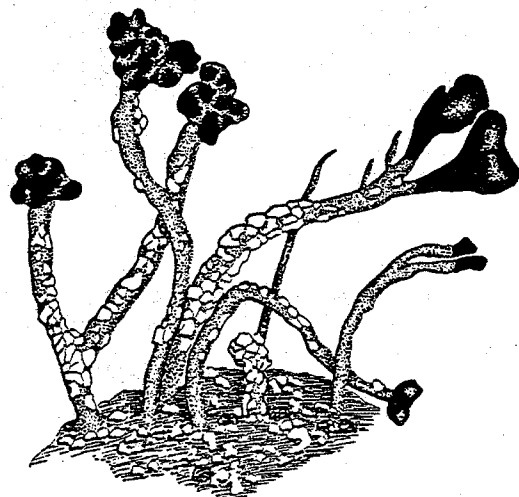


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Editors:

H.J.M. Sipman
Bot. Garten & Bot. Museum
Königin-Luise-Strasse 6-8
D-1 Berlin 33, Germany (FRG)

M.R.D. Seaward
Department of Environmental Science
University of Bradford
Bradford BD7 1DP, UK

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The opinions expressed in the Newsletter are not necessarily those held by the International Association for Lichenology.

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IAL membership is open to anyone who has an active interest in the study and use of lichens. The subscription is US \$ 20.00 or S.Fr. 32.00 for the six-year period between successive International Botanical Congresses. Subscriptions should be sent to the Treasurer or Deputy Treasurer:

Robert S. Egan, Dept. of Biology, University of Nebraska, Omaha, NE 68182-0040, USA. Cheques should be made out for US dollars, drawn on a US bank, otherwise it will cost the IAL US \$ 27 for each cheque!

Rosmarie Honegger, Inst. für Pflanzenbiologie und Cytologie, Zollikerstrasse 107, CH-8008 Zürich, Schweiz. In this case please pay S.Fr. 32.00 to the following bank account: Schweizerischer Bankverein (Swiss Bank Corporation, Societé de Banque Suisse), Filiale Albisriederplatz, 8040 Zürich, Switzerland, Account Nr. PI-560.486.0 in the name of IAL/Honegger. Those who wish to use the Postal Giro service may use the Postal Account number of the Bank: 80-206-1.

or (for british members) to: T.H. Moxham, Dept. of Plant Sciences, University of Bath, Claverton Down, Bath, Avon, BA2 7AY, U.K. (subscription price £13.00)

IAL affairs are directed by an Executive Council of thirteen members elected during the last International Botanical Congress. Council members elected at the 14th Congress (Berlin, Western Germany, 1987) are listed below and will serve until the 15th Congress (Tokyo, 1993).

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Editors: H.J.M. Sipman, Bot. Garten & Bot. Museum, Königin-Luise-Strasse 6-8, D-1 Berlin 33, Germany (FRG)

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Lichen Terminology Committee

Chairperson: Vernon Ahmadian, Department of Biology, Clark University, Worcester, Massachusetts 01610, USA

RESEARCH NEWS & NOTES

Ahti, Teuvo (Helsinki, Finland) participated in an international lichenological excursion to Tierra del Fuego, Argentina in January 1989, along with Josef Poelt (Graz), Soili Stenroos (Helsinki), Nora Scutari and Laura Rufz (both Buenos Aires). With Soili Stenroos and Lidia Ferraro (Corrientes), he is preparing a volume on *Cladonia-ceae* for the Flora Criptogámica de Tierra del Fuego. He also informs us that the missing volumes I-III of William Nylander's Collected Lichenological Papers (vols. IV-VI were published in 1967) are finally being issued in Germany. The first volume will include a biography of Nylander and a complete list of his lichenological publications, edited by Teuvo. In April-May 1990, he and Sam Hammer visited the Farlow Herbarium (FH) with the aid of a grant of the Geneva Sayre Fund to work on *Cladoniaceae*. He also studied Neotropical and Fuegian material with Henry Imshaug in Michigan.

Becker, Uwe (Cologne, West Germany) started his M.Sc. thesis on the lichen flora and vegetation of laurel forests in the Canary Islands. He would like to get in touch with anyone interested in the same subject. Contact: Uwe Becker, Uerdinger Str. 15, D-5000 Köln 60, F.R.G.

Calvelo, Susana (Bariloche, Argentina) continues her work on the lichen

flora of the Parque Nacional Nahuel Huapi (North-Western Patagonian forests). In the future, her studies will be supported by Gernot Vobis, who changed from Marburg (West Germany) to the same laboratory at the Centro Regional Universitario Bariloche, Universidad Nacional del Comahue. She is especially interested in the genus *Peltigera*.

Crittenden, Peter (Nottingham, U.K.) is currently involved in three lichen research projects. The first concerns growth and nutrient relations of mat-forming lichens with special reference to the effects of acid rain. **Minna-Maarit Kytöviita** (ex University of Turku) is working on this problem for a Ph.D. degree. Field studies on *Stereocaulon paschale* and *Cladonia stellaris* are being undertaken at the Kevo Subarctic Research Station in Finnish Lapland in partial collaboration with Seppo Neuvonen and Erkki Haukioja who are the principal investigators in a broadly based acid rain project running at the Kevo Station. Of particular interest is the extent to which internal recycling of nutrients promotes relatively fast growth rates in these species. In the second project, a growth analysis has been conducted on three lichen-forming fungi in pure culture: again the species were *S. paschale* and *C. stellaris* with *Xanthoria parietina* as the third. Of particular interest here

was the response of these fungi to different levels of nitrogen supply. Elizabeth Oliver was the principal worker involved and she is currently writing her M.Phil. thesis on this work. The third project is a collaborative venture involving David Hawksworth and colleagues at the CAB International Mycological Institute, together with two biotechnology companies (Xenova Ltd., Slough and Biocatalysts Ltd, Pontypridd). The objective is to isolate up to 1000 lichen-forming fungi into pure culture and to screen batch cultures for the production of biologically active or otherwise useful compounds such as enzymes, fragrances, anti-viral and anti-cancer agents. Fraser Campbell (ex University of Glasgow) has joined the laboratory at Nottingham as a postdoctoral fellow to engage in and supervise this isolation work.

Feige, G. Benno (Essen, West Germany) reports on the lichenological activities in Essen. Regina Kalde is finishing a chemosystematic study of the *Ramalina farinacea* group ("Staatsexamensarbeit") and Birgit Posner is completing her Ph.D. study on the distribution of lichen substances in the genera *Lasallia*, *Lobaria* and *Usnea*. The following students started their work: Andrea Mannebach and Andrea Stachelhaus will investigate the lichen flora of an old mining area (lead, zinc, etc.) in the Eifel mountains ("Staatsexamensarbeit") and Thorsten Lumbsch will study the *Lecanora subfusca* group in Australasia as a thesis project. Lutz Niemann, together with Siegfried

Jahnke and Benno Feige, is investigating since four years the deposition and translocation of Chernobyl nuclides (especially ^{134}Cs , ^{137}Cs , ^{110}Ag) in European lichens from central Sweden to southern Europe. In cooperation with Bruno Mies (Köln), Feige is completing an investigation on the complex xanthone patterns in *Pertusaria* spp. from the Cape Verde Islands. A number of lichenologists (Roman Türk, Rosmarie Honegger and Klaus Kalb) visited Essen this year and gave talks on their current research. The changed political situation also allowed Siegfried Huneck to come to Essen for a week. Feige informs us that he would like to share his HPLC studies with other workers who do not have access to this modern analytical method. Moreover a number of duplicates accumulated during the years in Essen, mainly from Sardinia and Macronesia. Those who wish to exchange duplicates with Essen should contact Benno Feige or Thorsten Lumbsch. *Pertusaria* spp. are especially welcome.

Grube, Martin (Graz, Austria) has finished his MSc thesis on lichenicolous *Didymella* species (which is in print in *Nova Hedwigia* in a modified form under the authorship of M. Grube and J. Hafellner). He has now started revisional work on *Arthonia*, mainly tropical species, which will be the subject of his doctoral thesis (supervisor J. Hafellner).

Jørgensen, Per M. (Bergen, Norway) reports that he is now once more Director of the Botanical Institute of

the University of Bergen, including the Herbarium, the Arboretum and the Garden. Sadly, this, together with many other administrative tasks, makes it next to impossible to spend much time on lichens. Moreover, the Norwegian Research Council has turned down this year's application for support for the Norwegian Lichen Flora, in spite of the fact that already about 500 species have been covered. During his sabbatical, he had hoped to finish 15 papers, but only managed 12 - leaving *Erioderma*, *Leptogium* and the blue-greens of the Norwegian Flora very nearly finished. He hopes to get support to stay in Göteborg, London, Marburg and Uppsala to finish these. With David Galloway, he is making progress on the Australian *Pannariaceae*, supported by ARC. He is visiting London for 10 days in the spring and Germany in the autumn in connection with IMC-4.

Lumbsch, H. Thorsten (Essen, West Germany) finished his "Diplomarbeit" on the ontogeny of the *Trapeliaceae* and allied families under the supervision of Aino Henssen and moved to Essen to join G.B. Feige's research group. There he will undertake his Ph.D. study on the taxonomy and chemistry of the *Lecanora subfusca* group in Australia. He would be pleased to receive specimens for examination. Moreover he is continuing his monographic studies on *Diploschistes* and still welcomes specimens sent for identification. Last March, he married Ester Mietzsch.

Matzer, Mario (Graz, Austria) has fi-

nished his MSc thesis on lichenicolous species of *Rosellinia* coll., which is in print in a modified form under the authorship of M. Matzer and J. Hafellner in *Bibliotheca Lichenologica*. He has begun a doctoral thesis under the supervision of J. Hafellner on the subject: "Lichenicolous fungi on foliicolous lichens". He will be grateful for every specimen, determined or undetermined, to include in the treatment.

Osorio, Héctor S. (Montevideo, Uruguay) continued his investigations of the lichen flora of the Rio Grande do Sul Highlands in Brazil with a collecting trip in the Municipality of Julio de Castilhos in October 1989, together with Prof. Mariana Fleig (Porto Alegre, Rio Grande do Sul, Brazil). In 1990 he plans to visit several hills in the Municipality of Canela. A paper with additions and corrections to the lichen flora of Rio Grande do Sul State is forthcoming.

Seaward, Mark (Bradford, U.K.) visited Vicenza and Milan in October 1989 and Lecce and Rome in April 1990 in connection with his collaborative research programme with Istituto Centrale del Restauro, Roma on the biodeterioration of stone work. A busy schedule over the next few months will involve him in visits to Ireland, Belgium, France, Germany, Poland and the Far East (Japan, Hong Kong and possibly Singapore). One of his research students, Simon Ellin is currently completing his PhD on epiphytic lichens and acid rain. Dr. Ay-sen Ozdemir (Eskisehir, Turkey) had

a visiting fellowship at Bradford University to enable her to study biological monitoring during the last three months of 1989.

Sharnoff, Sylvia Duran and Stephen (Berkeley, U.S.A.) are now able to be full-time nature photographers, concentrating on lichens. For at least the next two years, they plan to travel extensively in the United States, Canada, and Baja California. Their exhibit, "Lichens: Fine Details of the Natural Landscape", which originated

at the Oakland Museum in California in 1984, is still touring. It will be at the Royal Ontario Museum in Toronto, Ontario, Canada during the summer of 1990.

Stenroos, Soili (Helsinki, Finland) submitted her doctoral thesis at the University of Helsinki on November 25th, 1989. Now she is working on the *Cladoniaceae* of Tierra del Fuego and the Subantarctic and Antarctic regions.

International Symbiosis Congress

From November 17 till 22, 1991 the International Symbiosis Congress will be held in Jerusalem, Israel. The programme will be arranged to encourage comparative discussions on different symbiotic systems and is therefore planned according to topics rather than types of symbiosis. There will be plenary lectures, parallel symposia, workshops, poster sessions and commercial exhibits. Posters will remain on display throughout the Congress.

Symposia are planned on the following topics:

- Nutritional interactions, carbon and nitrogen metabolism
- Transport mechanisms
- The host-symbiont interface
- Mutual regulatory and morphogenic effects and structural coadaptation
- Regulation of symbiont population
- Recognition and specificity
- Molecular genetics of symbiotic interactions
- Symbiosis and genetic exchange
- Trophic links, recycling and conservation
- Transmission of symbionts
- Symbiosis and development of new structures and functions
- Evolutionary consequences of symbiosis
- Ecological adaptations

Ecology of the rhizosphere
Behavioral symbiosis
Symbiotic virus-host relationships

Workshops:
Applications of modern techniques to the study of symbiosis
Teaching symbiosis

Contact: Prof. M. Galun
Department of Botany
The Dr. George S. Wise Faculty of Life Sciences
Tel Aviv University, Ramat Aviv, Tel Aviv 69978, Israel
Tel. 972-8-5459163 Fax 972-8-5413752
Bitnet EEEM @ TAUNOS
A First Announcement with pre-registration form is already available.

Une flore de l'est du Canada en français

Le livre, "Lichens of the Ottawa Region, 2nd edition", qui a récemment été publié par le Ottawa Field Naturalists' Club, est maintenant disponible dans la langue française sous le titre: Les lichens de la région d'Ottawa. Deuxième édition. Il présente des clefs diagnostiques pour la détermination des 470 espèces du nord est de l'Amérique du nord. L'édition anglaise a été décrite dans le ILN 22(1): 11 & 24. Toutes les données sont exactement le même sauf pour le rédacteur. L'édition française est publiée par le Musée National des Sciences Naturelles (non par le Club Ottawa Field-Naturalists). Pour commander une copie, écrivez au: Musée national des sciences naturelles, Courier direct (a/s Paula Gauthier), C.P. 3443, Succursale 'D', Ottawa, Ontario K1P 6P4, Canada. Il faut inclure avec la demande un chèque international au montant de \$9.95 (CAN) + \$4.00 pour couvrir les frais postaux (\$2.00 pour des commandes de 10 livres ou plus).

--- Irwin Brodo

Progress with curation of the John Bartlett collection at Auckland Institute & Museum Herbarium (AK)

Shortly after the death of John K. Bartlett on 1 May 1986, his entire private herbarium of bryophytes and lichens, botanical library, reprint collection and herbarium-related correspondence was bequeathed to the Auckland Institute and Museum Herbarium (AK). Since then all the material has been sorted, and curation of the specimens and their amalgamation with the main AK collection is progressing

well.

All of the separated, smaller, better-labelled specimens have been placed in AK packets with new AK labels. These number approximately 4000 bryophytes and 10 000 lichens, effectively adding half as many specimens again to AK's existing bryophyte collection, and trebling the size of the lichen collection. All of the Bartlett bryophytes and 1000 of the lichens have now been entered onto AKILLES, the computer accessions system in use at AK. Accessioning of the remainder of the lichen specimens is continuing, and when complete, the entire collection will be able to be cross-referenced according to any item of label information. Much of this work has been completed by Marcel Smits, and funded by grants from the New Zealand Lottery Board.

A complete list for John Bartlett's collections ordered from north to south within New Zealand has been compiled from the labelled specimens, and is being updated as specimens are entered onto AKILLES.

Specimens required for a loan or research purposes have been given priority to enable their immediate use by those requesting them.

A few hundred large newspaper packages of bulk, unsorted collections from particular localities remain uncurated. These have been ordered from north to south according to locality, ready for sorting and identification by a bryologist/lichenologist.

I recently wrote to all the individuals represented in our files of John's correspondence seeking further parts of his herbarium which may be out on loan, and any information or copies of his correspondence which might help with the labelling of specimens. We are currently holding many specimens labelled only with John's herbarium number; presumably these are duplicates of collections sent elsewhere with fuller details of locality etc. Unless further label details can be found, these collections are of no value to us.

If you know of any specimens that John Bartlett may have sent out, either on loan or as a gift, I would be grateful for information. It would assist us greatly if material held on loan from John could be returned to AK for curation and registration as soon as possible. Any such material needed for further study could be returned on formal loan from AK very speedily.

---Anthony Wright, Curator of Botany,
Auckland Institute and Museum, Private Bag, Auckland 1, New Zealand.

A Finnish Lichen Group established

A Lichen Section of the Societas Mycologica Fennica was established in 1989. The activities of this section include the preparation of a list of Finnish names for a number of significant lichen species in Finland, as well as the organisation of field excursions (in 1990 to Korpilahti, Central Finland). Info: Teuvo Ahti, Department of Botany, University of Helsinki, Unioninkatu 44, SF-00170 Helsinki 17, Finland.

III International Colloquium on Lichen Biology

This splendidly organised meeting was held in Madrid from 23 - 27 April, 1990 at the Real Jardín Botánico and sponsored by the Universidad Complutense, Dirección General de Investigación Científica y Técnica, Consejo de la Juventud (Comunidad Autónoma de Madrid), Consejo Superior de Investigaciones Científicas. Profs. Carlos Vicente and Estrella Legaz and Drs. Adolfo Avalos and Elena Perez-Urria were the organisers, assisted by M.M. Pedroso, S.V. Caffaro, J.L. Mateos, E. Mahillo, M. Moreno, M.C. Cambon, M. Rodriguez and S. Dutra.

The meeting was attended by c. 40 lichenologists from 13 different countries and was divided into 8 symposia, the titles and contributions being detailed below:

Symposium I: Developmental biology of lichens (Chair C. Ascaso)

C. Ascaso: A stereological study of the *Parmelia sulcata* algal layer.

I. Yoshimura & Y. Yamamoto: Developments of lichen thalli of *Peltigera praetextata* in culture.

F. Valladares & C. Ascaso: Comparative stereological study of the photobiont of *Lasallia hispanica* and *Umbilicaria spodochoa* var. *carpetana*.

E. Stocker & R. Türk: Thallus formation of the cyanobacterial lichen *Peltigera didactyla* under laboratory conditions.

Symposium II: Relationships between symbionts: Ultrastructure and physiology (Chair M. Galun)

M. Galun: Effect of symbiosis on lichen components.

N. Kardish & M. Galun: Comparison between the symbiotic *Nostoc* of the lichen *Nephroma laevigatum* and its cultured isolated *Nostoc* by recombinant DNA.

Symposium III: Physiology of whole thallus (Chair D.H. Brown)

D.H. Brown: Mineral nutrition of lichens currently clarified or confused?

M. Jensen, B. Roosen & G.B. Feige: Quantum efficiency, photosynthetic capacity, and chlorophyll fluorescence in the lichens *Hypogymnia physodes* and *Parmelia*

sulcata.

D.H. Brown & A. Avalos: Chemical control of cadmium uptake by *Peltigera*.

M.I. Escribano & M.E. Legaz: Kinetics and competition of putrescine transport in *Evernia prunastri*.

Symposium IV: Organic chemistry and biochemistry (Chair S. Huneck)

S. Huneck: New results in the chemistry of lichens.

R. Tabacchi: Direct analysis of lichens by MS-MS.

N. Hamada: Depsides from the isolated lichen mycobiont.

E. García-Junceda, M.C. Cambon: Enzymatic production of 5'-hydroxyolivetoric acid.

L. Xavier Filho, J.R. Moraes & J.P. Parente: Isolation and characterization of Lichenin I in *Cladonia verticillaris*.

Symposium V: Enzymology (Chair M.E. Legaz)

M.E. Legaz: Regulation of the different arginase isoforms in *Evernia prunastri* thallus.

M.M. Pedrosa & M.E. Legaz: Pursuit of the purification of the constitutive arginase of *Evernia prunastri* by SE-HPLC.

M. Rodriguez & C. Vicente: Water status and urease secretion from two ecotypes of *Xanthoria parietina*.

J.L. Mateos & M.E. Legaz: Mannitol-1-P dehydrogenase from *Evernia prunastri*.

C. Hageman & D. Fahselt: Enzyme electromorph variation in six species of the liche family *Umbilicariaceae*.

P. Herrero: Esterase activity and evernic acid accumulation in *Evernia prunastri* thallus.

Symposium VI: Environmental physiology (Chair C. Vicente)

C. Vicente: Environmental control of lichen phenolics synthesis and accumulation.

A. Farmer, J.W. Bates & J.N.B. Bell: The effect of wet acidic deposition on the environment experienced by epiphytic lichens.

B. Schroeter, L. Kappen & P. Jacobsen: Moisture dependent net photosynthesis and microclimatic conditions of *Peltigera aphthosa*.

C. Saiz-Jimenez, J. Grimalt, J. García-Rowe & J.J. Ortega: Analytical pyrolysis of lichen thallus.

Symposium VII: Molecular biology and biotechnology (Chair V. Ahmadjian)

V. Ahmadjian: Molecular biology of lichens: a look to the future.

D. Armaleo: New methods for culturing lichens and mycobionts and for extracting nucleic acids.

V. Ahmadjian, J.B. Brink & A. Shehata: Plasmid DNA in three clones of the cultured lichen mycobiont *Cladonia cristatella*: a possible mechanism for signal exchange between lichen bionts.

M.C. Cambon & E. García-Junceda: The use of immobilised cells and enzymes as bioreactors to produce and metabolise lichen phenols.

P. Clerc-Pohl: The use of molecular biology techniques in lichen systematics.

Symposium VIII: Lichen evolution and algal-fungal coevolution (Chair D.J. Galloway)

D.J. Galloway: Chemical evolution in the order Peltigerales.

G. Follmann: Evolutionary tendencies and phylogenetical relations in the lichen family *Roccellaceae* (Opegraphales) under special consideration of new enzymological and serological data.

D. Fahselt: Enzyme similarity as an indicator of evolutionary divergence: *Stereocaulon saxatile*.

C.W. Smith: Speciation and adaptive radiation in Hawaiian fungi.

On the first morning after Registration, a sumptuous lunch with Spanish wine was provided on the terraces of the Jardín Botánico, but rain caused a rather rapid retreat back into the safety of the lecture Hall lobby. On Tuesday a coach tour to Segovia included spectacular views of mountain scenery with rocks and conifers richly covered with lichens and patches of *Narcissus* still lingering in several habitats. We were shown around the state apartments of the Royal Palace "La Granga", with our guide Conchita retailing a continuously interesting narrative. After lunch at a restaurant in Segovia we were shown over the Alcazar, a stupendously sited hilltop fortified castle, again with Conchita making the visit informative and memorable. A few of us sneaked a quick visit to the cathedral *en passant* and admired the simplicity and nobility of its interior with its two richly fantastic baroque organ cases with their batteries of horizontal trumpet stops. We were given a welcome and reception by Vice Chancellors of the University on Wednesday and here we were able to thank publicly our hosts for the excellence of the arrangements. Thursday evening was a social high spot of the week with a visit to a lively discotheque in Avenida Brésil where we were treated to a show of professional flamenco dancing, and to which we responded with some vigorous not-so-flamenco dancing of our own. This last activity drew the response from an American onlooker: "Are you a regular dance group?". The meeting closed on Friday afternoon with speeches from D.J. Galloway, C. Vicente, M. Legaz and M. Galun.

This third colloquium on Lichen Biology was a great success on several levels: it identified several new and important growing points in the subject and indicated a number of exiting ways forward; it brought together a wide range of people with diverse expertise and focussed wide-ranging discussion in a very pleasant forum and ambience in a way that large-scale meetings fail significantly to achieve; and it underlined the fact that much of contemporary lichenology, at least in the experimen-

tal field, is being done by enthusiastic young people, a very heartening sign and a good augury for the future. Finally, I think all participants would want me to thank again on their behalf the "Lichen Team" [Padre Vicente, Madre Legaz y los niños lichenólogos y las niñas lichenólogas] from Madrid who made the entire week such a pleasant, happy and memorable time.

---D.J. Galloway

Lichen Flora of Brazil

A lichen flora of Brazil Project has been initiated to collate what is known of lichen genera and species present in this region. The Project will be coordinated by Lauro Xavier Filho (Brazil) and David Galloway (UK). The coordinating editors will be pleased to hear from any lichenologists interested in contributing to the project, details of which may be obtained from the editors at the addresses below:

Lauro Xavier Filho: Laboratorio de Tecnologia Farmaceutica, Universidade Federal da Paraíba, Campus I, 58.059 João Pessoa, PB, Brazil.

David Galloway: Department of Botany, The Natural History Museum, Cornwell Road, London SW7 5BD, UK.

--- D.J. Galloway

New Literature

Vagn ALSTRUP & David L. HAWKSWORTH. 1990. The lichenicolous fungi of Greenland. Meddelelser om Grønland, Bioscience 31. 90 pages. Published February 1990; ISSN: 0106-1054; ISBN: 87-17-05967-4. Available from: Nyt Nordisk Forlag - Arnold Busck A/S, Købmagergade 49, DK-1150 Copenhagen K, Denmark. Price DKK 192,00 excl. VAT and postage. (Keys to and descriptions of 124 lichenicolous fungi reported for Greenland, with many illustrations and a host index; 3 new genera and 24 new species are described and 8 new combinations made; 72 taxa are new for Greenland, and the number of species known from Greenland now exceeds that known from mainland North America).

A.J. de BAKKER. 1989. Monitoring van epifytische korstmossen in 1988. RIN-rapport 89/14. 53 pages. Available from: Rijksinstituut voor Natuurbeheer, Postbus 46, NL-3956 ZR Leersum, Netherlands. Price d.Fl. 8.00. (Results from a yearly re-inventarisation of epiphytic lichens in some 1350 plots in the Netherlands, some of which have been under observation since 1977; discussion of the observed changes: an increase in species number has been observed, mainly of nitrophilous species; in Dutch).

Othmar BREUSS. 1990. Die Flechtengattung Catapyrenium (Verrucariaceae) in Europa. Stapfia 23. 153 pages, 11 distribution maps, 3 tables and 6 pages with photographs. Available from: Botanische Arbeitsgemeinschaft am Ober-Österreichisches Landesmuseum, Museumstrasse 14, A-4010 Linz, Austria. (contains a general description of the genus with delimitation from other Verrucariaceae, a key to 27 species and 5 varieties occurring in Europe, with descriptions, ample specimen lists, and habit photographs of most species, and an annotated list of excludenda; in German)

S.E. BUDAEVA. 1989. Lisainiki lesov Zabaikalja. Novosibirsk: Nauka 1989, 104 pages. Price 1 Rub. 50 Kop. (Annotated list of 212 lichen species in 59 genera from the Barguzunski state reserve east of the Baikal lake, with chapters on ecology and distribution; in Russian)

Stanislaw CIESLINSKI & Zygmunt TOBOLEWSKI. 1988. Lichens (Lichenes) of the Białowieża Forest and its western foreland. Phytocoenosis Vol. 1 (N.S.), Supplementum Cartographiae Geobotanicae 1. 216 pages. Editorial office: Białowieża Stacja Geobotaniczna UW, ul. Sportowa 19, PL-17.230 Białowieża, Poland. (Dis-

tribution data and present status of 345 lichen species found in the Polish part of the famous Bialowieza forest, the most untouched forest area in temperate lowland Europe; with notes on ecology; in Polish, with 11 page English summary).

Paul DIEDERICH. 1990. Atlas des lichens épiphytiques et de leurs champignons lichénicoles (macrolichens exceptés) du Luxembourg. Travaux Scientifiques du Musée National d'Histoire Naturelle de Luxembourg XVI. 72 pages. Free copies available from the author: Paul Diederich, 5 Rue Fernand-Mertens, L-2148 Luxembourg. (Distribution maps of 235 taxa of crustose epiphytic lichens and lichenicolous fungi recently observed in Luxembourg, with 2 page introduction in French and an index; keys and descriptions for these taxa were published by the author in an earlier volume of this series, see ILN 23(1): 16).

Theodore L. ESSLINGER. 1989. Systematics of Oropogon (Alectoriaceae) in the New World. Systematic Botany Monographs vol. 28. 111 pages. Available from: Systematic Botany Monographs, University of Michigan Herbarium, North University Building, Ann Arbor, Michigan 48109, USA. (A taxonomic treatment of 30 species, of which 26 are new, with descriptions, a key, indications of chemistry, distribution; in an appendix the species known from Asia are listed).

D.L. HAWKSWORTH & T. AHTI. 1990. A bibliographic guide to the lichen floras of the world (Second edition). Lichenologist 22(1): 1-78. Reprint available from: Mr. J.M. Gray, Assistant Treasurer British Lichen Society, Myrtle Cottage, Church Lane, Kingston St. Mary, Taunton, Somerset, TA2 8HR, UK. Price £5.00 (incl. postage & packing). (A guide to lichenological literature with important floristic data or keys for various countries of the world, comprising nearly 1400 references to some 300 geographical entities)

Johannes-G. KNOPH. 1990. Untersuchungen an gesteinsbewohnenden xanthonhaltigen Sippen der Flechtengattung Lecidella (Lecanoraceae, Lecanorales) unter besonderer Berücksichtigung von außereuropäischen Proben exklusive Amerika. Bibliotheca Lichenologica Bd. 36. Berlin-Stuttgart. 183 pages. (Detailed treatment of 15 species of *Lecidella* containing xanthones; emphasis on non-european, non-american material; with key, descriptions, notes on chemistry, especially xanthones; in German)

Bruno-Adolf MIES. 1989. Vorarbeiten zu einer Flechtenflora der Kapverdischen Inseln. Untersuchungen zum Artenbestand und zur Verbreitung. Thesis Universität Köln. 201 pages. A limited number of copies available from the author, address:

Linnicherstr. 60, D-5000 Köln 41, FRG (Contains a list of 326 lichen species and lichenicolous fungi known from the Cape Verde Islands, with synonyms, identification keys, a taxonomical arrangement, list of endemic taxa with their types, specimen lists, historical, ecological and distributional data; in German)

PERSONALIA

Peter James, on occasion of his retirement

Peter James retired from the Natural History Museum, London at the end of March after 35 years of lichen study there, the last 13 being as Deputy Keeper of Botany.

He was born at St Just in Roseland, Cornwall on 28 April 1930 and educated at Bishop Veyvey's Grammar School, Sutton Coldfield in the West Midlands from 1935-1948, and at the University of Liverpool from 1949 til 1955. During this period he became interested in lichens quite by chance when he accompanied a zoologist colleague who was working on Lake Bala in North Wales to his research site. Around the lake he noticed a rich growth of lichens, collected them and took them back to Liverpool for study. His supervisor allowed Peter to work on the lichens of North Wales for a Ph.D., but as he died shortly after, Peter's supervisor became the Professor who, knowing nothing at all about lichens, suggested that Peter work as a Vacation Student in the lichen herbarium of the British Museum and get to know something of the literature relating to British lichens and learn how to curate specimens. Fortuitously, the Museum needed a cryptogamist to study lichens and Peter was offered a job as resident lichenologist in the cryptogamic herbarium, then housed in the central tower where the Diatom Section is now. Almost immediately Peter was called up for National Service training which he took with the British Army in Bavaria, being granted leave of absence from the Museum from 1955 until 1957.

As Scientific Officer in charge of lichens, Peter James was continuing in an honourable tradition of British lichenology, his predecessors having included the Rev. James Morrison Crombie (1831-1906), Annie Lorraine Smith (1854-1937) and Ivan Mackenzie Lamb [later Elke Mackenzie] (1911-1990). An early task was to oversee the relocation of lichens, (along with other cryptogams excluding Ferns and Diatoms) from the Central Tower to the present Cryptogamic Herbarium after the reconstruction of war damage. Lichens were at first in a central position in the Crypt where mosses are now, but in 1969 they were moved east to their present position adjacent to the Mineralogy Library, when the lichen collections from the Royal Botanic Gardens, Kew were added to the BM collections. Peter had, by this

time met most of the established figures in British lichenology, at that time mostly amateurs, but including such significant figures as Arthur Wade, Ursula Duncan and F.A. Sowter. His single meeting with a very old and infirm Walter Watson, he recalls, involved talk of Test Cricket and not with lichens at all, Watson then having lost his memory for lichens. Ursula Duncan was the strongest influence in developing Peter's interest in lichens. At a meeting in the Lake District supposedly devoted to bryophytes, Ursula Duncan realised that she had in Peter James an apt and interested lichenological pupil and the weekend became devoted instead to lichens. Over subsequent years she taught him all she knew about British lichens. Peter later wrote of this "... by unstintingly putting her time, knowledge and collections at the service of young aspiring lichenologists she undoubtedly played a premier role in the renaissance of the subject in Britain".

Surrounded as he was with the unrivalled collections from both Britain and the rest of the world at the BM, plus a quite exceptional library of books, journals and reprints to hand, Peter James was in an excellent position to do one of two things; either to immerse himself in a programme of research that would refine his knowledge of lichenology more and more, or to diversify his interests in lichenology and share his knowledge with other interested beginners in lichenology possibly not quite so fortunate as he, and certainly not nearly so proudly equipped with specimens and literature. That he chose the latter path has been resoundingly to his credit and also to the subsequent development of lichenology worldwide.

His entry into Southern Hemisphere lichenology was precipitated by a request to accompany Eric Shipton and Geoff Bratt to the Patagonian Andes during the 1958/59 season. Bratt was a Tasmanian chemist who was working towards a Ph.D. at Imperial College, but who was equally devoted to exploratory mountaineering having previously climbed in Jan Mayen and with Shipton in the Karakorum. The addition of Peter James to a small expedition devoted to glaciological surveys on the South Patagonian icecap tipped the balance in terms of funding for the trip and from December 1958 until the end of February 1959 Peter James collected from a wide variety of localities around the great Lago Argentino and its tributary streams, rivers and glaciers. One result of this small, lightweight (in the alpine sense) expedition was the collection of 4000 specimens of lichens and flowering plants, a most impressive total. The other result of the trip did not manifest itself until some years later, but was the conversion of Geoff Bratt to lichenology, a field that he was to devote himself to under Peter's encouragement and guidance on his return to Tasmania. A correspondence and an exchange of specimens flourished in subsequent years between Hobart and London and was terminated only by Bratt's sudden death some time after a successful kidney transplant in 1977.

The next fruitful Southern Hemisphere collaboration was with James Murray,

an organic chemist from Otago University, Dunedin, New Zealand who had done a Ph.D. at Cambridge in the early 1950's on chemical compounds in yellow-medulla species of *Pseudocyphellaria*. An interest in lichen chemistry soon developed into an interest in lichen taxonomy and Murray's acute and receptive mind found a willing partner in Peter James who with Murray in 1960 embarked on a monographic account of *Pseudocyphellaria* and *Sticta* while Murray had a year's leave ostensibly at Imperial College but in real terms at the Natural History Museum. Murray was interested in all of the large Southern Hemisphere genera such as *Psoroma*, *Pannaria*, *Parmeliella*, *Menegazzia*, *Placopsis*, *Sphaerophorus* and his interest and knowledge of these was quickly shared by James. Sadly, Murray was killed in a car accident in June 1961 shortly after his return to New Zealand, so what promised to be a very significant collaboration was thwarted. The Royal Society of New Zealand and the University of Otago arranged for Peter James to spend six months in New Zealand (October 1962-March 1963), curating Murray's large herbarium at Otago University, and participating in an expedition to the Auckland Islands early in 1963. During Peter's time at Dunedin, David Galloway, a research student in Biochemistry was given a summer vacation job as his assistant, and like Bratt before him, he was given first-hand guidance and encouragement to undertake collection and study of New Zealand lichens. Ten years later, Galloway was seconded to the Natural History Museum to start work on a New Zealand lichen flora, a project in which Peter James was significantly involved at the outset and which he helped to see through to a fruitful conclusion in late 1983 with publication in early 1985.

Meanwhile Peter had visited Tasmania in 1963 on his way back to the UK from New Zealand, and he collected in a number of areas with Geoff Bratt. In the late 1970's, Gintaras Kantvilas, taking up where Geoff Bratt left off, began a study of Tasmanian rainforest macrolichens under Peter James's supervision by letter, telephone calls and occasional visits. The outcome of this collaboration was Kantvilas's successful Ph.D. and eventual establishment as Tasmania's first cryptogamic botanist. The establishment of good herbarium collections, and associated research papers extending from New Zealand, to Tasmania, Australia and South America, has been Peter James's major contribution to Southern Hemisphere lichenology, a contribution borne out of his ever ready willingness to help and one which has flourished alongside his major and long-standing work on the lichens of the British Isles.

Peter James is an acute and dedicated field botanist and his vast collections at the Museum range from the United Kingdom to Central Europe, Scandinavia, Russia, Macronesia, Ascension, the United States, Hawaii, New Zealand, Australia, Tasmania, Argentina and Chile. A stimulating guide to lichens in the field in many parts of the world, he nevertheless was tireless in promoting the cause of British li-

chens in the 1960s, 70s and 80s for the Field Studies Council as leader of lichen and fungus courses and forays at Orierton, Slapton Ley, Malham Tarn, Flatford Mill, Juniper Hall, Nettlecombe and Preston Montford. This work for the FSC brought him into contact with many dedicated amateurs who he readily encouraged, and a significant part of the development of lichenology in this country over the past 25 years can be traced to his influence on a wide range of both amateur and young professional lichenologists during this time. He was one of the early pioneers in the use of thin layer chromatography in lichen systematics in the UK and made his knowledge widely available to all interested parties. He undertook the supervision of several notable Ph.D. studies in lichenology (D.L. Hawksworth, A. Fletcher, B.J. Coppins, R. Nourish, G. Kantvilas) and examined theses for universities both in the UK and abroad and he lectured and examined for University extension courses. In addition, he sat on many committees both at the Museum and elsewhere and was at some time or other a Council Member or Officer of many notable biological societies including: The Linnean Society of London, the British Mycological Society, the British Phycological Society, the Systematics Association, the Field Studies Council, the International Mycological Association, the British Lichen Society [he was the first Editor of the *Lichenologist* from its inception in 1958 until 1976, Vice President 1968-69, President 1970-71, and Honorary Member 1981].

He was closely involved with the formation of the International Association for Lichenology and was its first President and acting Treasurer from 1969-1975, a member of its Terminology Committee from 1975-1981, and coordinator of the first IAL field meeting to the Austrian Alps in 1973.

As Head of the Lichen Section at the Museum Peter met an extraordinarily wide circle of lichenological colleagues both in the UK and abroad, many if not most of whom became firm friends. His hospitable and courteous nature ensured that visitors to the Lichen section were always well looked after, his considerable talents as a cook ensuring that most were treated to fine food, elegantly served in his small book-lined and record-lined flat in Baron's Court. With his promotion to Senior Principal Scientific Officer and Deputy Keeper of Botany at the Museum in 1977, official duties heavily eroded time that was formerly available for lichen work, however he was able to keep up his wide lichenological interests in joint publications with a variety of colleagues. He has continued to attend major international and local lichen conferences, workshops and field meetings and he is currently heavily involved in the editing of the final text for the forthcoming Lichen Flora of Great Britain and Ireland. With time now on his side we wish him a very happy, long and productive retirement.

—D.J. Galloway

Peter W. James: a personal appreciation

Peter James' association with Tasmania began when he met the late Geoff Bratt in Patagonia during the Shipton Expedition of 1958-59. The two began to correspond and Peter subsequently examined many of Bratt's Tasmanian lichen collections. In those early years, Peter developed many links with the Antipodes, and had become not only an authority on the flora but also mentor to aspiring lichenologists in the region.

My own contact with Peter began in 1980 when I was struggling to name my first, scrappy lichen collections. I had frequently encountered his name acknowledged in publications and decided to try my luck and write to him for help. Such letters must have been familiar to him, but nevertheless I soon received an encouraging reply and despatched my first small consignment of lichens to BM. I remember vividly my delight when within a few weeks, I received a list of identifications and, most importantly, a request for more specimens.

From this tentative beginning our contact blossomed. Parcels of specimens and letters filled with questions were sent to London with increasing frequency whilst equally frequent letters crammed with a wealth of information on the species, suggestions and encouragement arrived in Hobart. I had begun a doctorate in rainforest lichen ecology and Peter soon adapted the role of absentee supervisor. I often wonder how he managed to find the time to deal with this persistent student from the other side of the world, but somehow he always did.

In 1981, Peter attended the XIIIth International Botanical Congress in Sydney, arriving via a brief visit to Tasmania. We met for the first time in the Hobart airport, at midnight amidst the chaos of an aviation dispute. We soon became better acquainted during numerous field trips and long nights in the laboratory.

In subsequent years, as Peter's administrative workload grew more demanding, our correspondence became less regular. However, his intensive personal interest in my studies remained, although the telephone often became a more common means of contact than the pen.

In 1984, Peter again visited Tasmania. We had a delightful "holiday", collecting on the peaks of western Tasmania, pounding at rocks knee deep in mountain streams, long nocturnal discussions whilst dividing and packaging collections, and less demanding pursuits such as a game of cards before "lights out". In his retirement, we hope to relive some of these moments with further visits to Tasmania, and to rejuvenate various joint projects which had languished in recent years.

Due to Peter's experience and knowledge of the Southern Hemisphere lichen flora, and his unstinting kindness and willingness to instruct and encourage, his influence on lichenology in the region has been profound. In the Tasmanian flora, his

efforts are commemorated in the striking species, *Siphula jamesii*, which characterises the mountains and moorlands of the south-west wilderness. There are few lichenologists whom he has not helped directly at some time and I am particularly proud to call him my mentor and friend.

--- G. Kantvilas

Peter James and Australian Lichenology

Peter James has had a significant impact on lichenology in Australia both directly and indirectly - but more particularly by his enthusiastic encouragement of a number of local lichenologists including Geoff Bratt, Jack Elix, Nell Stevens, Gintaras Kantvilas, Rex Filson and Nathan Sammy. He has been the perennially good-humoured Godfather whether

- shepherding beginners through the pangs of learning lichen taxonomy
- encouraging collectors of Australian material
- supplying antipodeans with photocopies of obscure literature
- authorising loans of type material from BM
- encouraging and benignly editing contributions to the Lichenologist and Bull. British Museum (Nat. Hist.) Botany
- attending to Aussie visitors at BM
- preparing culinary delights in Edith Road
- generally fielding dumb questions on lichen taxonomy
- chasing swarms of horse flies in the Budawang Ranges

One particular incident worthy of recall occurred in the "wilds" of Norfolk Island. Heinar Streimann and Jack Elix were accosted by an apparently irate local lady as they stripped lichens from her fence posts and adjacent dead tree trunks.

Lady "What do you think you are doing there"

Contrite reply "We are collecting lichens and mosses"

Lady "Well, do you know Mr. Peter James from London"

Bold reply "Yes, he is a personal friend of ours"

Lady "Is that so - well would you like a cup of tea?"!!!

--- Jack Elix

Peter James and Dutch Lichenology

After air pollution had ruined lichen growth in the Netherlands, the most promising direction to see good lichens was West. Thus, in the seventies several of us joined British Lichen Society meetings in search of healthy lichen growth after seeing so much scrap during air pollution-mapping with lichens. There we were most impressed by the friendliness and helpfulness of the people, who had a much appreciated sense of humour. No doubt the pivot of them was Peter James, who taught

us a lot about lichens and showed many interesting species, without ever giving us the impression of being the stupid innocents we were. His modest, tactful and patient way to lead things in a good direction, was most fascinating. Thus it was no wonder that BM became a place where I had to go from time to time for my lichen studies. In the absence of a trained lichen taxonomist in the Netherlands, Peter was the logical person to act as my co-promotor, which he fortunately accepted. This enabled me not only to increase the frequency of my visits to BM, but also to enjoy some of Peter's culinary highlights.

--- Harrie Sipman

Mason E. Hale, Jr. (1928-1990)

It is my sad duty to announce the death of Dr. Mason Ellsworth Hale, Jr. (1928-1990).

Mason was a Senior Scientist and a former Chairman of the Department of Botany. He died 23 April 1990 at his home of renal cell cancer after a long illness.

Mason was internationally known for his lichen research. He joined the staff of the Smithsonian Institution in 1957 and built the third largest lichen collection in the world. His 1967 (revised 1974, 1983) "Biology of Lichens" was the first comprehensive introductory treatment of lichens in English. His 1969 (second edition 1979) "How to Know the Lichens" became the standard guide for North American Lichens. His baseline research on growth-rate and lead content of lichens, begun almost 40 years ago, provided some of the first documentation of the impact of pollution on our environment. His research focused on large and widespread lichen families, *Parmeliaceae* (foliose) and *Thelotrema* (crustose), using new chemical and scanning electron microscope techniques. His most recent work, a revision of *Xanthoparmelia* with >400 species (in press), utilizes pioneering computer techniques, including the use of data bases to analyse relationships, make identifications and automate descriptions.

Mason was a respected colleague and friend to us and to many all over the world. We will miss him.

--- L.E. Skog, Chairman
Department of Botany, NHB 166
National Museum of Natural History
Smithsonian Institution
Washington, DC 20560, USA

Address of Mrs. M.E. Hale (Beatrice):
2621 North Lexington Street
Arlington, VA 22207, USA

With the death of Dr. Mason E. Hale, Jr., the IAL loses one of its most outstanding members, who served the international lichenological community in several ways. From 1981 to 1987 he was the President of the IAL. Less known, but surely much more time-consuming was his function as printer of the International Lichenological Newsletter Vol. 1(2) - 8, 1967 - 1974, as indicated by the printer's mark: "Hale & Son, Printers, Arlington, Virginia". This was an outlet of his hobby, the collecting of old printing machines. The high quality of printing resulting from his careful handset type made our Newsletter graphically attractive, reaching a standard unattainable by modern methods.

Far more important, however, were his achievements as a lichen taxonomist. Although he began his lichenological studies in a cold environment (Baffin Island), he soon realized that the main lacunae in lichen taxonomy were in the warm countries and started an extensive collecting programme, concentrating on sites where the natural vegetation was about to be lost by human development, e.g. logging areas in tropical rainforest. His extreme efficiency made him by far the world's most prolific lichen collector, bringing together nearly 100,000 samples, all well-labelled and curated!! These collections will remain an invaluable source of information for any study of tropical lichens and will remain a testimony to the lichen flora of forests already disappeared.

Besides this already unequalled collecting work, Mason Hale was also the world's most prolific lichen taxonomist, describing many new species, often discovered by himself. In an astonishingly efficient way he tackled several huge lichen groups with a rich but nearly unknown representation in the tropics: *Parmelia* s.l., *Usnea*, *Thelotrema*aceae, *Graphidaceae*. He was undoubtedly successful in the first of these groups through his adoption of new techniques (thin layer chromatography, scanning electron microscopy), and he was able to give more accurate delimitations for hundreds of species and to recognize many undescribed ones. To make the group more comprehensible, he introduced many new genera, and, more importantly, made keys available in published and unpublished form. This was one of the first major groups on which it was possible to carry out floristic work on a world-wide level. Unfortunately his work on *Thelotrema*aceae remained much less complete: his studies of the lichens of Dominica, Panama and Sri Lanka have opened a window on the diversity of this family and provide a springboard for future researchers. Furthermore, his collections of *Usnea* and the *Graphidaceae* will provide an important basis for future work.

The world has lost its most important tropical lichenologist. It is sad to know that his last year was shadowed by the onset of cancer. We send our deepest sympathy to his widow, for whom we wish strength to overcome this great loss.

—Harrie Sipman, Mark Seaward

Lichenologists worldwide were greatly saddened to learn of Mason Hale's recent death (23 April 1990) after a bravely borne fight against renal cancer.

Mason was a great ambassador for lichenology and his worldwide travels introduced him to many lichenologists, all of whom greatly benefitted from his friendship, advice and encouragement. He was a founder member and staunch supporter of the IAL. Beginning with the second International Lichenological Newsletter, Mason agreed to print at cost subsequent numbers, vols. 1(2) to 8(2) appearing under the imprint of "Hale & Son, Printers, Arlington, Virginia". Ernie Brodo (February 1976) wrote of this "...Our printer, Mason Hale ("and Son"), has found that the presence of other responsibilities has made it impossible for him to continue to print the Newsletter. All the work of type-setting and printing, as you probably know, was done entirely by hand. This was an extremely time-consuming job, even when we had only 250 copies to print. Now that we must produce almost 400, a hand-printing job has become impossible. I think everyone will join me in thanking Mason for the tremendous effort he has put into producing the Newsletter in the past, and for the many other ways he has helped the Newsletter get off the ground..."

He contributed a timely editorial in 1976 (Vol. 9(2)) on the ethics of borrowing type specimens, and was elected IAL President at the Sydney Botanical Congress, serving the Association with distinction from 1981-1987. We salute his great contribution to lichenology and to the health and vitality of the IAL over many years.

—D.J. Galloway

Dr. Elke Mackenzie

This well-known lichen taxonomist died earlier this year. An obituary will appear in the next issue of the Newsletter.

Clarification

It appears that the wording of the review of Dougal Swinscow's autobiography (ILN 23: 15) gave rise to a misunderstanding: to put the record straight, Dougal was assistant editor to Peter James and for a short period acting editor in the latter's absence abroad.

Henry Imshaug retired

In February of this year, Dr. Henry A. Imshaug retired from his position as Professor in the Department of Botany and Plant Pathology at Michigan State University where he had been since 1956. During that time, Dr. Imshaug established and built up one of the finest lichen herbaria in North America. His own collec-

tions from the West Indies, the Great Lakes region, the Rocky Mountains, the Canary Islands, and most recently, South America and the subantarctic islands form the nucleus of the collection. His students added important material from the Black Hills (Cliff Wetmore), Long Island, New York (Irwin Brodo), the maritime east coast (Ron Taylor), British Columbia (Karl Ohlsson), as well as Michigan and southeastern U.S. (Richard Harris). All this material is beautifully curated and named according to the most up-to-date knowledge of the time.

Henry Imshaug's knowledge of lichen taxonomy - in fact, lichen biology in general - is extraordinary. His familiarity with nomenclatural matters and the lichen literature is well known, and his rigorous approach to lichen systematics was passed on to his many students. His effectiveness as a teacher was enhanced by his natural friendliness and generosity, his openness and informality, his interest in everyone's project and, of course, his thorough knowledge of lichens of all kinds (including the crusts!). His approach was to foster a critical appraisal of new information, and to emphasize the use of modern techniques and concepts. (Dr. Imshaug was a pioneer in the use of chromatography in North America, for example).

Whereas not as many of his research projects reached the publication stage as we (or he) would have liked, the publications we do have are known for their thoroughness and usefulness. His monograph of *Buellia*, for example, although available only from University Microfilms, has long served as our basis for understanding the genus in North America.

Now that Henry (as everyone calls him, students and colleagues alike) has retired, we hope that he will find the time and opportunity to finish some of his favorite projects. All his students and friends wish him a long life in good health and good times.

--- Irwin M. Brodo

Changes/Corrections of address

Frank S. DOBSON, 57 Acacia Grove, New Malden, Surrey, KT3 3BU, UK
Sharon GOWAN, Farlow Herbarium, 22 Divinity Avenue, Cambridge, Mass. 02138, USA

H. Thorsten LUMBSCH, Fachbereich 9, Universität Essen, Postfach 103 764, D-4300 Essen 1, Germany FRG

Janet MARSH, Dept. of Botany, Arizona State University, Tempe, AZ 85281-1601, USA

Nathan SAMMY, P.O. Box 4795, Darwin, Northern Territory 0801, Australia

Robert SCHWARZWALDER, 802 Haid A., Manhattan, KS 66502, USA

Gernot VOBIS, Centro Regional Univ. Bariloche, Universidad Nacional del Comahue, C.C. 1336, 8400 San Carlos de Bariloche, Argentina.

Patrick J. WEBBER, W.K. Kellogg Biological Station, 3700 E. Gull Lake Drive, Hickory Corners, MI 49060, USA

New Members

B. ABBOTT, 30 Richmond Court, Aberdeen AB2 4WE, U.K.

André BELLEMERE, Lab. de Mycologie - Lichenologie, Ecole Normale Supérieure, Parc de St.-Cloud, F-92211 Saint-Cloud Cedex, France

Wendy NELSON, National Museum of New Zealand, P.O. Box 467, Wellington, New Zealand

Back Issues of ILN

The following back issues of ILN are still available: 9(1), 9(2), 10(1), 10(2), 11(1), 11(2), 12(1), 12(2), 13(1), 13(2), 14(1), 14(2), 15(1), 15(2), 16(1), 16(2), 17(1), 20(1), 20(2), 20(3), 21(1), 21(2), 21(3). Photocopies are available of: vol. 1 (1), 1(2+supp.), 1(3), 2(1), 3(2), 6(2), 7(1-2), 8(1-2). Two indexes are also available: Index to vol. 1-8, Index to vol. 9-13.

According to a resolution of the IAL Executive Council, published in ILN 16 (1), April 1983, the following charges will be levied for back issues of ILN: Vol. 1: US\$ 0.25 per number (3 per volume); vol. 2-8: US\$ 0.50 per number (2 per volume); vol. 9-13: US\$ 1.00 per number (2 per volume); vol. 14-17: US\$ 1.50 per number (2 per volume).

Back issues from vol. 20 onward are available for US\$ 1.00 per number (3 per volume). The Indexes are free.

New members will receive free only copies of the numbers constituting the volume issued for the calendar year in which they join IAL.

Orders to be sent to H. Sipman, Bot. Garten & Bot. Museum, Königin-Luise-Strasse 6-8, D-1 Berlin 33, Germany (FRG).

LIST OF SOCIETIES

Australasia: Society of Australasian Lichenologists (SAL). Info: Dr. J. A. Elix, Dept. of Chemistry, The Australian National University, GPO Box 4, Canberra ACT 2601, Australia.

Central Europe: Bryologisch-Lichenologische Arbeitsgemeinschaft für Mitteleuropa (BLAM). Info: Dr. G. Philippi, Landessammlungen für Naturkunde, Erbprinzenstrasse 3, Postfach 3949, D-7500 Karlsruhe 1, Western Germany (FRG)

Czechoslovakia: Bryological and Lichenological Section of the Czechoslovak Botanical Society. Info: Dr. I. Novotný, Botanické odd. Moravského muzea, Preslova 1, CS-60200 Brno, Czechoslovakia.

Finland: Lichen Section, Societas Mycologica Fennica. Info: Dr. Teuvo Ahti, Department of Botany, University of Helsinki, Unioninkatu 44, SF-00170 Helsinki, Finland.

France: Association Française de Lichénologie (AFL). Info: Dr. Richard Lallement, Université de Nantes, Laboratoire de Biologie et Cytophysologie Végétales, 2 Rue de la Houssinière, F-44072 Nantes Cedex, France.

Great Britain: British Lichen Society (BLS). Info: Secretary, Dr. O.W. Purvis, Botany Department, The Natural History Museum, Cromwell Road, London SW7 5BD, UK.

Italy: Società Lichenologica Italiana (SLI). Info: Secretary, Prof. Giovanni Caniglia, Dipartimento di Biologia, Via Orto Botanico 15, I-35123 Padova, Italia.

Japan: Lichenological Society of Japan (LSJ). Info: Dr. H. Kashiwadani, National Science Museum, Division of Cryptogams, Hyakunin-cho 3-23-1, Shinjuku-ku, Tokyo, Japan.

Netherlands: Bryologische en Lichenologische Werkgroep der KNNV (BLW). Info: P. Hovekamp, Eiberoord 3, NL-2317 XL Leiden, The Netherlands.

Nordic Countries: Nordisk Lichenologisk Forening (NLF). Info: Ulrik Søchting, Institut for Sporeplanter, Ø. Farimagsgade 2 D, DK-1353 København K, Denmark.

Poland: Lichenological Section of the Polish Botanical Society (Polskie Towarzystwo Botaniczne). Secretary: Dr. W. Faltynowicz, Department of Plant Ecology, University of Gdansk, ul. Czołgistow

46, 81-378 Gdynia, Poland.

Spain: "Sociedad Española de Liqueología (SEL)". Info: A. Gómez-Bolea, Dept. de Biología Vegetal (Botánica), Fac. Biología, Univ. de Barcelona, Avda. Diagonal 645, 08071 Barcelona, Spain.

Switzerland: Schweizerische Vereinigung für Bryologie und Lichenologie (SVBL). Info: K. Ammann, Systematisch-Geobotanisches Institut der Universität Bern, Altenbergrain 21, CH-3013 Bern, Switzerland.

USA: American Bryological and Lichenological Society (ABLS). Info: Dale M.J. Mueller, Dept. of Botany, Texas A & M University, College Station, Tx 77843-3258, USA.