

international lichenological newsletter

Editor: Irwin M. Brodo

National Museums of Canada
Ottawa, Ontario K1A 0M8
Canada

Editorial

Lichenology in "out of the way places"

What urged me to write these lines was the natural curiosity of some of our colleagues concerning the actual conditions encountered by those working in lichenology far from the main research centers. The exchange of ideas, personally or by mail, with colleagues and with those who are studying other groups of cryptogams has been very useful and has enabled me to estimate the existence of situations or problems common to one another. Though it may seem somewhat surprising, we have independently often arrived at similar or fairly corresponding solutions.

People who devote themselves to cryptogamic plants are mostly workers in applied sciences, who started studying one branch of knowledge but later moved to different fields. Consequently, and as a general rule, they are self-taught. This particular situation is due to the lack of communication (there are a few and fortunate exceptions) between the experienced research worker and the novice in the same discipline. I made my first approach to botany with Dr. Diego Legrand (a very well-known specialist in Myrtaceae and Portulacaceae). Conversely, in some of our neighboring countries, cryptogamists have a large number of phanerogamists as students. Cryptogamic research thus centers and revolves around a single person and stops abruptly

when this same person leaves. In this way many years of experience have been and are being lost, specialized libraries are being dispersed and whole collections are doomed to an uncertain fate. Between a determined research worker and one who is following the same branch of study, there is established a long-term discontinuity, sometimes of many years, with the result being that scientific progress is hindered considerably.

What is the real situation as concerns herbaria and libraries? Collections made by past and contemporary travellers are largely preserved in museums elsewhere in the Northern Hemisphere. If any duplicate material was left behind, it has not been studied by specialists and its determination has not been up-dated. Some important collections made by botanists who had settled in these latitudes for a number of years, were sent to Europe and none was left in the country of origin. All these elements oblige the learner in lichenology to organize his own herbarium based on extremely scanty material or none at all.

When first organizing a herbarium, there is a natural inclination to make duplicates, so that they can be sent to the principal research centers for determination. Many of these samples become the subject of publications. Obviously, the only specimens mentioned in such publications are those seen by the specialist. This same cited material is the only material which may be requested and studied again by other authors and thus kept in a valid, up-to-date taxonomy. Meanwhile, the "original" samples in the collector's herbarium are not even considered or mentioned in any sort of publication. This situation becomes still more serious if new species are described; in this case the types will necessarily be the samples sent for identification as duplicates. This situation, which I have experienced myself, can fortunately be remedied if two samples are sent to the specialist instead of one; thus one of the reliably determined sample is returned. In this way, whoever makes the determination deals with more abundant material for his study; furthermore in case the specimen is described as a new species, these two typified collections protect us against the risk of loss and our Latin American herbaria will possess fully identified and reported material as reference for any future study.

Concerning the bibliography I must add that few classical books on lichenology can be found in museums or botanical institutions. A more serious problem concerns specialized periodicals, for these are only procured by paying a subscription fee. Almost every research worker, (and I doubt that there are any exceptions) must pay this subscription fee out of his own pocket. He is therefore limited to consulting just a couple of magazines. He must also make use of the bibliographic lists available in those journals or reference works to attain more complete information. In many instances, he then necessarily becomes a very skillful "reprint hunter", as he maintains his own specialized library by accumulating reprints.

Concluding, I want to express my personal opinion that taxonomy, in future, should be the principal field of interest for those devoted to these groups of plants in Latin America. I make this statement in accordance with the following facts: several countries do not yet have a catalogue of their lichen flora; the few that were published are based on very old bibliographic

data from the early part of the century or even earlier. Besides, there are many regions (large enough to accommodate several European countries within their borders) from which there is not a single lichen species recorded. An overwhelming number of species known for Latin America were recorded just once or twice for this territory.

Phytogeographical, ecological and biochemical studies so amply covered in the Northern Hemisphere are to be developed little by little once we have emerged from the blurred atmosphere which nowadays surrounds our knowledge of the lichen flora in Latin America.

- Héctor S. Osorio
Montevideo, Uruguay.

Views

Starting Points: The final word?

In IILN 11 (1) : 11 Mr. Salisbury repeats his assertion that the lichenomenclature used by nearly all lichenologists is contrary to the Code. As I have shown (IILN 10 (1) : 13) the Code clearly states that fungi and lichen names at any rank have different starting points. The interpretation now presented by Mr. Salisbury is, however, quite contrary to the Code as it results in a situation where one fungus could have two (or more) names, one formal connected to the lichen consortium (e.g. *Lobaria amplissima*) and another when regarded solely as a fungus (*Stictomyces amplissimus*). As this fungus is not part of a pleomorphic life-cycle (article 59), this is contrary to one of the main principles of the Code (IV).

Quite another matter is whether the Code is logical on this point. Frankly I do not find that question very interesting. Much more serious is Salisbury's statement that the present, correct interpretation of the Code is practically unworkable. Although there are difficult cases involving border-line lichens/fungi, this is certainly an exaggeration. Such examples are luckily not very frequent, but there seems to have been discovered quite a few cases in the last few years. I am trying to collect information on all such names in order to understand the difficulties better. I would appreciate information on this from other mycologists and lichenologists. Only after having attacked the problem from this angle, will it be possible to find out whether any alteration of the Code would be desirable or necessary.

- P.M. Jørgensen

News and Notes

AWASTHI, D.D. (India) is carrying out monographic studies on Indian lichen genera. There are already five students working for their Ph.D. degree in lichenology under his guidance.

BOISSIÈRE, J.C. (France) prépare la sienne sur la biochimie et l'ultra-structure des parois (hyphes et asques).

BOISSIÈRE, M.C. (France) vient de passer sa thèse (doctorat d'Etat) sur l'ultrastructure du *Peltigera canina*.

CASE, James (Canada) received his Ph.D. degree in September from the University of Calgary with his thesis entitled, "Lichens as Biological Monitors of Air Pollution in Alberta". He analyzed the SO₂ pollution around gas wells using modified I.A.P. indices and computer mapping techniques.

DÉRUELLE, Serge (France) étudie l'écologie et la phytosociologie des lichens du Bassin Parisien. Cette année, il s'est surtout consacré aux problèmes de l'influence de la pollution acide. D'autre part, avec R. Lallemand et C. Roux, il a montré que le changement de la végétation lichénique sur une cathédrale était dû à l'intensification de l'utilisation des engrais azotés et au mode d'épandage (pulvérisation).

FAHSELT, Dianne (Canada) is studying the chemotaxonomy of lichens with an examination of protein chemistry rather than the chemistry of secondary metabolic products. She writes, "This summer I was able to break down cells with both the Stansted Cell Disrupter and the Mickel homogenizer. I would like to be able eventually to separate proteins by electro-focusing and elucidate total protein and/or isozyme banding patterns to be applied to systematic problems. At present I am using an LKB Multiphor apparatus which has not yielded any respectable results to date, although we know the extract is good."

GILBERT, Oliver L. (England) is interested in the conservation of terricolous lichen communities in lowland Britain. Good examples of such communities are becoming rare; most appear to be of relict status. Last summer (1978) a study was made of the lichens on St. Kilda, home of half a million seabirds and Scotland's remotest island. A Lichen Flora of the county of Northumberland - the first since 1832 - is being prepared for publication.

HANSEN, Eric Steen (Denmark) is continuing studies on Greenland lichens. Having just finished an investigation of the occurrence and distribution of lichens in South West- and East Greenland, he is now working on a revision of lichen collections from the central and northern parts of the east and west coast of Greenland. Dr. Hansen is also gathering data on Greenland lichens for the Catalogue of the Lichens of Canada, Alaska, and Greenland. The Catalogue is a computer-generated list edited by I.M. Brodo at the National Museums of Canada (see I.L.N. 11[1]:4).

HARRIES, Hinrich (Canada) is engaged in a study of the epiphytic lichen flora and vegetation of the Nova Scotia - New Brunswick border area. He already has working keys to the macrolichens and has begun work on the crustose species.

HUNECK, Siegfried (DDR) returned from an expedition (13 June-29 July 1978) to Mongolia. He visited the Bogd-Ul Mountains (near Ulan Bator), the Zezerleg Mountains, the Changai Mountains, the Gobi Altai, and the northern part of the Gobi Desert, and collected about 200 lichens for a chemical investigation.

JANEX, Marie-Claude (France) s'intéresse à l'ontogénèse des ascocarpes et des pycnides mais, en ce moment, elle étudie avec Mme Parguey l'ultra-structure des Truffes. Cependant, elle n'abandonne pas totalement l'étude des lichens.

KALB, Klaus (B.R.D.) will be in Brazil for at least two years (Jd. Luzitania; Rua Dom Henrique 108; 04032 Sao Paulo, Brazil). Among other things, he will be travelling through that country, literally following in the footsteps of Vainio, and hopes to make a significant contribution to tropical lichenology. He has begun to assemble an exsiccata of Brazilian lichens.

KILIAS, Harald (B.R.D.) is continuing his work on saxicolous *Catillariae* of arctic and alpine regions, and would like to receive material for study.

LALLEMANT, Richard (France) étudie la plasticité morphogénétique des mycosymbiotes des Lichens en cultures pures, la différenciation des diverses structures qu'ils peuvent produire, et l'homologie éventuelle des ces structures avec les organes des Champignons ou des Lichens. En collaboration avec le laboratoire des Monuments Historiques et le groupe "Biologie de la conservation de la pierre" de l'I.C.O.M. et l'I.C.O.M.O.S. (U.N.E.S.C.O.), il étudie les problèmes liés à la présence de la végétation épilithique sur les monuments, ainsi que les modifications de la flore bactérienne éventuellement provoquées par la présence des Lichens, et les modifications de la flore épilithique consécutives aux changements de l'environnement (engrais...). En collaboration avec Dominique Savoye, il étudie la colonisation de certains matériaux de construction par les Lichens, en relation avec l'écologie bactérienne, le chimisme, et la texture, ainsi que les possibilités d'influer sur cette colonisation.

LETROUT, Marie-Agnes (France), en collaboration avec A. Bellemère, continue d'étudier l'ultrastructure des asques des Lecanorales et de s'intéresser aux problèmes des relations entre Ascomycètes lichénisants et non lichénisants.

LIŠKA, Jiří (Czechoslovakia) is investigating the relationships between epiphytic lichens and air pollution in an area in South Bohemia and is recording changes in the lichen flora over the course of four years. He would appreciate receiving reprints on this and related topics.

MALACHOWSKI, Jim (U.S.A.) is studying the *Usneae* of the Great Lakes Drainage Basin under the direction of Henry Imshaug. He is especially interested in the correlation between chemistry and anatomy of certain variable populations of *U. cavernosa* and *U. trichodea* s. lat.

MALTER, Jeffrey (U.S.A.) has begun studies on the biology of littoral lichens on the east coast of the United States. His approach will probably be eco-physiological. The work is being done at Clark University under the direction of Vernon Ahmadjian.

McCULLOUGH, Herbert A. (U.S.A.) has been interested in the macrolichen flora of the state of Alabama for a number of years. Although he will be devoting most of his time over the next few years to preparing textbooks in General Botany, he is still interested in knowing about any collections of macrolichens from Alabama which other I.A.L. members may have.

PEVELING, Elisabeth (B.R.D.) and her research group is continuing studies of the plasmalemma surface of phycobionts and mycobionts using the freeze etching method. Having established that particle number and particle size of the plasmalemma membranes depend on the water content of the lichen (publication in preparation), they will begin experiments to study the influence of physiological conditions. The aim of the experiments is to learn about the transport processes within a thallus. For comparison, they will look for the equivalent structures in the isolated symbionts.

REDON, F. Jorge (Chile) is engaged in three main projects: 1) a botanical transect of South Patagonia between the Atlantic and Pacific oceans at 52° south latitude (this should be completed in 1979); 2) the terrestrial plants of the Antarctic, with taxonomic and ecological studies on the lichens of the South Shetland Islands; 3) general studies of the lichens of Chile involving taxonomic and ecological work in all regions of the country, chemical studies, and a phytosociological analysis of the lichens of "La Campana" National Park, Valparaiso province.

ROUX, Claude (France) termine la rédaction de sa thèse sur les associations lichéniques calcicoles du SE de la France. Une partie sera consacrée à l'écologie comparée de quelques unes de ces associations et notamment à l'influence des différents types d'humidité.

RYAN, Bruce (U.S.A.) is doing a study of the littoral lichens along the coast of Washington. It should be noted that his address is incorrect on the I.A.L. mailing list. It should be: Biology Department, W. Washington State College, Bellingham, Wash. 98225.

SAVOYE, Dominique (France) étudie la régulation de la biosynthèse du ribitol chez les *Trebouxia* en culture uniclonale. Voulant plus particulièrement développer les aspects génétiques de la symbiose, il essaiera dans l'année qui va suivre de mettre au point les techniques adaptées à l'étude génétique des phyco-symbiotes.

SINGH, Shri Ram (India), a Teaching Fellow of the University Grants Commission New Delhi, is working on Indian Buelliaceae under the supervision of Dr. D.D. Awasthi at Botany Department, Lucknow University. His work on the

Indian *Buellia* is expected to be completed by the end of this year.

STEGELICH, W. (B.R.D.) as part of a research group including Dr. HUNECK (Halle) and Dr. HOFLE (Technische Universität Berlin) has been engaged in the structural elucidation of chiodectonic acid and related pigments from *Herpothallon sanguineum*. They hope to publish their results in the near future.

THOMSON, John W. (U.S.A.) reports that his manuscript on the lichens of the North Slope of Alaska is in press (Univ. of Toronto Press). Dr. Thomson is continuing his work on the macrolichens of the American arctic. Last August, he did some field work in the area west of Norman Wells, in Canada's Northwest Territories, together with C.D. Bird.

WETMORE, Clifford (U.S.A.) spent 6 weeks in northern Minnesota in Voyageurs National Park collecting lichens for a lichen flora of the park, and 5 weeks teaching the lichen class at Itasca. His student Sue MEYER, is finishing her revision of *Parmeliopsis* of N. Amer. and another student, Tom TRANA is completing his revision of *Mycoblastus*. Both expect to finish this year. Two new students, Lois BRAKO and Lesley HERBST are beginning graduate work at the University of Minnesota this Fall but have not yet selected research topics.

WYLIE, Eileen (Canada) completed her doctoral thesis on the *Ramalinae* of the prairie provinces. She was a student of Charles D. Bird at the University of Calgary, Alberta.

XAVIER Filho, Lauro (Brazil) finished his doctoral thesis at Universidad Complutense de Madrid-Spain in September 1978 under the direction of Prof. Dr. Carlos Vicente Cordoba. It is entitled "Regulacion de ureasa en *Parmelia roystonea* Vicente & Xavier Filho y *Cladonia verticillaris* (Raddi) Fr." Using two tropical lichens from Brazil he considered the relationship between urea-urease in the metabolic process of lichen symbioses. The results will be published in Lichenological monographs. Please address all correspondence to Departamento de Biologia Especial, Centro de Ciencias Biologicas, Universidade Federal de Pernambuco, Recife, 50.000-PermamBUco, Brazil.

YOSHIMURA, Isao (Japan) has moved from the Hattori Botanical Laboratory to Kochi Gakuen College; 292 Asahi-Tenjincho, Kochi; 780, Japan. He is doing monographic work on the genus *Anzia* with an emphasis on chemotaxonomy and fine structure (with SEM), and is revising the tropical species of *Lobaria*. He has also recently completed a manuscript with Dr. S. HUNECK on "The Identification of Lichen Substances".

Awards & Honors

AWASTHI, D.D. (India) was elected F.A. Sc. (Fellow of the Indian Academy of Sciences) in January 1978.

Deaths

JAAG, Otto, the well-known Swiss phycologist who published a number of important papers on lichen phycobionts, died at the age of 78 years in Zürich. In recent years, he devoted much of his energy to the study and discussion of water quality and environmental pollution in general.

Journals

The Lichenologist

For the next two numbers of the series, Literature on Air Pollution and Lichens, which appears in the *Lichenologist*, Dr. D.L. Hawksworth will be assisted by Mr. A. Henderson who will then be assuming responsibility for the series. It would be appreciated if, in future, authors of publications which should receive mention and cover in the series would forward reprints to Mr. A. Henderson, Baines Wing, Department of Plant Sciences, University of Leeds, Leeds 2, West Yorkshire, England.

Herbaria

The Herbarium of Henry des Abbayes

" ... concernant l'herbier Henry des Abbayes (:). Cet herbier aussi que la bibliothèque m'ont été personnellement légués par le Professeur des Abbayes avant son décès. Les collections et les ouvrages se trouvent donc à Rennes dans le laboratoire où j'effectue mon enseignement et ma recherche. Cet ensemble est à la disposition de tout chercheur qui en fera la demande. ..."

- Louis Massé

The University of Minnesota, St. Paul

Clifford Wetmore, director of the lichen herbarium at the University of Minnesota (MIN), reports that he has completed computerizing the label data from all specimens in the herbarium, including those of the American Bryological and Lichenological Society herbarium (ABSL). There are separate data bases covering Minnesota, the rest of North America and Canada, the rest of the world, and the lichen exsiccatae. Dr. Wetmore would be willing to retrieve data in answer to specific requests for no charge, at least at the present time. He is preparing a paper describing the computer system at MIN.

Exsiccatae

A new exsiccata of Scandinavian lichens will be issued at the end of this year by Per-Jan Thøgersen (Solbergliv. 89c, Oslo 6, Norway). It is called, "*Lichenes Norvegiae Mediterraneae Exsiccati*" and will be mainly from the middle, inland part of Norway. It is intended, in part, as a documentation of the lichens within the vegetation type *Cladonio pinetum* and will include detailed notes on the chemistry of the specimens.

Excursions

I.A.L. Field Symposium on Tropical Lichenology - Costa Rica, 26 Dec. 1978 - 6 Jan. 1979.

All indications are that the second field meeting of the I.A.L., this one to Costa Rica, will be a great success. The meeting's organizer, Martyn Dibben, reports that the response to the initial announcement was excellent. There are 36 lichenologists (from 16 countries) who will probably attend, out of 56 who showed some initial interest. In fact, the roster is now full and applications can be considered to be closed. The registrants who have already contacted Dr. Dibben are urged to send their deposit of \$150 (U.S.) as soon as possible if they haven't already done so, to enable reservations to be made.

The ten-day meeting will include evening lectures and discussions, and day-time excursions to mountain and forest areas. A full report of the field symposium will appear in the April issue of the I.L.N.

L'Association française de Lichénologie

Il y aura une excursion, dans le cadre d'une séance d'initiation à la lichénologie, au Fontainebleau, le 19 novembre 1978. Cette excursion est avec Monsieur Boissière et l'Association des Naturalistes du Val de Loing et du Massif de Fontainebleau. Départ : Paris-Lyon pour Fontainebleau (8H.23); arrivée: Fontainebleau (9H.06); pique-nique en forêt; retour de Fontainebleau (17H.43). Inscription sur les lieux de rendez-vous auprès de Mademoiselle TURGIS pour les personnes n'appartenant pas aux Sociétés organisatrices. Pour plus d'information, écrivez à : Mademoiselle Turgis; 12, rue E. Laval; 92170 VANVES, France. Tél. 644.30.51.

Meetings

Microbial Ecology

On the 7th - 12th September, 1980, the Second International Symposium on Microbial Ecology, will be held at University of Warwick, Coventry, U.K. The First Circular containing details will be available in August, 1978.

For more information on this symposium, contact: Dr. Madilyn Fletcher, Department of Environmental Sciences, University of Warwick, Coventry CV4 7AL, U.K.

Third International Mycological Congress

The Executive Committee of the International Mycological Association has accepted the invitation of the Mycological Society of Japan to hold the Third International Mycological Congress (IMC3) in Japan in 1983. The Congress will be based at either Kyoto or Tokyo, most probably in late August. Further information will be circulated by the Organizing Committee of the Congress when detailed arrangements have been finalized.

- David L. Hawksworth

Books

Vegetative Strukturen der Parmeliaceae und ihre Entwicklung. H.A. Beltman. J. Cramer, Vaduz, Germany. 1978. 193 pp., 51 pl. (Bibliotheca Lichenologica 11). DM 52.--.

This detailed study of the developmental anatomy of the Parmeliaceae is a very timely one coming at the height of interest in the structural features of *Parmelia* s. lat., *Cetraria*, *Alectoria*, and related genera. Beltman's new book, based on observations made with both microtome sections of tissue and scanning Electron Microscope (S.E.M.), will undoubtedly serve as the basis for much future discussion on the use of ontogenetic studies of vegetative structures in systematic investigations.

- I.M. Brodo

Un livre jubilaire pour Prof. M. Chadefaud

A l'occasion du Jubilé scientifique du Professeur Marius CHADEFAUD une série d'articles de Mycologie, Lichénologie et Algologie ont été rassemblés dans un volume d'environ 700 pages. Ce volume jubilaire peut être commandé à Mme Janex, Laboratoire de Cryptogamie 9 quai Saint-Bernard 75005 PARIS. Prix du volume 200 FF. Paiement de préférence par mandat postal international.

- Marie-Agnes Letrouit

The *International Lichenological Newsletter* is the official organ of the International Association for Lichenology. Membership is open to anyone who has an active interest in lichenology. Dues are \$5-\$10 per 6 years and should be sent to the Association's treasurer (see Vol. 9 no. 1, p. 16). News items intended for the *Newsletter* may be forwarded to the editor.

The affairs of the International Association for Lichenology are directed by an Executive Council consisting of Teuvo Ahti, president, Rolf Santesson, vice-president, Thomas Nash III, secretary, Hannes Hertel, treasurer, Irwin Brodo, editor, as well as Hans Trass and Oleg Blum. They will serve until the next International Botanical Congress.



Erik ACHARIUS

10 Oct. 1757 (Gavle, Sweden) - 14 Aug. 1819 (Vadstena, Sweden)

(Editor's note: The above drawing of Acharius is reproduced from a pencil sketch signed, "Del. S. Garside, 1926". The sketch was glued into a copy of *Lichenographia Universalis* in the National Museums of Canada library with a note that it is "from the Copperplate in Syn. Lich.")

This issue of the I.L.N. commemorates the 175th anniversary of the publication of Erik Acharius' "Methodus Lichenum" (1803), a book which Annie Lorraine Smith said "begins a new era in the history of lichenology. Previous writers had indeed included lichens in their survey of plants, but always as a somewhat side issue. Acharius made them a subject of special study, and by his scientific system of classification raised them to the rank of other great classes of plants." The "Methodus" was the first comprehensive publication treating lichens in clearly defined genera (rather than in the all-inclusive genus *Lichen*).