Recent bryo-floristic exploration in China
by
Pan-Cheng Wu

A contribution to the Floristic and Phytoecography Column
edited by W.R. Buck and J. Váša

Exploration of the Chinese bryoflora dates back to the nineteenth century (Wang, 1935; Koponen, 1984; Wu, 1984). In 1975, a very important epoch began when a large expedition to explore Qinghai-Xizang (Tibet), the location of the world’s highest peak, Mt. Qomolangma (Everest), was organized by the Chinese Academy of Sciences. From 800 to more than 4000 meters above the sea level, the area includes tropical and subtropical evergreen broad-leaved forests, deciduous broad-leaved forests, coniferous forests, meadows and alpine tundra. As one might expect, the bryoflora of Xizang is very rich and more than eight hundred species have been found (Chen, 1962; Li 1985b).

It appears that the area can be divided into 3 or 4 sub-regions based on the bryoflora (Gao et al., 1981; Li, 1981, 1985; Lou et al., 1983; Xu & Xiong, 1980; Zeng, 1984) and that the theory of continental drift is relevant as an explanation of the composition of the bryoflora (Wu & Lou, 1981).

From 1981 to 1985 the Chinese Academy of Sciences organized a sister expedition to the Hengduan mountains, with the participation of six bryologists from the Institute of Botany, Peking and the Kunming Institute of Botany. In China most of the main rivers and mountains flow from the west to the east, but in the higher areas the main mountain ranges and rivers suddenly turn to the south hence the name “Hengduan mountains”. The area is rich in high cliffs and deep valleys and when climbing in the mountains collectors must pass through subtropical evergreen forests, meadows and alpine tundras as if going latitudinally from

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Stanley Wilson Greene
(1928 – 1989)

"The start of a new venture always brings moments for optimism...” Thus began the editorial to the first issue of The Bryological Times by which Stanley Greene introduced his successful newsletter. The words seem particularly characteristic of him. A man full of enthusiasm, energy and ideas and with a drive to get things done. A leading figure in bryology who passed away much too early.

Stanley Greene was a student at Trinity College Dublin where he took at first in botany and at the University College of North Wales where he specialized in bryology with Paul Richards like other prominent British botanists of his generation. Subsequently he held positions as curator at the British Museum (Natural History), as director of the Botanical Section of the British Antarctic Survey, as director of botanical research at the Institute of Terrestrial Ecology and as reader at

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Exploration in China, continued

south China to north China. The existence of these different landscapes is the reason for the presence of distributional centres of the East-Asian bryophyte genera in Hengduan mountains as well as in south-eastern Xizang (Tibet) (Wu & Lou, 1981; Lou & Wang, 1983; Lou & Wang, 1986).

In addition, members of the Forestry and Peodology Institute and the Northeast Forestry University have collected in south-west, middle-south and south China for several years. A list of the mosses of north-east China has been published (Gao, 1982) as well as the "Flora Muscogorum Chineae Boreali-Orientalis" and "Flora Hepaticorum Chineae Boreali-Orientalis" (Institute of Forestry and Pedology, 1977; Gao & Zhang, 1981). Members of the Xi-An Botanical Garden are interested in the bryoflora of north-west China and involved in the preparation of the "Bryoflora of Tsingling" (Zhang, 1974, 1982).

Since 1970, bryophyte exploration of northeastern and southern Yunnan has been carried out by members of the Kunming Institute of Botany, and a bryophyte flora of Yunnan (possibly running to 3 volumes) is being compiled. In addition, a comprehensive exploration of Guizhou Province was recently carried out (Zhong & Jiang, 1983; Lin, 1985). About 5 different expeditions have collected bryophytes on the southern island of Hainan and its bryoflora is now getting better known (Wu & Lin, 1978).

Shortly after the "open-door policy" had been established a series of foreign bryologists came to China, to co-operate with Chinese bryologists in different ways. Andreis Touw, the Dutch bryologist, was probably the first to visit the South China Institute of Botany, the Kunming Institute of Botany and the Institute of Botany, Peking. He collected in Xishuanbana, the kingdom of plants in China. Through the Sino-Finnish

Scientist's Exchange Programme, Timo Koponen was the first Finnish bryologist to visit China and he collected on Mt. Changbai in 1981 (Koponen et al., 1983). In 1985 he and his wife and son visited Hainan Island, south China. Based on the Japanese Society for Promotion of the Sciences and the Chinese Academy of Sciences' longterm exchange, Zen Iwatsuki and his wife visited Guangdong, Peking and Shenyang in 1983.

Almost at the same time, Paul Redfearn from Southwest Missouri State University and his wife, started the first of four visits to China. On his first trip Dr. Redfearn stayed at Omei Mt., Sichuan Province, Yunnan and Peking and had a chance to meet most of the Chinese bryologists during the 1983 Chinese bryological meeting for the compilation of the Chinese bryoflora (See Bryol. Times 27: 3-5, 1984 - ed.). David Smith, Tennessee University, together with mycologist Petersen, has collected in southern and north-western Yunnan three times since 1983, in co-operation with the Yunnan Institute of Botany.


Following the "Iconographia Cymophytorum Sinicumorum" (Institute of Botany, Academia Sinica, etc., 1972) and the "Bryoflora of Xizang" (Li et al., 1985), a sister bryoflora of the "Hengduan mountains" area will be completed in 1988. Most of the Chinese bryologists are also working seriously on volumes I and III of the "Bryoflora of China".

In 1986, the Chinese Academy of Sciences decided to give a special award to the "Genera Muscogorum Sinicumorum" (Chen, 1963, 1978). The late professor P.C. Chen was editor in chief of this work and volume II was only published ten years after his death.

The above report shows that following the "open-door policy" of China, co-operative international support bryological exploration in China is steadily increasing. We sincerely hope that a new bryological epoch in China is dawning.

References


continued over
The Bryological Times

Exploration in China, continued


Institute of Botany
Academia Sinica, Peking
People's Republic of China

Stanley Greene, continued

the University of Reading. After his move to The Netherlands he was to be reassigned with the British Museum (Natural History) as honorary officer.

In the earlier part of his career Stanley became known by his pioneering work on the ecology of the life cycle of mosses - the "maturity cycle" as he called it - and together with his co-workers (e.g. Royce Longton) he helped founding the field of reproductive ecology of bryophytes. He was, moreover, actively engaged in explorations and research in the Antarctic and edited numerous publications on the botany of that part of the world. A born raconteur, Stanley could entertain you for lengths of time with his experiences and adventures in these harsh environments and indeed with anecdotes from all over the world.

In 1966 Stanley attended the Pacific Science Congress in Tokyo where he helped to start up the International Association of Bryologists. Together with Bill Steere (president) and Zen Iwatsuki he became a member of the first executive committee and he remained in council until in 1987 he was elected the fourth president of the I.A.B. Within this organization Stanley was an initiator and a driving force behind innumerable undertakings of the Association, notably the Advances in Bryology, the taxonomic workshop in Geneva and the Conspectus of Bryological Taxonomic Literature and The Bryological Times. Of all these ventures he was a fervent supporter and it would be difficult to single out one closer to his heart than the others.

The Conspectus is the longest history, which may be recalled here. It was launched at Stanley's initiative as an I.A.B. project in the early seventies. It coincided with a turn in his activities from fieldwork and exploration to taxonomic documentation, which had also been one of his early interests. His involvement in that area of research is evident from e.g. his very useful paper in the Festschrift for Geneva Sayre: "Retrieval works useful to the bryological taxonomist" (Occ. Pap. Farlow Herb. Vol. 16: 83-99. 1981). When he announced his Conspectus project many colleagues from all over the world responded enthusiastically and provided long lists of literature on regional bryophyte floras. A huge pile continued over
Cryptoleptodon flexuosus (Harv.) Ren. & Card. a “rolling” moss from the Kumaun Himalaya

by

Giribala B. Pant & S. D. Tewari

The familiar sight of a “rolling” moss, Cryptoleptodon flexuosus (Harv) Ren. & Card. (Neckeraceae), is a striking feature of the Kumaun Himalayan woodland and forest landscape. Its habitat varies from epiphytic to epilithic to epiphaetic and this switching over of habitats is easily achieved by its “rolling” nature. We call it a “rolling” moss because irregular, wind-swept fragments of varying sizes are often scattered over forest floors, forest soils, road sides and walls especially in summer months (May – June).

Loose tufts of this pleurocarp - a Himalayan species - are commonly seen hanging in festoons or in other grotesque shapes (see photo) from trunks of oak (Quercus floribunda (Lindl.) Rehder or Q. leucotrichophora A. Camus ex.), conifers (Cedrus deodara (Roxb.) Loudon, Cupressus torulosa Don.) and shrubs (Arundinaria falcata Nees., Berberis asiatica Roxb., Daphne papyracea Wall., Desmodium elegans DC., Myrsine africana Linn., M. semiserrata Wall. and Smilax aspera Linn.). Parts or fragments of these lax tufts get detached from their original epiphytic habitat or lodging place in a tree and are blown away by strong winds. The flexuose, pendant branches of the secondary shoots become extremely light in the dry state, curl backcircuminate and whole shoots can easily be blown fairly long distances. Whatever substrate they land on, given favourable conditions, the moss starts regenerating

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Cryptoleptodon flexuosus, contd.
and new growth commences. If the intertwined fragments land on tree trunks or branches, the moss goes on to colonize their bare surfaces and ultimately reaches such luxuriant expansion of large, loose tufts hanging down from host trees. Broken parts of C. flexuosus tufts, falling on the shrubby understory of the oak forests, also display a pendulous growth-form and can be seen dangling, from twigs and slender branches of many shrubs and even from the crowded culms of the tufted shrubby reed-like Himalayan bamboo, Arundinaria falcatana Nees. The native name of this bamboo is Ringal.

If the moss fragments fall upon craggy rocks or stony walls, luxuriant dimensions are not attained as the moss fails, in these habitats, to produce prolific secondary branches. However, on humus - laden rock-overhangs, it forms large triangular masses - the much branched secondary shoots hanging downwards and the primary ones with a humus core remaining adherent to the substratum.

We have observed this moss fruit infrequently. The transport of fragments by wind or birds is probably its common method of dispersal. This is in accordance with Richards' (1984, p. 1242) remark that "many, perhaps all hanging mosses produce capsules rather infrequently; the transport of fragments by winds and birds is probably their normal method of dispersal".

We have also analysed some birds' nests with bryophyte material incorporated in them collected from Naini Tal and environs (alt. 1600 – 2500 m), and found that C. flexuosus formed part of the outer covering of the miniature basket along with other liverworts and pleurocarps. The dried-up primary creeping stems and the flexuous, pendant, secondary branches of the Cryptoleptodon can be easily stripped off their substratum by the birds' beak. It is not surprising that the birds do this since one bird can lift a good quantity of the light-weight material at a time, and it is available in profusion (Pant and Tewari, 1984).

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Kumaun University, D.S.B. Campus Dept. of Botany, Bryology Laboratory Naini Tal 263002, India
Mosses in Antarctica, continued

Station area (Inoue, 1976, Nakanishi, 1977). As a result, the Bryum argenteum plants with n=20 can be considered a cytotype of B. inconexus (Horkawa and Ando, 1967).

Although B. argenteum has been recorded through out the Antarctic, detailed morphological descriptions from each locality are lacking. Seppelt and Kanda (1986) discussed the potential for variation in Antarctic species of Bryum. While B. argenteum has been positively determined from Continental Antarctica, specimens from the Vestfold Hills and Knox Coast were assigned to another species – B. pseudotriquetrum. They also reconfirmed the identification of many specimens previously determined as B. argenteum. In many B. psuedotriquetrum plants, the stem leaves showed physical damage near their apex, resulting in the presence of hyaline cells and consequent confusion with B. argenteum. The apical part of the leaf, particularly that of the upper stem leaves, is often badly broken and in many specimens from drier habitats there is often fungal development on these damaged leaves. However, in Antarctica, leaf shape should readily distinguish B. argenteum from even the smallest form of B. pseudotriquetrum with which it has often been confused.

Seppelt and Selkirk (1984) demonstrated that deciduous shoots of B. argenteum cultured at 4°C produced new shoots with ecostate, rounded orbicular leaves with all cells chlorophyllous, while at 21°C the leaves developed a costate, hyaline and acute apex and resembled typical leaves of specimens from temperate latitudes. Other studies on climatic adaptation of bryophytes have been carried out with particular reference to Antarctic regions (Longton, 1974, 1979, 1981, 1982; Longton and Maclver, 1977). Some features of the leaves of Polytrichum strictum exhibit genetic differentiation which has been shown through clone culture to be topocinal adaptation (Longton, 1974). Characters of leaves of Bryum argenteum collected at several distinct latitudes could be related to the original field population (Longton, 1981). Thus, the considerable variation in morphological features of Antarctic mosses is one of the important aspects in the interpretation of intra-specific differentiation.

Ochi (1979) recognized two species of Bryum, B. pseudotriquetrum and B. argenteum, from the Syowa Station area. In the specimens tentatively named B. pseudotriquetrum, the vegetative leaves were characterized by a decurrent base and peculiar serration in the uppermost part of the leaf. Using these features, all bryaceous species occurring in the Syowa Station can be determined as B. argenteum, B. algovicum, B. amblyodon or a synoicous form of B. pseudotriquetrum. Kanda and Ochi (1986) reported a fruiting plant from Syowa Station area, which was assigned to B. amblyodon. This paper together with Ochi and Ochya (1985) and Ochya and Ochi (1987) added four species to the Maritime Antarctic flora, namely, B. amblyodon, B. dichotomum, B. orbiculariformium and B. urbanskyi. Therfore it is possible that several more species may be added to the bryaceous flora of Continental Antarctica, including the Syowa Station area.

Kanda (1981) excluded Bryum antarcticum Hook. f. et Wils. from the Bryaceae and considered it synonymous with Potlia heimit (Hedw.) Hampe. Earlier, Nakanishi (1977) had determined the specimens of this species from the Syowa Station area as B. antarcticum. He mentioned that the capsule had no perisome teeth and that it had a lid connected to the columella. However, the vegetative leaves have, apparently, smooth cells. Leaf cells with C-shaped or rounded papillae are characteristic of Potlia heimit but these have never been seen in specimens from the Syowa Station area. It is necessary for the morphological variation of Potlia heimit to be analyzed from a global viewpoint including the specimens from polar regions.

One reason why mosses endemic to Antarctica or those that are found predominantly in the Antarctic are very scarce may be that collection of these mosses is insufficient. Due to logistic problems, bryological studies have been carried out on a very local basis along the coastal ice-free areas of Continental Antarctica and it is possible that moss floras in other ice-free zones are locally distinctive. For example, it is likely that species such as Bryoerythrophyllum recurvirostre, Sarconeum glaciale, Grimmia antarctica and Cephalozia exiliflora that occur in Wilkes Land next to Enderby Land will be found in the Syowa Station area.

In contrast to the moss flora of the Maritime Antarctic that is affected by latitudinal changes, that of Continental Antarctica changes longitudinally. The Maritime Antarctic has more than 100 bryophyte species in comparison to the 20 or so species known from Continental Antarctica. However, the taxonomic treatment of mosses in Continental Antarctica is no less confusing than in the Maritime Antarctic.

It is essential that good, well-developed specimens are collected by specialists and that sexual and sporophytic material is obtained if at all possible. Ecological remarks should accompany all samples and laboratory cultures are desirable for all taxa.

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Progress in nomina conservanda et rejiencienda
by
Gea Zijlstra

A contribution to the Nomenclature Column, edited by G. Zijlstra

I. The Berlin Code
As some of you may have noticed the Berlin Code appeared with several
bryophyte names added in Appendix III: Acrolejeunea, Calypogea, Lopholejeunea
and Trachylejeunea [all H]. In addition, another type paragraph was given in Lejeunea
and in Pellia. Besides several correction of details, two groups of changes oc-
curred: 1) deletion of orth. rej. entries and 2) deletion of a number of typ.
cons. notations. The latter will be subject of a future column; for the
former a short explanation will do.

In Sydney it was decided that only one orthographical variant of a
name is treated as validly published (Art. 75.1). The remaining variants
no longer exist, i.e. they are to be treated as having been published in the
correct form of the name (Art. 75.3). This has effects in the Appen-
dix of the Code. In the Sydney Code no new (V) entries were included and
orth. cons. names were entered in a new format. Now, in the Berlin Code, the
existing variant names have been corrected by changing the left hand
entry, adding "(orth. cons.)", and deleting the (V) right hand entry.

In Appendix II the entry of Lophoziaceae was deleted (conservation redundant since the Sydney change in Art. 10).

II. After Berlin
Because the new Code was produced so quickly several names that had been
conserved following the actions of the Committee for Bryophyta could not be included in the List of
Nomina Conservanda. Therefore I think it might be helpful to inform
you of the present state of several proposals.

In April 1987 the Committee for
Bryophyta accepted the proposals to conserve Jubula Dum. 1822 (amended:
with type J. huchinsiae (W.J. Hook.) Dum., typ. cons.: no rej. entry
[H], Taxilejeunea (Spruce) Schiffn. 1893 (amended: with type T. chim-
borazensis (Spruce) Steph.: with Taxilejeuna Steph. 1889 nom. rej. prop.)
[H], Callicostellia (Mull. Hal.) Mitten 1859 (with Schizomirtium
Schimp. 1851 nom. rej. prop.) [M] and Rhodobryum (Schimp.) Limpr. 1892
(with Rhodo-Bryum Hampe 1874 nom. rej. prop.) [M].

In January 1988, the Committee for Bryophyta accepted proposals to conserve Manna Opiz 1829
(amended: with type M. androgynia (L.) Evans; with Cyathophora S.F.
Gray 1821 nom. rej. prop.) [H] and to correct the present Papillara entry as
proposed: Papillaria (Mull. Hal.) Lorentz 1864 (with Papillaria J.
Kickx fil. 1835 nom. rej. prop.) [M].

What is the present state of these proposals?

Acceptance by the Committee implies that they went through the stage of
discussion, and that the Committee for Bryophyta has recommended them to the General Nomenclature
committee to be officially accepted (after publication of the report in
Taxon, 1989). The final decision on the proposals will be taken by the nom-
calendar section of the International
Botanical Congress, 1993. As a rule the General Nomenclature Com-
mittee accepts the proposals made by the Special Committees. An illustration:
In December 1987 I was asked (as a member of the General Com-
mittee) to vote on three reports concerning a total of 86 proposals! Two of
these reports had not yet been published but the legal procedure
continued over
Progress nom. cons. rej., contd.
was put to one side in order to get
the data, with asterisks, into the Ber-
lin Code. The final approval by the
Congress thus appears to be a mere
formality and final acceptance of the
above-mentioned bryological pro-
posals in Tokyo can therefore be ex-
pected.

With respect to the remaining
proposals the situation is as follows:
1) Mnium trichomanis, Mnium
fissum and Lethocolea are up for vot-
ing in 1989, 2) Grimmia alpicola is
in a final stage of discussion (discus-
sion was necessary again since
Berlin changed Art. 69), 3) Haplo-
cladium has been withdrawn (more
on this next time) and 4) Fossombron-
niaceae have just entered the discus-
sions.

Institute of Systematic Botany
Heidelberglaan 2, 3584 CS Utrecht
The Netherlands

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International Symposium on Bryophyte
Ecology, Edinburgh, July 1988

An international symposium on Bry-
ophyte Ecology, sponsored by the
British Bryological Society and the
British Ecological Society (Production
and Decomposition Ecology Re-
search Group), was held at Pollock
Hall, University of Edinburgh, Scot-
land, from 19-22 July 1988. The pro-
gramme was organized by Dr R.E.
Longton and the excellent local arran-
gements were made by Dr D.J.
Lightowlers. Approximately 75 bry-
ologists participated, including more
than 40 based outside the United
Kingdom.

Following an address of welcome
by Prof. John McNeill, Regius Keep-
er of the Royal Botanic Garden, Ed-
inburgh, the programme on 19 July
comprised two sessions of invited pa-
pers on the themes of Bryophyte Pro-
duction and Decomposition and In-
teraction between Bryophytes and
other Organisms. In the former, S.
Russell (Rhodes University, South
Africa), D.H. Vitt (Edmonton, Cana-
da) and J.-P. Frahm (Duisburg, West-
Germany) considered aspects of bry-
ophyte productivity and polar, boreal
forest and tropical ecosystems respec-
tively and M.C.F. Proctor (Ex-
eter, UK) discussed the physiological
basis of bryophyte production. In the
second session A. Koponen (Helsin-
ki, Finland) gave an account of ento-
mophy in the Sphagnaceae, and
bryophytes were considered in rela-
tion to nutrient cycling by D.H.
Brown (Bristol, UK), interactions
with other plants by H.J. During
(Utrecht, The Netherlands), and her-
ivory by A.J. Davidson (Reading,
UK).

The second day, July 20, was
given over to a series of eight con-
tributed papers and the presentation
of fourteen posters on topics ranging
from the BBS computerized mapping
scheme (M.O. Hill, Monks Wood,
UK) to isozyme banding and popula-
tion structure in Sphagnum (R.E.
Daniels, Furgebrook, UK) and the ef-
effects of fertilization on the growth of
Calliergon cuspidatum in Dutch
chalk grassland (B.F. van Tooren,
Utrecht, The Netherlands).

On July 21 there were two further
sessions of invited papers. On the
theme Population Biology, bryo-
phytes were discussed in relation to
ecological niche theory by N.G.
Slack (Troy, NY, USA) and plant
strategy theory by J.P. Grime (Shef-
field, UK), while R.E. Longton
(Reading, UK) reviewed evidence on
the role of spores in the reproduction
of mosses and M.E. Newton
(Manchester, UK) spoke on the ge-
etic structure of hepatic species. On
the second theme, Bryophytes and
Man-Modified Ecosystems, M.A.S.
Burton (MARC, London, UK) re-
viewed the use of bryophytes as mon-
itors of environmental contaminants
while G. Tyler (Lund, Sweden) con-
sidered more specifically bryophytes
and heavy metals and J.A. Lee
(Manchester, UK) assessed the re-
sponses of bryophytes to mineral
deposition. Finally D. Norris (Arcata,
California, USA) described the ef-
effects of forest disturbance on tropical
bryophytes.

The weather was not good on July
22 but most participants nevertheless
enjoyed a field excursion to Roslin
Glen and other interesting sites in
the Edinburgh area, and many subse-
quently travelled to Inverness for the
summer field meeting of the BBS.
The invited papers presented at the
symposium will be published during
1989 as a issue of the Botanical Jour-
nal of the Linnean Society, through
the kindness of the Journal's editor,
Dr S.C. Jury.

Royce E. Longton
University of Reading, Botany Dept.
Reading, Berkshire RG6 2AS, UK

National Institute of Polar Research
9-10, Kaga 1-chome, Itabashi-ku
Tokyo 173, Japan
I had never before been to eastern Europe and due to awkward flight schedules and a missed night, I arrived in Prague somewhat disorientated. It was thus a challenge to get the taxi driver, who spoke only Czech, to take me where our bus was waiting in downtown Prague. The taxi ride gave me my first impressions of the city and despite the dreary, drizzling weather, Prague held that Old World charm one sees on postcards. Once on the bus to Libice these impressions continued—a kind of faded glory.

Our lodging and meeting room were in a chateau built around 1500 and managed by the Czechoslovak Academy of Sciences. To an American, coming from a country where anything that old is likely to only be a crumbling fort, it was most impressive. My large room had a high ceiling and a balcony. After unloading our baggage, the only other American, Cyrus McQueen and his family, and I roamed the spacious chateau and marvelled at the architecture and interior design. By that time the other participants were settling in and it was good to see old friends and meet others only known from the literature and correspondence. About 50 scientists attended the meeting. Czechoslovakians and colleagues from East Germany were the most numerous, but also in attendance were representatives from Poland, Hungary, the Soviet Union, West Germany, Spain, Finland, Sweden, The Netherlands, Belgium, Luxembourg, Israel and the United States. Although I couldn’t complain, it seemed odd that English was the official language of the meeting even though only two of us there had English as a native language. However, most participants spoke English fairly well and our gracious organizer, Tomas Herben, spoke it most flawlessly.

The paper sessions began with an opening address, in German, by Dr. S. Hejny, Director of the Botanical Institute of the Czechoslovak Academy of Sciences. Afterwards, I, as the only Council member of IAB, gave our greetings to the CEWBG. Stanley Greene who was unable to be present had earlier telephoned me from England and asked me to say a few words. I was quite literal, and after about 15 seconds I sat down—at first there was an astonished silence, and then smiles and applause. The scientific program was divided into four sessions: Bryoecography and Floristics, Bryophytes in the Changing World, Ecology and Sociology, and Taxonomy. Overall, the papers were quite good, and primarily centered on European bryophytes although a few were on extra-European topics. The presentation of Prof. Piotr Szmajda was an excellent example of the multilingual, multicultural nature of the meeting: he gave a talk in Russian, showed slides in English, and answered questions in French.

However, it was not the papers that were the highlight of the meeting, but rather the extracurricular activities. Every evening we sat in the dining room until the early hours of the morning, surrounded by bottles of Czech beer, and although discussions usually started out on bryology, they always ended up on politics. Everyone was interested in the political situation in other countries. Most memorable was a slide show one evening by Vrege Manakyan on activities current in Armenia.

Although the evening sessions went on every night, the papers occupied only two days, September 13 and 14. On Thursday, the 15th, we were all loaded on buses for the first

continued over
Request for information on grant supported bryological research projects
by Diana G. Horton
Editor, Bulletin of Bryology

I would like to request that anyone who currently has grant support for research on bryophytes forwards an abstract of the research project, name of the granting agency and time period covered by the grant to me. This information will be published in the Bulletin of Bryology. I believe that including such information in the Bulletin accords well with its purpose to communicate, not only to bryologists, but also to other botanists, about international bryological activities, and to enhance the image of bryologists and bryological research. A review of grant-supported projects will draw attention to the fact that research on bryophytes is supported by funding agencies and will highlight some of the innovative approaches that are being incorporated into bryological research. Your support of this request is very much appreciated!

The Bulletin of Bryology is edited for the International Association of Bryologists by Diana G. Horton and is published twice a year in Taxon. Members who do not receive Taxon personally and/or do not have it in their institutional library can obtain a free copy of issues beginning with Bulletin XXI (Taxon 35, 1986) from the Editor at the following address: Diana G. Horton, Dept. of Botany, University of Iowa, Iowa City, Iowa 52242, USA. Copies of issues of the Bulletin published prior to number XXI can be obtained from the Secretary of I.A.B., Dale H. Vitt, Dept. of Botany, University of Alberta, Edmonton, Alberta, Canada T6G 2E9.

Bryol. Working Group, contd.
of two days of field trips. The first site was a sandstone locality along a river. Mostly people just walked along the road, casually looking at bryophytes, and socialized like on most American bryological forays. These occasions are always worthwhile since they give scientists a chance to get to know each other as people, thus strengthening scientific collaboration. After lunch we visited another sandstone area, near the East German border, that had a very different flora. The next day we had the option of another day of field work or a sightseeing tour of Prague. Never having been to Prague before, I shamelessly abandoned any scientific pretext and went there. Here, our small group (most participants chose more field work) was given a delightful and informative tour of some of the old sections of Prague. The ancient synagogues and cathedrals were magnificent and one could not help but be impressed by the massive quantities of stained glass. Because of the short amount of time and the amount there was to see, we finished our sightseeing with tired legs but dazzled eyes and a desire to revisit the beautiful city.

The final night was our farewell dinner. Riclef Grolle spoke for the whole group and thanked our host, Tomas Herben, for the superb job he had done in organizing our meeting. Then there was a slight delay in indulging our glutinous tendencies because the dining staff had neglected to provide plates! However, this deficiency was soon remedied and we tore into the lavish buffet. Once again, the festivities continued past the midnight hour — this time fueled by the knowledge that it would be our last night together.

Although the group disbanded the next morning, we left with warm memories of friendship and cooperation. It was decided that the next meeting will be in the Soviet Union but a specific city and date are left open.

William R. Buck
New York Botanical Garden
Bronx, New York, 10458–5126, USA

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Book Reviews

Advances in Bryology Volume 3
Bryophyte Ultrastructure


This new volume of the advances in Bryology shows that bryophytes are excellent objects for study of plant morphogenesis and evolution at the ultrastructural level. The subject is discussed in six chapters, resp. dealing with the bryophyte skeleton, plastids, the bletaphoroplast, perisomes sporogenesis and the sporophyte-gametophyte junction. Doonan and Duckett review the impact of recent immunological and EM work on the role of the cytoskeleton in bryophyte morphogenesis. Fluorescence microscopy has revealed the presence of numerous microfilaments in moss protonemata, and the authors predict finding these to be the force-generating elements responsible for many organelle movement and shaping processes in bryophytes. Duckett and Renzaglia demonstrate that plastid ultrastructure of bryophytes follows developmental courses very different from those in higher plants; moreover, thylakoid structure varies greatly among different taxa and certain arrangements are reminiscent continued over
Announcements

New editor for The Bryological Times

During the I.A.B. meeting at St. Louis, S. Rob Gradstein was appointed as the new general editor of The Bryological Times. He will be assisted by Guido B.A. van Reenen, who has the prime responsibility for layout and presentation, and by Paula W.A. Greene, who will take care of the type-setting and language editing. Printing and distribution will as usual take place in and from Edmonton under the responsibility of the honorary secretary of the I.A.B., Dale H. Vitt.

In St. Louis some reshuffling of column editorship took place as well. Janice Glimé, the first column editor of The Bryological Times and previously responsible for the Techniques Notebook, will start a new column on Ecology. For the Techniques column a new editor is being recruited. Ronald Pursell became the new correspondent for North America, replacing Bill Buck who took over editorship of the Floristics and Phytogeography column from Rob Gradstein.

The Bryological Times will continue to appear every two months. Items for The Bryological Times relating to any of the columns listed on the backpage of each issue may as usual be sent to the column editors. All other items shall be directed to the general editor at the address given below. The editor is looking forward to a fruitful collaboration with all those participating in the production of The Bryological Times and would welcome any suggestions that might lead to further improvement of the newsletter.

S. Rob Gradstein
editor The Bryological Times
Institute of Systematic Botany
Heidelberglaan 2, 3584 CS Utrecht
The Netherlands

Advances in Bryology, contd.

of the Algae.
Spermatogenesis, peristomes and sporogenesis continue to be rewarding subjects for comparative EM work on bryophytes. Carothers and Rushing describe in detail the ultrastructural development of the blepharoplast and report new, phyletically relevant variation, especially among the liverworts. Mueller and Neumann demonstrate that differences in ultrastructural and chemical composition of peristome teeth are responsible for the various kinds of hygroscopic movements observed. Brown and Lemmon review in detail the different ultrastructural pathways of sporewall development, which seems to correspond to some extent with the major phylogenetic lines within the bryophytes. The book is concluded by a discussion of the ultrastructural basis of the nutritional relationship between the sporophyte and the gametophyte in bryophytes and the role of “transfer cells” at the interface of the two generations (Ligrone and Gambardella).

The book is well-produced (paper quality and typography are superior to those used in previous volumes of the Advances), richly illustrated with numerous EM pictures of excellent quality, and provided with a useful subject index. The editor and authors are to be congratulated with the publication of this book which will prove to be an indispensable source of information to those interested in the biology of the bryophytes at cellular and subcellular levels.

Bryology: Modern Research and the ways forward

This volume represents the Proceedings of a meeting organized jointly by the BBS and the Linnean society in May 1987. The seven papers by an international team of specialists have been edited by M.E. Newton, P.J. Wanstall and S.L. Jury. Also published in the Botanical Journal of the Linnean Society Vol. 98, No. 3, the papers are here brought together as a separate volume which may be obtained from the BBS Librarian, Dr. K.J. Adams, Department of Biology and Biochemistry, North East London Polytechnic, Romford Road, London NE15 4LZ, price £5.50 +postage. The contents are as follows:

NEWTON, M.E. and P.J. WANSTALL, Preface. Bryology: modern research and the ways forward
SCHUSTER, R.M., The aims and achievements of bryophyte taxonomists
SCOTT, G.A.M., Australasian bryogeography: fact, fallacy and fantasy
SCHOFIELD, W.B., Bryophyte disjunctions in the Northern Hemisphere: Europe and North America
DUCKETT, J.G. and K.S. RENZAGLIA, Cell and molecular biology of bryophytes: ultimate limits to the growth of phylogenetic problems
COVE, D.J. and N.W. ASHTON, Growth regulation and development in Physcomitrella patens: an insight into growth regulation and development of bryophytes
LONGTON, R.E., Adaptations and strategies of polar bryophytes
NEWTON, M.E., Chromosomes as indicators of bryophyte reproductive performance
Diary

For explanation of acronyms, see The Bryological Times 31: 7-8 [1985]

1989

October 21-22
SBLS, Bern, Botanical Institute (Swiss bryophyte mapping project), Taxonomic workshop on Anthocerotae (Irene Bisang) and Anthelia (Norbert Schnyder). Further information from Dr. K. Ammann, Syst.-Geobot. Institut, Altenbergrain 21, CH-3013 Bern, Switzerland.

November 25-26

1990

April 4-11
BBS, spring field meeting, Lancaster. Loc. Sec.: Mr. Martin Wigginton, Nature Conservancy Council, 70 Castlegate, Grantham, Lincolnshire, UK.

June 26-30
CEBWG meeting, Kirovsk, USSR. Further information from Dr. N.A. Konstantinova, Polar-Alpine Bot. Garden – Institute Kolja Branch, Kirovsk, Murmansk Oblast, USSR.

July 1-7
IV International congress of systematic and evolutionary biology, University of Maryland, College Park, Maryland, USA.

August
BBS, summer field meeting, Ulster: Antrim, Derry and Downet. Loc. Sec.: Dr. Keith Lewis, Biomedical Library, Queens University, Belfast City Hospital, Lisburn Road, Belfast, BT9 7AB.

August 12-19
Helsinki. Congress of East Asiatic bryology. See Bryol. Times 50: 5. Further information from Prof. T. Koponen, Department of Botany, University of Helsinki, Unioninkatu 44, SF-00170 Helsinki, Finland.

Colofon

The Bryological Times, founded in 1980 by Stanley Wilson Greene (1928–1989), is the bimonthly newsletter of the INTERNATIONAL ASSOCIATION OF BRYOLOGISTS. It is published in Edmonton (Canada) and distributed from Edmonton, St. Louis (USA), Beijing (China), Tokyo (Japan) and Eger (Hungary).

All items for publication in The Bryological Times are to be sent to the editor, S. Rob Gradstein, Institute of Systematic Botany, Heidelberglaan 2, 3584 CS Utrecht, The Netherlands, except those for the regular columns, which should go direct to the column editors.

Editor
S.R. Gradstein

Assistant Editors
P.W.A. Greene
G.B.A. van Reenen

Column Editors

Computer Techniques
• J.-P. Frahm, Botanik, Universität Gesamthochschule Duisburg, Postfach 10 18 29, D-4100 Duisburg 1, BRD
• B. O'Shea, 131 Norwood Road, London SE24 9AF, England, UK

Ecology
• J.M. Gile, Department of Biological Science, Michigan Technological University, Houghton, Michigan 49931, USA

Floristics and Phytogeography
• W.R. Buck, New York Botanical Garden, Bronx, New York, 10458–5126, USA
• J. Váňa, Katedra Botaniky, Přírodovědecké Fakulty, Univerzity Karlovy, 128 01 Praha 2, Benátská 2, Czechoslovakia

Nomenclature
• G. Zijlstra, Institute of Systematic Botany, Heidelberglaan 2, 3584 CS Utrecht, The Netherlands

Research and Development
• R. Mues, Fachrichtung Botanik, Fachbereich 16 der Universität des Saarlandes, 660 Saarbrücken, BRD
• J.G. Duckett, Department of Plant Biology & Microbiology, Queen Mary College, University of London, Mile End Road, London E1 4NS, England, UK

Taxonomy
• D.H. Vitt, Department of Botany, University of Alberta, Edmonton, Canada T6G 2E9
• J.J. Engel, Field Museum of Natural History, Roosevelt Road, at Lake Shore Drive, Chicago, Illinois 60605, USA

Tropical Bryology
• C. Delgadillo M., Departamento de Botánica, Instituto de Biolología, UNAM, Apartado Postal 70-233, C. Universitaria, Del. Coyoacán, 04510 México, D.F. México

For details regarding membership of the INTERNATIONAL ASSOCIATION OF BRYOLOGISTS (currently US $8.00 p.a.) write to the Honorary Secretary, Dale H. Vitt, Department of Botany, University of Alberta, Edmonton, Alberta, Canada T6G 2E9. All correspondence concerning mailing to Sandi Vitt at the same address.