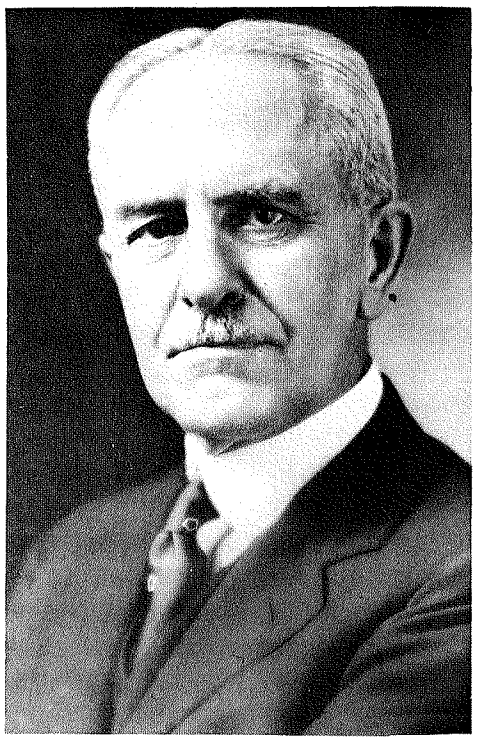

Bruce Fink (1861-1927), a pioneering American lichenologist whose ambitious "Lichen Flora of the United States," in spite of its many imperfections, remains a standard reference work.

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Editorial

Publication: the need for responsibility

Few scientists making any sort of attempt to "keep up with the literature" will deny that we are facing an information explosion. The crisis is not that there is too much information but that it is often difficult to find due to the proliferation of journals, difficult to read due to poor editing, and difficult to retrieve due to vague or inappropriate titles and often haphazard organization of the information. The Council on Biological Sciences Information (COBSI), under the auspices of the U.S. National Research Council, was formed to study the problems in biological information handling, and, in February, 1970, produced a summary report of their findings and recommendations. All the information problems I mentioned above were discussed, as well as many more. There is now a new group, formed by the American Institute of Biological Sciences (A.I.B.S.), which is looking into the problems of secondary information handling, i.e., abstracting, indexing, and retrieval services. I attended their first meeting in Philadelphia on 20 May 1971, representing the American Bryological and Lichenological Society.

In preparing my presentation for this meeting, it occurred

to me how little thought has gone into problems of the information crisis by lichenologists. No concerted effort has even been made to discuss the problems and pitfalls of going merrily along pouring ever increasing numbers of words into the journal mill, and hoping that somehow the information will reach and be understood by those for whom they were intended. It is my purpose to enter into such a discussion now.

At the Seattle Congress, the overwhelming majority agreed that no new lichenology journal was needed at the present time and that every effort should be made to prevent the *International Lichenological Newsletter* from becoming one. I think the major reason for this decision was the general realization that an unnecessary proliferation of journals benefits no one. A new periodical is particularly beneficial when the lack of a publication outlet necessitates the submission of articles to numerous very local or obscure journals with small circulations.

And what of our papers themselves? I wonder how much real information we could lose by making every effort to cut the *volume* of individual articles by a third. Some authors would not be able to do it, particularly those dealing with physiology or even systematics. I fear it is the ecologists who need the most encouragement along these lines (and I say that as an ecologist myself).

Adding to the volume problem is the multiple publication of the same or close to the same information in several journals. Recently, I've seen how innocently an author may find himself doing this. You publish a set of findings. Then, you are asked to participate in a symposium covering that subject. (The proceedings, including your symposium paper, are published, of course.) Then a journal thinks it would be a good idea for their readers to have a "digested" version and asks you to write a "popular" summary. By then you are the world's authority and of course are asked to participate in the writing of a chapter in a new text—on the same subject. Where does the rationalization of "reaching new readers" break down and

redundancy begin? The author will have to decide and be scrupulously objective in doing so.

Lichenologists are often guilty of creating a particularly thorny retrieval problem: publishing under one vague title collections of assorted notes often covering unrelated taxa or unrelated geographic areas. Some examples might be: "Notes from the.....Mountains," having discussions of ten unrelated taxa including several new combinations and a short key to the identification of a critical group; or, "Notes on lichens" including the discussions of the chemistry and distribution of five unrelated taxa; or "Further studies on the genus....." with four or five species from all parts of the world treated in depth.

Related to the title problems, are the difficulties created by unwieldy open-ended series, e.g., "Studies on lichen morphology 1;" "....2;" "....3;" etc., sometimes with helpful but often uncited subtitles (which ought to have been the only title). I am not talking about finite series, such as "The Lichens of ——— 1. Ecology;" "....2. Flora;" "....3. Phytogeography and Discussion." The on-going series is the difficult one to handle because of the numbers of papers involved, the period of time over which it appears, and the tendency, in too many cases, for numbers of the series to appear in different journals and with different senior authors. Each of these papers might have extremely important information, but who will ever be able to find it after the papers have been filed away. Unless each reader has extremely efficient records and a complicated cross-index system, or an incredible memory, most if not all the information will be lost in reprint boxes forever. Bibliographic nightmares can be avoided if authors organize their data in such a way as to present them in definitive (albeit small) papers with titles which describe the subject, making articles easy to catalogue in personal files as well as index in the abstracting services. Editors should insist that authors do this.

Some of the specific recommendations of COBSI (1970) of

particular pertinence to lichenologists are listed below:

Informal Transfer of Information

1. Informal exchange groups should be regarded as useful mechanisms for the transfer of information, provided they employ mechanisms to ensure that the information exchanged is truly informal and cannot be confused with formal publications.

2. Newsletters should be regarded as useful, but also as ephemeral, unrefereed publications, and treated as such.

Primary Publications

3. Standards of quality in primary publications should be raised and rigorously enforced. This requires the immediate institution of programs of education and training for biologists —authors, editors, and referees.

4. All graduate school training for biologists should include formal instruction in scientific communication, particularly in the writing of scientific articles, oral presentation of scientific work, and methods of searching the literature by traditional and modern techniques. The communications instructor himself should be a scientist.

Secondary Information Services

5. Biologists should be better informed about available services and participate intelligently as new services are designed.

6. Editors and reviewers should examine an author's abstract and title even more critically than other parts of the submitted articles, because of their central importance in information retrieval.

7. Authors should become aware of the immense importance of abstracts and titles in information retrieval, and consciously design them for searchers of the literature as well as for readers of the journal.

8. Supplementary key words or indexing terms should be provided by the authors of articles and critically examined by reviewers and editors. Some journals already publish titles amplified by the addition of these key words. It is especially important to index new methods or new applications of old methods.

—Irwin M. Brodo

Literature Cited

Council on Biological Sciences Information. 1970. Information Handling in the life sciences. National Research Council, Washington, D.C. [Litho.]

News

Ahlner, S. (Sweden)—Retired from the staff of the Botanical Section, Naturhistoriska Riksmuseet, Stockholm, last June and will move to Uppsala. No successor to the lichen collections has yet been named.

Ahmadjian, V. (U.S.A.)—Appointed Dean of the Graduate School at Clark University. This is a part-time position that will allow time for teaching and research.

Culberson, C. F. & W. L. (U.S.A.)—Spent two weeks in June collecting lichens in Morocco with particular emphasis on the *Ramalina siliquosa* group.

Filson, R. (Australia)—Spent four months in Europe, America, and Japan under a Churchill Fellowship, working with lichen colleagues at a number of institutions and collecting lichen specimens.

Finegan, E. (Canada)—Working with Dr. D. H. S. Richardson at Laurentian University, Sudbury (Ontario) on aspects of lichen productivity on Devon Island in the Canadian high arctic. This study is part of the Devon Island productivity and manipulation project being carried out under the auspices of the International Biological Program and is coordinated by Dr. L. C. Bliss of the University of Alberta.

Hale, M. E. (U.S.A.)—Will return to Dominica, West Indies, in December to continue studies of the Thelotremataceae.

Henssen, A. (Germany)—Collected cyanophilic desert lichens with M. Galun in Israel in April 1971.

Krog, H. (Norway)—Have accepted a position as Curator of Lichens at the Botanical Museum, Trondheimsv. 23B, Oslo 5, beginning in 1 September. Will maintain contact with the Norwegian Institute for Air Research on a consultant basis. In July visited the Landesanstalt für Immissions- und Bodennutzungschutz des Landes NRW in Essen, Germany.

Nash, T. (U.S.A.)—In the fall of 1971 I will be teaching in the Dept. of Botany and Microbiology, Arizona State University, Tempe, Arizona 85281. I intend to set up a lichen herbarium and would appreciate any information on the lichens of the Southwest—literature, collection information, and specimens.

Otto, G. F. (Canada)—The *Checklist of Lichens of British Columbia*, published in 1967 and out of print for awhile, is now available in limited quantity. The checklist will be issued free to anyone who is interested on a first come first served basis.

Pyatt, F. B. (England)—I have accepted a new post at the Department of Environmental Sciences, Plymouth Polytechnic, Plymouth PL4 8AA, Devon, U.K.

Redon, J. (Germany)—Working on the Stictaceae, mostly species from Chile. Also interested in samples of *Sticta* and *Pseudocyphellaria* throughout the world. I am curator of lichens at the University of Chile, Valparaiso. Since January, 1971, I have been working with Prof. Follmann.

Richardson, D. H. S. and **K. J. Puckett** (Canada)—Examining the effects of atmospheric pollution on the physiology of lichens, especially photosynthesis. The species studied include the terricolous lichens, *Cladonia deformis* and *C. alpestris*; and saxicolous lichens, *Stereocaulon saxatile* and *Umbilicaria muhlenbergii*. Any information as to the tolerance or sensitivity of these plants to sulphur dioxide and/or heavy metals outside the Sudbury area would be most welcome.

Rogers, R. W. (Australia)—Taken up appointment as lecturer in the Botany Dept., University of Queensland, St. Lucia, Qld. Australia. Presently working on a preliminary lichen flora for the state of South Australia. The following is a report on the discovery of an Antarctic lichen collection.

When the collections made by Prof. Sir Douglas Mawson were being transferred from the Geology Dept. to the Mawson Institute for Antarctic Research, University of Adelaide, several large boxes of lichens were found. These boxes were transferred to the Botany Dept. and inspected there. The collections proved to be the duplicate set of Antarctic material returned to Mawson by C. W. Dodge and believed lost by Australian botanists. The material involved is that reported on by Dodge (1948): "Lichens and Lichen Parasites," BANZARE Reports, Ser. B, Vol. 7 (BANZAR Expedition Committee, Univ. of Adelaide, South Australia). This extensive collection is now housed in the State Herbarium of South Australia (AD) and is available for loan.

Rudolph, E. D. (U.S.A.)—Continuing my studies of Antarctic lichen vegetation. Additional news from Ohio State University: E. A. Schofield plans to receive his Ph.D. degree in September, 1971. His research concerns the environmental relationships to lichen distribution in Southern Victoria Land, Antartica. J. S. Huey has just begun an investigation of lichen succession on abandoned coal strip-mine areas.

Sammy, N. (Australia)—Interested in the morphological varieties of *Cladia aggregata*. Plan to do lichen acid analysis on this species and relate distribution to soil type. Would welcome specimens of *C. aggregata* from other southern countries. Address: Aquinas College, Mt. Henry, Manning, W. Australia 6152.

Shibata, S. (Japan)—Attended the I.U.P.A.C. Chemical Plant Taxonomy Commission meetings in Washington, D.C., in July. Visited colleagues in Cambridge, Mass., Durham, N.C., and Washington.

Swinscow, T. D. V. (England)—At the beginning of November I will spend three weeks in Nigeria and Ghana on medical affairs, then to Uganda, Kenya, and Tanzania for three months of lichen collecting.

Dissertations

Jerome B. Jacobs. *A comparative fine structural study of the lichen symbiosis.* Clark University, 1971. Ph. D. degree.

Mme M. C. Janex-Favre. *Recherches sur l'ontogénie, l'organisation et les asques de quelques Pyrénolichens.* Rev. Bryol. et Lichénol. **37:**421-650. 1970.

William A. Hutchinson. *Stereocaulon: Ecology and physiology of some boreal species and their isolated components.* University of Massachusetts, 1969. Ph. D. degree.

Thomas H. Nash. *Effects of effluents from a zinc factory on lichens.* Rutgers University, 1971. Ph. D. degree.

R. W. Rogers. *Ecology of soil-surface lichens in arid southeastern Australia.* University of Adelaide, 1971. Ph. D. degree.

Alexander Schmidt. *Anatomisch-taxonomische Untersuchungen an europäischen Arten der Flechtenfamilie Caliciaceae.* Mitt. Staatsinst. Allg. Bot. Hamburg **13:**111-166. 1970.

Ray E. Showman. *Effects of sulfur dioxide on net photosynthesis and chlorophyll content in lichen thalli and cultured lichen symbionts.* Ohio State University, 1971. M.Sc. degree.

Isao Yoshimura. *The genus Lobaria of eastern Asia.* Journ. Hattori Bot. Lab. **34:**231-364. 1971.

Meetings

A joint meeting of the American Institute of Biological Sciences and the Canadian Botanical Association was held 20-24 June at the University of Alberta, Edmonton, Canada. There were many lichen participants, including C. Bird, P. Bowler, W. L. Culberson, M. Dibben, M. E. Hale, G. Howard, J. Jesberger, W. Jordan, R. M. Kalgutkar, D. Keck, F. LeBlanc, S. Nakanishi, M. Ostafichuk, G. Otto, E. D. Rudolph, N. Schroeder, G. Scotter, J. Sheard, S. Shushan, J. W. Thomson, S. Tucker, and C. M. Wetmore. Most attended a pre-meeting foray in the Canadian Rockies. E. D. Rudolph was elected vice-president of the American Bryological and Lichenological Society.

Book Reviews

Les Lichens. Edouard Frey. No. 62 in the Les petits Atlas series, Payot Lausanne. 64 pp. 1970. SF5.80. Hallwag SA, Berne. This attractive guide (also available in a German language edition) contains a brief introduction on lichen morphology. The main section has keys and descriptions for the common species in the Alps, both crustose and macrolichen groups. Many are illustrated in superb full-color plates.—M. Hale

Lichens of New Zealand. William Martin and John Child. 200 pp., 150 illus. $6-$7.00, publication end of 1971. A. H. and A. W. Reed, 182 Wakefield St., Wellington, N. Z. The purpose of this book is to stimulate interest in what is in New Zealand a neglected branch of botanical study. No book suitable for students has previously been published in New Zealand or Australia. The book is semipopular in style and confined to macrolichens and such of the crustose lichens as are common and conspicuous. The photographs, many in color, are of high quality, better than most I have seen from overseas. These are confined to species that can be determined without recourse to a microscope. Artificial keys are provided for most genera. As many of the species discussed or illustrated are widely distributed beyond New Zealand, the book may well have a broad appeal.—W. Martin

Origin of Eucaryotic Cells. Lynn Margulis. 349 pp., Illus. Yale Univ. Press, New Haven and London. 1970. $15.00. An excellent account of the symbiotic theory of cellular evolution. Those interested in broad aspects of symbiosis will find this book to be fascinating. The integrated treatment of different symbiotic systems provides a good comparative view of the differences and similarities of this type of association.—V. Ahmadjian

Atlas of Japanese Cladoniae. Y. Asahina. 27 pp., 146 figures. 1971. Research Institute for Natural Resources, 4-400 Hyakuninchō, Shinjuku, Tokyo, Japan. A picture atlas of very clear

photographs of *Cladonia* species found in Japan. There are 27 plates in black and white and two in color.

Recent Deaths

Prof. J. Rydzak (Poland), 5 February 1971. Prof. Rydzak was one of the most active workers in lichen growth and effects of pollution.

Cover: *Cladonia balfourii* drawn by N. Sammy

Hale & Son, Printers Arlington, Virginia