable Zijlstra to summarize the results and forward them to the Nomenclatural Rapporteurs (W. Greuter and J. McNeill).

Q. I. Interpretation of Art. 33.1, Prop. A and Prop. D with respect to (a) names published by Spruce (1884), e.g. "*Microlejeunea subbrufula*" (p. 289); (b) names published by Schiffner (1890), e.g. "*Acrolejeunea rostrata*" (p. 26); (c) names published by Stephani (1888), e.g. "*Microlejeunea africana*" (Hedwigia, 27: 61). Please write yes or no, depending on whether you consider the author to have published here a combination in *Lejeunea* in each of these examples.

	Art. 33.1	Prop. A.	Prop. D.
a. Spruce (1884)	Yes/No	Yes/No	Yes/No.
b. Schiffner (1890)	Yes/No	Yes/No	Yes/No.
c. Stephani (1888)	Yes/No	Yes/No	Yes/No.

Q. II. Would you be in favour of a radical solution for the "Sprucean" names, and for binomials published in them, in the 1884-1893 period, i.e. that the proposal summarized in the article appears to be "watertight"? (This question only asks if, in principle, you might be in favour of such a solution.)

Yes/No

Q. III. If you wish to read the full text of Scott & Zijlstra (in press in Taxon) before you can answer Q. II, please ask for a copy.

Wanted/Not wanted

Q. IV. To help evaluate the replies, please supply the following information:

- (a) Whether you work with hepatics and/or mosses Hep./Moss
- (b) Are you (more or less) familiar with the problems in Lejeuneaceae nomenclature? Yes/No
- (c) Are you very familiar with these problems? Yes/No
- (d) Are you a specialist in the nomenclature of the Lejeuneacea? Yes/No.
- (e) Name, address and date.

Please return as quickly as possible to Drs. G. Zijlstra, Instituut voor Systematische Plantkunde, Heidelberglaan 2, 3584 CS Utrecht, The Netherlands.

