

The Bryological Times
November 1982, Number 17
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The

BRYOLOGICAL TIMES

Newsletter of the International Association of Bryologists

November, 1982.

No. 17

BRYOLOGICAL EXCURSIONS :**A COMPARISON by Janice M. Glime**

AFTER SEVEN YEARS of North American "forays", and an excursion in Australia, I embarked on a bryological tour of Europe this spring by way of five excursions, in as many countries, planned by the local societies. Each seemed to have, or at least to accomplish, a different object. From these I shall propose what for me would be the ideal field trip.

The need for local field trips is supported by the attendance of 25-50 people at each of these forays, and by the instant success of the A. LeRoy Andrews Foray and the Midwest Foray in their first years. For many it is the only affordable way to join other bryologists and exchange ideas and problems.

First one must decide between two major emphases: teaching, or locating rare or new species. While these are not mutually exclusive, the former benefits from spending a lot of time in one place and in seeing the species repeatedly on subsequent days, whereas the latter benefits by the inclusion of many locations, the scattering of bryologists (and their damage) and by visiting new habitats daily.

The British emphasize teaching and satisfied the requirements quite well. Nevertheless, they included some rare species and certainly offered the greatest biomass. While collecting in the lush flora of Dartmoor would seem to have the least impact of any of the excursions, the British were the most conservative, collecting only a tiny piece when it was necessary to document a new record for a 10 km. square. Also the British are the most serious about map-

ping bryophyte distribution, and checklists by square were completed everywhere we went. Daily excursions ranged from leisurely to marathon, the longest being 14 km. Evenings were spent in bryological discussions with everyone trying to buy the next round of beer!

The Dutch were the most casual. To start with, their bryological flora is sparse so one must search carefully, and the new finds in one locality are soon exhausted. The dikes afforded a new habitat for someone from North America, and in spite of near-freezing rain, this new assemblage of species of *Bryum*, *Cratoneuron*, *Hygrohypnum* and other small patches was a fascinating change. The second day in the forest and on calcareous dunes provided a richer flora and still more new associations. For the Dutch, the excursion was a time for conversation, whereas the evening was used for slide shows to reminisce about former excursions. These conversations induced a pleasant lack of hurry and permitted time to explore each locality visited.

The German excursion was somewhat more formal, with only formal names being used by all but the students. Nevertheless conversation was an important part of all activities, and the formality perhaps had no effect on anyone but me. After visiting at least one bog on every American field trip, the lack of European interest in *Sphagnum* was striking. But visits to several streams (with fantastic *Fontinalis antipyretica*) assured me they were not afraid of water. (Americans seem to consider streams only as something to cross!) Collecting was a more important activity, and students were treated to long explanations

of identifying characters, and ecological aspects. The Dutch and the Germans seemed very concerned and knowledgeable about pollution damage to the bryophytes.

The Czechoslovakian field trip was of course quite different because its members were professional bryologists who had attended the Central and East European Bryological Working Group's Conference on Bryology. Instead of emphasizing teaching (although we shared what we knew), the trip focused on revisiting the habitats where many new species had been described from the Krkonoše Mountains. Evenings were filled with conversation, and, most importantly, with sharing with members from the eastern nations. A beautiful alpine fen provided acres of *Sphagnum*, *Drepanocladus*, and *Gymnocolea* (but only after two distinguished bryologists stalled the chair lift, leaving half of us dangling in mid air!) Everyone had ample opportunity for conversation during the 20km hike, but lots of species could be seen besides. On this trip, there was more concern for finding species of particular personal interest than in learning the general flora.

The most unusual field trip was with the Nordic Bryological Society in Denmark. Here teaching was again very important, but it was accomplished in a very different manner. Three days were spent on ecological sampling. Sampling methods were compared, and data compiled. Aside from the ecological lesson, the taxonomic lesson was accomplished, first by a reconnaissance to learn all the species before sampling, and then by being forced to name everything in

the sampling area. Ecological variants could not be ignored and unknowns went back to the lab for identification that evening. Experts on various taxa shared their expertise; participants had the opportunity to use new books. Conversation was squeezed into mealtime, walking, riding, and wherever possible in the lab (where some people worked until 2 a.m.!) Ecologists shared ideas on analyzing data. In addition to all this, a one-hour presentation provided a pleasant break during each evening, with presentations on nomenclature, determining sample size, ecology and bryogeography. Every minute was used so evening drinks and pastries came to the lab. A last-night wine and cheese party was entertained by presentations of papers written by members of the scientific writing course, which was available the last three days of the meeting.

In striking contrast to American field trips, all the local European field trips had many amateurs, all of whom were serious bryological experts. This additional manpower has helped the Europeans to learn the detailed distributions of their species and recognize changes in their floras. The forays make it possible for the amateurs to learn outside the restrictions of a formal classroom, and the teaching atmosphere quickly encourages the beginner who would most likely give up if forced to work strictly alone.

The following is a description of my view of an ideal foray, based on my experiences in Europe, Australia, and North America.

At least one day should have an ecological theme using several different sampling methods and these data should be compiled. One evening later there should be a brief presentation of the results of this ecological study, with ample time for discussion. A lab with keys, compound and dissecting microscopes should be available.

Bryophytes should be collected for teaching purposes. For instance, on one North American foray a set of *Dicranum* species was set out and labelled. To save precious time good leaf slides can be made and kept with each specimen, with water added as needed. Fresh *Sphagnum* displays are always good, and new or rare finds

should be placed under a microscope for all to see. Field characteristics can be noted along with names. To save time, members of the group should be assigned various parts of the display, but it should be kept simple. Fifteen or twenty items a day are the maximum, and for week-long excursions, ten per day are probably sufficient.

Housing can be important to the success of a foray. It should be cheap enough for students to be able to come (or close-by campgrounds should be available). Meals should be eaten together at set times, but the evening meal should be late enough to permit ample field time. The lab should be the gathering room, with ample space to permit discussions and a blackboard for illustrating things.

Evenings should each have a short presentation on a variety of topics. One hour for presentation and discussion is plenty. These talks should be held close to the lab to encourage lab use before and after the talks. If people must walk half a kilometer, or drive to the lab, it just does not happen.

Refreshments should be available in the lab after the presentation. One evening should be kept free for spontaneous activities, such as parties, impromptu slide shows and special interest field trips.

Participants should use name tags and be given a list of the names and addresses of participants. A list of planned localities should contain all pertinent locality information, including latitude, longitude, elevation, rock types, and distances from permanent landmarks. Species lists, when possible, are especially useful for students and for persons to express interest in a particular species. All of these lists should be available upon arrival. When travel is by caravan, directions to each locality should be provided to the driver.

In the field, those who find unusual things should alert others. A whistle among the groups helps to alert everyone. Taxonomists should assume a teaching role and "students", including the professionals, should make known what they desire to learn, especially if they want to see a particular group. I find that

foreigners are always well cared for, and interesting discussions follow when some species is pointed out as rare to the foreigner who finds it everywhere at home.

In summary, I feel that in North America we could benefit a lot from use of the European model. We should assume that a bryophyte excursion is for teaching, that we are all both teachers and students, and plan our excursions accordingly.

Department of Biological Sciences, Michigan Technological University, Houghton, MI 49931, U.S.A.

Membership of IAB

THE FOLLOWING LISTS, for the period 1-31 August 1982 update those already published. The last list appeared in *Bryol. Times* 16:4.

New Members

Bartlett, J.*; Faruki, Tatsuwo*; Matsuo, Akihiko; Nakashima, Mitsuhiro*; Terui, Keisuke*; Une, Kouji*; Yano, Yukihiro*.

Addresses

Bartlett, J. 6, Grove Lane, Pakurango, Auckland, New Zealand.
 Faruki, Tatsuwo. Bot.Inst., Fac. of Science, Hiroshima University, 1-1-89, Higashisendamachi, Naka-ku, Hiroshima, 730-Japan.
 Nakashima, Mitsuhiro. Bot.Inst., Fac. of Science, Hiroshima University, 1-1-89, Higashisendamachi, Naka-ku, Hiroshima, 730-Japan.
 Terui, Keisuke. Department of Biology, Iwate University, Morioka, Iwate 020, Japan.
 Une, Kouji, Bot.Inst., Fac. of Science, Hiroshima University, 1-1-89, Higashisendamachi, Naka-ku, Hiroshima, 730-Japan.
 Yano, Yukihiro. Bot.Inst., Fac. of Science, Hiroshima University, 1-1-89, Higashisendamachi, Naka-ku, Hiroshima, 730-Japan.

Change of Address

Hattaway, R.A., North Park College, 5125, North Spaulding Ave., Chicago IL 60625, USA.
 Meenks, J.L.D., Inst.voor Syst. Plantkunde, Heidelberglaan 2, Trans.II 3584 CS Utrecht, De Uithof, The Netherlands.
 Meijer, W., Thomas Hunt Morgan School of Biological Sciences, University of Ken-

tucky, Lexington, KY 40506, U.S.A.
 Thiers, B.M., New York Botanical Garden, Bronx, NY 10458, U.S.A.
 Watson, Maxine, Department of Biology, Indiana University, Bloomington, IN47401, U.S.A.

NOTE: Addresses are only given for those members with an * after their surname or family name, i.e. for those whose names will not be found in S.R. Gradstein's Directory of Bryologists and bryological research, Ed. 2 (Regnum Vegetabile, Vol. 99, 1979), or where their present address is different to that given in the Directory.

Dr. Steere Honoured

A SPECIAL CONVOCATION TO CONFER an honorary Doctor of Science degree on William Campbell Steere was held at the University of Alaska Museum on July 26, 1982. The doctorate recognized Dr. Steere's contributions to bryology, and in particular, his work in Alaska and other parts of the North American Arctic.

The degree was awarded during the Moss Flora of Arctic North America Workshop, held at the University from July 24 to August 6. The Moss Flora of Arctic North America project is an international collaboration to produce a flora covering approximately 500 species of mosses that occur in arctic Alaska, Canada and Greenland. Dr. Steere conceived, and initiated the project, and the Workshop was dedicated to him and to Dorothy Osborne Steere in recognition of their many contributions to arctic bryology.

The Workshop, which was organized by Barbara Murray and Gert Mogensen, was attended by 11 bryologists from five countries who are among the contributors to the Flora. The gathering consisted of three days of meetings in Fairbanks and a 10-day Arctic Field Trip along the route of the trans-Alaska oil pipeline from Fairbanks to Pruhdoe Bay. The Workshop was sponsored by the University of Alaska-Fairbanks; the office of the Vice-Chancellor of Research and Advanced Study, the Institute of Arctic Biology, and the University of Alaska Museum, and by the Alaska Council on Science and technology.

Participants on the Arctic field trip included:-

G. Brassard, W. Buck, A. Fife, D. Jamieson, J. Lewinsky, D. Long, G. Mogensen, B. & D. Murray, H. Ochi, D. and W.C. Steere and W. Schofield.
U.A.F. News Release

Prof. Anderson congratulated

THE 84TH ANNUAL MEETING of the American Bryological and Lichenological Society was held at Pennsylvania State University, University Park, Pennsylvania - August 8th to 10th, 1982 - in conjunction with the annual American Institute of Biological Sciences meeting. Prior to the meeting, on August 7th and 8th, Harold (Hank) Webster led a foray to the Allegheny Plateau that was well attended by both bryologists and lichenologists. The arrangements for the meeting were ably handled by Ron Pursell, and included a most enjoyable wine and cheese social at his home one evening.

A special gathering was held the last evening of the meeting to honour Lewis E. Anderson who retired from Duke University this year. Special congratulations were offered by several long-time associates and friends, including Marshall Crosby, Betty Lemmon, Paul Redfearn and Jack Sharp. These involved personal reminiscences about their association with "Andy" or "Lewis", as he is affectionately known. In his inimitable manner, Jack Sharp stood up on a chair and recounted several stories, which were a rather accurate recollection of Andy's character. Here is one of these stories.

Several times in the late fifties, Jack found a small, nondescript moss in the Smoky Mountains. He tried again and again to identify it, but without success. Finally, he sent the material to Andy and requested his opinion. Shortly thereafter, he received a rather formal note. "Dear Dr. Sharp, (Andy has always called him Jack), I think if you will look on page 21 of volume 36 of The Bryologist, you will find that your moss is Hylocomium splendens var. tenuis, described by someone with the name of Sharp." Jack realized that Andy was quite correct and feeling "knee-high to a grasshopper", he took a government postal card, placed it under the low power of a dissecting microscope and wrote with

the smallest quill pen available, in the smallest possible print, "Thanks"! Apparently when Andy received the post card, he looked at it and remarked that Sharp had gone a bit looney, sending him a card with no message on it. (Later, the taxon in question was placed in the genus Pterygandrum by Howard Crum and Andy.)

Marshall Crosby announced that one volume of the series Monographs in Systematic Botany, published by the Missouri Botanical Garden, will be devoted to a Festschrift in honour of Andy. It will contain a series of papers on the biology of mosses contributed by former students, long-time associates and an international group of cytologists, and it will be edited by Marshall Crosby. Topics will include cytology and genetics, taxonomy, dispersal, floristics and phytogeography and ecology. The instigators and organizers of this project are Marshall Crosby, Howard Crum, Norton Miller and Richard Zander. The volume is expected to appear early in 1983.

Diana G. Horton, University of Alberta, Edmonton, Alberta, Canada.

A Bibliographic Problem

I AM TRYING TO DETERMINE the exact circumstances of publication of what is believed to be a rare (if not ghostly) volume of abstracts of the papers presented at the "Linville Falls Bryological Conference, April 1976". It was to have been published as Vol. 1 No. 1 of Bryoandersonia, a proposed International Journal of Bryology and Lichenology containing 14 contributions. Titles included Cheesecake photography of dioicous mosses; Strategies of underleaf production in liverworts, The ephemerality of Ephermerum, Sleep phenomena in mosses, and an article by a certain well-known personality on Homosexuality in mosses.

I have enquired in my Institute Library, but they can give me no help. Can anyone advise what I should do now?

All replies will be taken care of by the Editor.

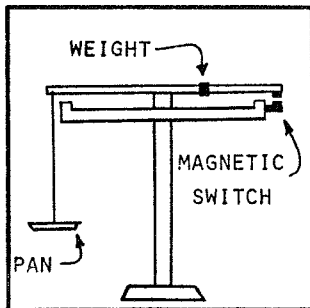
A frustrated enquirer!

Techniques Notebook

SUGGESTIONS FOR CULTURING MOSSES come from Neil Bayfield, Institute of Terrestrial Ecology, Banchory Research Station, Hill of Brathens, Glassel, Banchory, Kincardineshire AB3 4BY, Great Britain.

Although germination of spores and regeneration from sterile fragments are now almost routine, the maintenance of transplanted, whole mosses still remains an enigma for most species. One problem associated with such transplants is maintenance of the proper humidity. It seems that the worst thing one can do to a moss is to give it frequent alternation of wetting and drying (Garjeane, In Verdoorn, 1932). Therefore Bayfield suggests several methods for controlling moisture.

Commercial misting systems are available, along with a variety of expensive humidity sensors. Bayfield has built an inexpensive balance switch to turn on the mist sprayer.



One pan has been replaced with a magnet and a reed switch - whereas the other pan collects water from the sprayer. The drying out of the pan causes the beam to move and actuate the reed switch, which switches on the humidifying misters. Once the system is adjusted for your needs, little can go wrong, and Bayfield tells us his has outlasted several commercial models.

For enclosed mosses, Bayfield uses the equivalent of a Warden case, with clingfilm (cellophane wrap, clear plastic) instead of glass. I have done the same to seal the top of an aquarium. The plastic gives better light transmission, especially of the UV rays. Bay-

field finds fewer problems of condensation this way also. At the Hattori Botanical Laboratory, Iwatsuki and Hattori have solved the moisture problem for *Climacium* and *Rhodobryum* by using bell jars with a 3cm. hole in the top. This permits some circulation which reduces problems with fungi.

Water quality is often a problem for cultured mosses. Tap water often contains high concentrations of chlorine and copper. The Botanisches und Systematisches Institut, Heidelberg, use only rain water for their greenhouses, but even so, *Sphagnum* receives special treatment. It is housed in a special bed about 15cm. deep. Hidden among the *Sphagnum* plants are cylinders which reach the bottom of the bed. Rain water is poured into the bed through these cylinders and allowed to soak the moss from beneath. A drain is provided to remove excess water.

Since *Sphagnum* is known to be acid-loving, I applied a technique used for some of the acid-loving garden shrubs. I mixed a 1:1 solution of vinegar and water. It worked well on the shrub, but the *Sphagnum* became bleached and the tips turned brown in five minutes!

One key to transplanting mosses is to maintain their growth form. Klepper (1963) found that isolated plants of *Dicranum scoparium* died in culture because the cushion was necessary for water movement. In an indoor garden, I found that 15cm diameter partial clumps of *Dicranum scoparium* died within weeks, but a complete clump 30cm in diameter lived for six months.

The Japanese have developed moss culture on a commercial scale, using *Polytrichum* instead of grass in lawns. The commercial grower gathers the *Polytrichum* and dries it. Then he pulverizes it by rubbing it between his hands. The fragments are sown like grass seed in a lightly-shaded field (often with small fruit trees). Once the regenerates grow (I've seen them on well-watered sandy-clay soil), they are removed in 15cm square blocks and dried. The dried blocks are planted in alternate spaces, trampled well, and then watered. The squares must be kept moist by frequent watering until the mosses get well established.

An old technique for moss

gardens is to sow spores between two layers of cheese cloth. These are kept moist and when the mosses are large enough, the cheese cloth is cut to the desired shape and draped over its new substrate. The advantage here is that rhizoids and stems are not damaged, so that stress and wound response is minimal.

I have not seen the cheese cloth technique, but at the Botanisches Institut, Heidelberg, *Funaria* is grown on agar, the plugs of agar and moss are transplanted to soil or clean sand and maintained in the greenhouse.

Janice M. Glime. Dept. of Biological Sciences, Michigan Technological University, Houghton, MI 49931, U.S.A.

Drawing by Craig Meston.

Literature:-

- Garjeane, J.M. 1932. Physiology. In Verdoorn, F. Manual of Bryology, The Hague, Martinus Nijhoff.
Klepper, B. 1963. Water relations of *Dicranum scoparium*. *Bryologist* 66:41-54.

APPOINTMENT OF FIRST COLUMN EDITOR

AS REGULAR READERS OF THESE columns will be aware, small changes are constantly being made to the content and style of *The Bryological Times* in an effort to increase its appeal. Those who take time to scan the "small print" will have noticed that the Newsletter now carries an ISSN number and that although it is published in Utrecht, its circulation has now grown so large that it is distributed from four centres!

With this issue a more major change is introduced. The column entitled "Techniques Notebook" is the first offering of what is intended to be a regular column put together by Dr. Janice Glime of Michigan Technological University, at Houghton, who thus becomes the first column editor of *The Bryological Times*. From time to time she will, no doubt, write articles in her own name. But the main intention is to provide an outlet for the work of others which she will edit. Letters have already gone out seeking contributions.

The new column has a number of objectives. In the first place it is hoped to draw attention to techniques and methods - some old, some new - which may not be univer-

sally known, and which may save colleagues from spending time trying to devise a solution to what has already been solved. Secondly, it is the intention to accept negative results, i.e. accounts of ideas and methods that failed. Few journals will publish this sort of material, and much time must be wasted going over ground covered a number of times before and which leads inevitably to the same frustrating conclusion - "it just won't work".

Snippets of information will also be welcome. Some may be very short, while others may describe incomplete or inadequately tested methods. Such information may be of use to someone else. Hence, long or short, proven or otherwise, provided it is the outcome of a serious attempt to elucidate some problem, it can be sent for consideration.

Of course, it should not need stating that physiological, ecological and cytological techniques, etc., as well as techniques for the solution of taxonomic problems, will all be welcome. And time will be saved if all contributions are sent directly to Dr. Glime.

It is the intention to appoint some other column editors. So if any reader has an idea for a regular column to be published in every 2nd or 3rd issue, or knows of someone who would make a good column editor, please write to the Editor of this Newsletter.

BETTER COMMUNICATION CALLED FOR IN BRYOLOGY

THERE IS A LEGENDARY STORY IN JAPAN about a scholar who did not know of the outbreak or the end of the Russo-Japanese War of 1904-05. To-day diversification of work is common to all fields of science and no-one can carry out research without explaining it clearly to others. For us, The Bryological Times accommodates most efficiently various aspects of bryology and its related subjects, and provides a means by which we can write about essential problems. For general science, popular information on scientific achievements has been increasingly published in all fields, as we see, for example, in Japan where several illustrated monthly magazines of science have started to appear in recent years.

I would like to draw attention to the scantiness of effort to make scientific papers of some traditional fields, here especially bryological taxonomic papers, as comprehensible as possible. Some monographic works are not easy to understand, apparently chiefly because large amounts of data are published in a diversified manner. I believe, when compared with other fields of botany, we bryological taxonomists need to make an extra effort to make ourselves more easily understood by others, who are also required to make an extra effort to understand bryology.

Sometimes a practical treatment to ensure being understood by others should be considered. In my opinion, such effort is not contradictory to the pure scientific pursuit. For example, I try to explain what I am doing in the taxonomy of Metzgeriaceae, as the following quotation from one of my latest papers (*Hikobia* Vol.9, No.1, in press) illustrates: "...the writer has taken a rather practical approach in subdividing the sect. *Biseria*, as presented here, while he has recognized some remarkable structures of the fruiting body, such as laminal appendages on the calyptra in *Metzgeria bischlerae* and *M. grandiflora*, and a well-developed elaterophore of the capsule in the latter."

Apparently a language barrier is not the real cause of poor communication. Some of it could easily be improved by a few moments thought. For example, a paper with a title "Some new species of the genus ...", without any indication of the regions of origin, would be an unnecessary embarrassment for many workers who are only interested in a local flora. Since a paper is often known only by its title, and as the number of such papers has been increasing greatly, much unnecessary effort has to go into the examination of many unwanted works. Any effort to make a publication more useful to others is especially important for taxonomists; it is beneficial to a worker himself, and it helps to keep taxonomists familiar with other fields of botany. A recent recommendation by the I.A.B. to accompany the description of a new taxon with a drawing is of such a nature, especially because most essential structures of bryophytes are microscopic. Y. Kuwahara

Personalia

DR. ROBERT E. MAGILL has joined the staff of the Missouri Botanical Garden Herbarium as Assistant Curator of Bryophytes. He will be continuing his work on the moss flora of South Africa.

DR. B.C. TAN of the UPLB Museum of Natural History, Los Baños, Laguna, Philippines, will be working from 15th December 1982 to 15th May 1983, at the Botany Herbarium of the University of Helsinki, Finland. He will be studying the type specimens of Philippine mosses on a scholarship from the Finnish Ministry of Education. During this period all business correspondence should be directed to him in Finland.

PROF. DANIEL H. NORRIS, of the Humboldt State University, Arcata, California, will be working at the Botanical Museum University of Helsinki, from 25th September to 20th December 1982, studying the moss flora of Papua New Guinea.

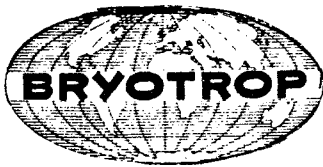
ADELAIDE RESEARCH GRANT: SOUTH AUSTRALIA

THE BOARD OF THE BOTANIC GARDENS of Adelaide, South Australia, welcomes applications for the use of funding of up to \$Aust. 10,000 for research and/or publication on the Australian flora.

Preference will be given to applicants who:

- (i) are able to make a significant contribution to the taxonomy of lichens, bryophytes or vascular plants;
- (ii) wish to contribute to knowledge of a group in Australia and publish on Australian, or better still, South Australian representatives of the group of their specialist interest;
- (iii) could use the Adelaide Botanic Gardens and State Herbarium of South Australia as headquarters for a period of between 3 - 12 months.

Enquiries and applications with curriculum vitae should be addressed before the 31st of December, 1982, to the Director, Dr. Brian Morley, Botanic Gardens, North Terrace, Adelaide, S. Australia, 5000.



GREETINGS FROM BRYOTROP CAMP 2 (cf. Bryol Times 13:3) at 1900 m., km.397, somewhere along the Moyabamba-Chachapoyas road. This is the area from where the great Richard Spruce wrote over a hundred years ago as follows: "... The principal road is that leading from Tarapoto to Moyabamba, and there to Chachapoyas. As far as Moyabamba it is just practicable for horsemen..... but laden beasts cannot traverse it. From Moyabamba to Chachapoyas it is said to offer still greater natural obstacles. The modern Peruvians have erected sleeping places where the pueblos are at too great a distance to be reached in one day; the traveller, wrapped up in his poncho and another blanket, may calculate on passing the night here without suffering from mosquitos, though a snake may creep to his side for warmth.." *

At the time of writing it is 7.02 p.m., the air temperature is 14,1°C, the humidity 80% and visibility poor, due to dense fog. Outside our tents the frogs have started their nightly concert, and we are just finishing our standard BRYOTROP evening meal of "sopa de pollo" followed by "arroz con atun".

Since 26th August, when the BRYOTROP party met in the hotel Atlántida, Tarapoto, where we searched in vain for the latest Bryological Times on the news stand in the hotel! we have moved up the Andean slopes from the Amazonian lowlands by Daihatsu jeep and a Volkswagenbus with defective bumpers. Our scientific library consists of Hegewald's checklist of Peruvian mosses, Spruce's itinerary cited above, two volumes by Goethe and about 20 kilograms of local newspapers valued at US\$ 7,5. To meet our research goal - a multidisciplinary analysis of the bryophyte flora and vegetation of the rain and cloud forests from 200 m. up to timberline (here ca.3400m.) - we have been combing quadrats in the forest at 1,100, 1,300, 1,500, 1,900 and 2,100 m. alt. We are scheduled to spend 15 more

South America Calling!

days in the field and hopefully it will stop raining before then!

Our daily routine is as follows:-

6 a.m. Wake up and wash in a nearby brooklet.

7 a.m. Breakfast and psychometric analysis of climatic conditions!

8.00 a.m. Fieldwork begins. The observers (sometimes numerous) are able to observe five phases of activity: (i) five gringos violently hacking a path into the jungle with machetes; (ii) frogs and snakes retreating; (iii) installation of central collecting facility; (iv) knife-scraping along bark and rock surface; and (v) a representative tree trunk being carefully wrapped in a plastic cover for advanced analysis and bark denudation.

Midday. Light intensity is measured, followed by a light meal.

2.00 p.m. Fieldwork continues with bryophyte hunting in secondary habitats freely chosen by the participants. A prolonged coffee break is enjoyed by some.

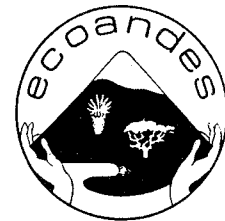
6.00 p.m. Evening meal in "El Amigo", a truck-drivers' restaurant, or in our private facility "Chez Jan-Peter".

7.00 p.m. Private duties, e.g. daily IAB correspondence, the preparation of second volume of "Advances in Bryology", worry about drying the specimens culminating in a social event with "pisco sour" or rum.

8.00 Retreat into sleeping bags hoping to warm our feet. Will it rain again tomorrow?

Most sincerely yours, J.-P. Frahm
E.P. Geissler, S.R. Gradstein,
G. Philippi and W. Schultze-
Motel. (W. Frey unfortunately could not accompany us).

*From R. Spruce, Residence at Tarapoto, in Notes of a Botanist, 1902, p. 86-89.



SINCE 1977, FOUR MAJOR DUTCH-COLOMBIAN ECOANDES EXPEDITIONS, with participation of bryologists, lead by Prof. Dr. T. van der Hammen (Amsterdam), took place in the Andes of Colombia, South America. The ECOANDES project aims at a deeper understanding of tropical-andean ecosystems. Therefore multidisciplinary (floristic, phytosociological, palynological, zoological-soilfauna, geomorphological, pedological, geological and climatological), studies are carried out in selected altitudinal transects from warm tropical lowland up to the cold páramos.

Up till now three transects have been inventoried:- (i) The Sierra Nevada de Santa Marta, northern Buritaca slope (1977); (ii) the Central Cordillera, Parque Los Nevados (two expeditions in 1980 - see Bryol. Times 4:6); and (iii) the eastern Cordillera, Sumapaz region (1981). A fifth expedition is planned for January-February 1983 to the Cerro Tatamá area in the western Cordillera, to be carried out in close collaboration with the Instituto de Ciencias Naturales, Universidad Nacional and the Instituto Geográfico "Agustin Codazzi", both in Bogotá.

Under the supervision of Dr. S.R. Gradstein, bryological work is concentrated in Utrecht at the Institute of Systematic Botany, with G.B.A. van Reenen analysing the bryological data of each of the expeditions. This includes the preparation of an inventory of the different species, assessing their cover and life forms along an altitudinal gradient, and correlating these with climate and vegetation (in collaboration with Dr. A.M. Cleef, ecologist in Utrecht) and bryogeography.

Identification is carried out with the help of specialists, e.g. Dr. D. Griffin III (many moss genera), Dr. J.-P. Frahm (*Campylopus*, *Chorisodontium*), Dr. J. Vaña (*Marsupella*, *Lophozia*, *Cephalozia*, *Anastrophyllum*) Dr. T. Pócs (*Lepidozia*, *Kurzia*), Dr. H. Inoue, (*Plagiochila*, *Syzygiella*) and

J. Meenks (*Riccardia*). Local bryological support is given by J. Aguirre Ceballos (Bogotá).

Taxonomic results are being published in the series "Studies on Colombian Cryptogams", edited by S.R. Gradstein. This is a series of papers on cryptogamic plant groups, especially mosses, hepatics and lichens, of Colombia and adjacent tropical Andean regions. Their main purpose is to present data on the taxonomy, geography and ecology of individual taxa, i.e. keys, descriptions and checklists, as contributions to our still very incomplete knowledge of the bryophyte and lichen flora of Colombia. This first volume contains ten papers, including the basic checklists of the mosses and hepatics of Colombia. A limited number of copies is available for sale, at the price of D.Fl 45 (including postage) and they can be ordered from the Institute of Systematic Botany, Heidelberglaan 2, Utrecht, The Netherlands.

The complete (multidisciplinary) transect descriptions and the integration of the results of the different analyses, are to be published in "Studies on Tropical Andean Ecosystems", edited by T. van der Hammen, A. Perex Preciado, and P. Pinto Escobar (Cramer, Vaduz). The first volume is now in press and deals with the upper part of the Central Cordillera - transect. The second volume (in preparation) focuses on the Sierra Nevada de Santa Marta. Forthcoming volumes will report on complete transect studies from the three Cordilleras in Central Colombia.

G.A.B. van Reenen, A.M. Cleef, S.R. Gradstein, Institute of Systematic Botany, Utrecht.

News from Societies

BRITISH BRYOLOGICAL SOCIETY

THE AUTUMN MEETING of the British Bryological Society was held at the University of Nottingham from Friday 24th to Sunday 26th September 1982, at the kind invitation of Professor E.C.D. Cocking.

Among decisions taken at a Council Meeting on the Friday evening were several relating to the Society's Library. In recognition of the danger that Institutional libraries may, in times of economic restraint, reduce their coverage of bryolog-

ical literature, it was decided that the B.B.S. Library should pursue a concerted acquisition policy, with concentration on bryological journals and text books and on the floristic literature of the north temperate zone, particularly the British Isles and Western Europe. Modest funding was approved for this purpose. Council requested its Policy Committee to examine the question of publicity, and to advise suitable ways of attracting an increasing number of new recruits to bryology. Council also formally recognized an Executive Committee as comprising the President, Vice President, Secretary and Treasurer.

At the Annual General Meeting on the Saturday afternoon, Drs. Elsa Nyholm and Ilma G. Stone were elected to Honorary Membership of the Society in recognition of their distinguished contributions to bryology. Dr. S.R. Edwards, Mr. E.C. Wallace and Mr. P.J. Wanstall were each elected to serve a two-year term on Council from January 1983. The Meeting was told of plans for a special week-end meeting in London on 17th-18th September, 1983, to celebrate the Diamond Jubilee of the reconstitution of the Moss Exchange Club as the British Bryological Society in 1923.

Earlier on the Saturday, an excellent series of six papers was presented on a diversity of topics ranging from "A bibliophile's view of bryological literature" (M. Walpole), to "Karyotype variation in Brachytheciaceae" (S.V. McAdam). The A.G.M. was followed by a reception, by courtesy of the University of Nottingham, and a *Conversazione* at which exhibits describing bryological research were displayed. There was also an I.A.B. Poster and a display of the Association's publications.

On Sunday, a field excursion visited two sites west of Nottingham, one of which was the Chartley Moss National Nature Reserve, Staffordshire, where members had an opportunity of examining the influence of an incursion of base-rich waters on vegetation in the vicinity of an acidic Schwingmoore. The excursion was ably led by Dr. J.O. Rieley, who is to be thanked for the admirable arrangements for the whole of the week-end meeting.

R.E. Longton, Dept. of Botany, Plant Science Laboratories, The University of Reading, Whiteknights, Reading RG6 2AS, Berkshire, England.

THE INTERNATIONAL ASSOCIATION FOR PLANT TAXONOMY

THE IAPT WAS FOUNDED IN 1950 to carry out projects of interest and concern to systematic botanists which require or profit from international co-operation. By 1982, for example, more than a hundred volumes of the handbook series, *Regnum Vegetabile*, had been published, including such well-known titles as the numerous editions of the *International Code of Botanical Nomenclature*, the *Index Nominum Genericorum, Taxonomic Literature* (two editions), and *Index Herbariorum* (pts. 1 & 2). In addition, four issues of the journal *TAXON* are published each year; each annual volume consists of 700 - 800 pages.

The IAPT responsible for the establishment and functioning of inter-Congress nomenclature Committees, and for the organization and execution of the nomenclature sessions at each International Botanical Congress.

In addition to *TAXON* and other obvious benefits of membership, most volumes of the *Regnum Vegetabile* series of handbooks are available to members at reduced prices. Current IAPT major projects are four: - (1) *Taxonomic Literature* ed. 2 (TL-2), the fourth volume of which will be published in mid 1983, treating authors P.-Sa. Volume 5 should appear in 1985 and Volume 6 in 1987; (2) *Index Nominum Genericorum* (ING), additions and corrections supplement in preparation for publication in 1983; *Index Herbariorum* II: Collectors Index: part 5, treating N-P in preparation; (4) *International Code of Botanical Nomenclature*, Sydney Edition: In preparation for publication in 1983.

The IAPT serves as a kind of organizational "umbrella" for newly-formed international associations which tend eventually to go their separate ways. Presently there are three such organizations served by IAPT: International Association of Bryologists, International Association of Pteridologists and OPTIMA (Organisation for the Phytotaxonomic Investigation of the Mediterranean Area).

For membership fees, etc., write to: F.A. Stafleu, IAPT, Tweede Transitorium, Uithof, Utrecht, The Netherlands, or R.S. Cowan, IAPT, Dept. of Botany, Smithsonian Inst. Washington DC 20560.

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Recent Publications

Bryologische Beitrage 1, 1982
Bryologist 85 (2), 1982

Cryptogamie, Bryol.Lichen 3(3)
1982

J.Hattori Bot.Lab. No.52,1982;
No.53,1982.

Miscnea Bryol.Lichen 9(5),1982
Nova Hedwigia 35(2/3),1982: 36
(1), 1982

MAGILL, ROBERT E. 1981. Flora of Southern Africa. Bryophyta. Pt.1 Mosses. Fasc. 1 Sphagnaceae - Grimmiaceae, Pretoria, Botanical Research Institute, Dept. of Agriculture and Fisheries. i-xv, 291 pp. illus. Price R30.40. Post free.

This is the first of four fascicles which will eventually complete the moss part: Part 2 will treat the liverworts. The flora will cover the whole of Africa, south of Namibia in the west to the northern Transvaal in the east, an area that contains rainforest, arid-zone and afro-alpine elements.

Every accepted species is fully described, and each is accompanied by high quality illustrations that include, as standard, habit drawings (life size and enlarged, by Mrs. Rita Weber) and accurate microscopical details from micrographs, by the author. A general key goes to families, subsequent keys to subfamilies, genera and species being located at appropriate places in the text. The introductory key may take a little getting used to a novice, holding a non-fertile plant may not appreciate "Plants stegocarpic" However, all the scientific germs are adequately explained in the glossary.

Deaths

HULBARY, Robert L, on the 24th of November, 1981.

LUITINGH, A.J., on the 27th of September, 1982.

WEYMAR, H. on the 9th of October, 1982.

THE HATTORI BOTANICAL LABORATORY

Publication Schedule

JOURNAL OF THE HATTORI BOTANICAL LABORATORY

No.54, May, 1983.
No.55, Dec. 1983.

Index to nos. 1-50, March 1983

MISCELLANEA BRYOLOGICA ET LICHENOLOGICA

Vol. 9, No. 6, Dec. 1982.
No. 7, Apr. 1983.
No. 8, Aug. 1983.

R.M. SCHUSTER (Ed.), NEW MANUAL OF BRYOLOGY will be published sometime in 1983.

DIARY

BBS = British Bryological Society; OPT-BWG = OPTIMA - Bryophyte Working Group.

Nov. 27-28. B.B.S. Taxonomic Workshop, Bradford. Local Sec.: Dr. M.R.D. Seaward. Postgraduate School of Studies in Environmental Science, University of Bradford, Bradford BD7 1DP, England. For details of topics to be covered, see Bull. B.B.S. 40:15

Jan.31. Latest date for submission of abstracts by contributors to World Conference of Bryology. See Bryol. Times 14:4.

Feb.1-11. 15th Pacific Science Congress, Dunedin, New Zealand. Information from: The Secretary General, 15th Pacific Science Congress, PO Box 6063, Dunedin North, New Zealand.

April 6-13. B.B.S. Spring Field meeting, Ilkley, West Yorkshire. Local Sec.: Mr. T. Blockeel, 20 Heathfield Close, Bingley, West Yorkshire BD16 4EQ, England. For full details, see Bull. BBS 40:15-16.

May 22-28. Tokyo. World Conference of Bryology. For programme details, see Bryol. Times 14:4. Further details from: Dr. Z. Iwatsuki, Hattori Botanical Laboratory, Obi, Nichinan-shi, Miyazaki Pref. 889-25, Japan.

June 6-12. OPT-BWG. Palermo, Sicily. Symposium on Mediterranean Cryptogamic Botany. Further information from: Dr. C. Heyn, Dept. of Botany, The Hebrew University of Jerusalem, Israel. See Bryol. Times 14:5

July-Aug. BBS Summer Field Meeting, Kerry, Eire. Local Sec.: Dr. D.M. Synnott, National Botanic Gardens, Glasnevin, Dublin 9, Eire. For preliminary notice, see Bull. BBS 40:16.

Sept. 17-18. BBS Jubilee Meeting, London. For preliminary details, see Bull. BBS 40:16.

THE INTERNATIONAL ASSOCIATION OF BRYOLOGISTS publishes The Bryological Times every two months, and The Advances in Bryology every two years. Material for The Bryological Times can be sent at any time, but submission dates for the Advances should be discussed with its Editor, Dr. Schultze-Motel (Berlin). 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 Missouri (USA), Reading (UK), Tokyo (Japan) and Utrecht. All correspondence concerning mailing to: M.A. van Slageren, 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 15th December at the latest. Items for the Techniques Notebook should be sent direct to Dr. Janice Glime, Dept. of Biological Sciences, Michigan Technological University, Houghton, Michigan 49931, U.S.A.