

THE CANADIAN BOTANICAL ASSOCIATION

BULLETIN

L'ASSOCIATION BOTANIQUE DU CANADA



October 1972

Volume 5 Number 4

Waterloo

CBA-ABC NEWS

Officers of the Association for 1972-73

President: Taylor A. Steeves
Vice-President: Paul B. Cavers
Secretary: Mary E. Elliott
Treasurer: Gerald A. Mulligan

Directors to retire in 1973

J. A. Fortin
 W. N. Stewart
 L. K. Weresub

Directors to retire in 1974

Chris Marchant
 R. F. Scagel
 J. H. Soper

THE 1973 ANNUAL MEETING

This will be held at the University of Western Ontario, London, June 3-7. The programme will include a symposium concerning "MAN'S IMPACT ON THE CANADIAN FLORA."

Other highlights of the programme will be field trips to places of botanical interest in Southwestern Ontario. For further information please contact any member of the local arrangements committee as listed below:

P. B. Cavers—Chairman, Local Arrangements Committee
 C. J. Hickman—Financial Secretary
 D. Fahselt—Accommodation
 F. S. Cook—Field trips
 R. C. Jancey—Reception and banquet
 A. Maun—Publicity
 A. W. Day—Exhibits
 D. G. Wilson—Programme chairman representing the CBA Executive Committee

Statement of financial standing - 5 June 1972

Assets

Balance:	Savings acct.	2516.66
	Chequing acct.	1641.72
		<u>4158.38</u>

Receipts

Memberships		
Regular	3509.68	
Student	344.00	
Arrears	36.65	
Advances	71.00	
	<u>3961.33</u>	3961.33

Refund-Edmonton meeting	500.00
CJB subscriptions	1449.00
Royalties (ECF)	25.16
Bank interest	66.52
Bank credit	.06
	<u>6002.07</u>

Total income

Liabilities

Expenditures	
Bulletin-Printing	588.96
Postage	311.57
NRC grant for Edmonton meetings	3081.30
Subscriptions CJB	1489.50
Exec. travel	1177.55
Royalties to NRC	12.90
Telephone	57.00
BCC	1049.72
Scitec	55.00
Stationery	52.92
Edmonton meeting fund	800.00
Halifax meeting fund	500.00
Lawson medal	27.98

Bank charges	12.60
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Total expenditures	<u>9217.00</u>
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Summary

Balance last audit (2 June 1971)	7373.31
Receipts (3 June 1971-5 June 1972)	<u>6002.07</u>
	13375.38

Balance (June 5, 1972)	4158.38
Expenditures (3 June 1971-5 June 1972)	<u>9217.00</u>
	13375.38

NEWS FROM THE SECTIONS

Officers of the Sections for 1972-73

	Chairman	Secretary
General	Dr. R. L. Peterson Department of Botany and Genetics University of Guelph GUELPH, Ontario	
Ecology	Dr. H. van Groenewoud Dept. of the Environment Box 4000 FREDERICTON, N.B.	Dr. J. F. Alex Dept. of Environmental Biology University of Guelph GUELPH, Ontario
Mycology	Dr. Lorene Kennedy Dept. of Biology University of Alberta EDMONTON, Alberta	
Paleobotany	Dr. Margaret Steeves Department of Geology University of Saskatoon SASKATOON, Sask.	Dr. H. R. N. Eyd Dept. of Biology University of Waterloo WATERLOO, Ontario
Systematics and Phytogeography	Dr. J. K. Morton Dept. of Biology University of Waterloo WATERLOO, Ontario	Dr. M. J. Harvey Dept. of Biology Dalhousie University HALIFAX, N.S.
Phycology	Dr. Jack McLachlan Atlantic Regional Lab. National Research Council 1411 Oxford Street HALIFAX, N.S.	Dr. A. R. O. Chapman Dept. of Biology Dalhousie University HALIFAX, N.S.

THE GENERAL SECTION

A meeting of the General Section was held on Monday June 19 at Dalhousie University with 9 members present. The meeting was chaired by Dr. Larry Peterson, Secretary in the absence of Dr. R. Greyson, Chairman. Business of this past year involved participation in the organization of the contributed papers for the Dalhousie meetings and the election of two members to the executive council. These members are Dr. G. B. Ouellette, Laboratoire de Recherches Forestieres, Ste. Foy, Quebec and Dr. L. Peterson, University of Guelph. Business of the Annual General Meeting consisted of discussion of ways to increase the participation of General Section members in the presentation of papers, themes for contributed paper sessions for future meetings, more use of the CBA/ABC Bulletin for the distribution of news to members of the section, a direct participation by the sections in the planning of programs for future meetings and a comparison of the current membership in the General Section with that of 1970.

An executive meeting was not held since only one of the executive members was present.

THE ECOLOGY SECTION

The 1972 annual meeting of the Ecology Section of CBA-ABC was called to order at 4:25 p.m. June 19, 1972 by Chairman Dr. R. G. McMinn in Room 2982, Life Sciences Building at Dalhousie University. There were 14 members in attendance.

1. There being no objections the agenda as circulated by mail was adopted.

2. **Motion** (D. W. Smith/A.G. Thomas) that the minutes of the 1971 Annual Business Meeting be adopted as circulated by mail. Carried.

3. Business arising from 1971 minutes:

The 1972 annual meeting of the Ecology Section of CBA-ABC was called to order at 4:25 p.m. June 19, 1972 by Chairman Dr. R. G. McMinn in Room 2982, Life Sciences Building at Dalhousie University. There were 14 members in attendance.

1. There being no objections the agenda as circulated by mail was adopted.

2. **Motion** (D. W. Smith/A. G. Thomas) that the minutes of the 1971 Annual Business Meeting be adopted as circulated by mail. Carried.

3. Business arising from 1971 minutes:

(i) The secretary reported that although the 1971 minutes had indicated that the Ecology Section should support INTECOL, the "International Association for Ecology," by paying an annual membership fee, the fee had not been paid because he had been unable to ascertain to whom it should be sent. To provide some clarification about INTECOL Dr. H. van Groenewoud was asked to report: INTECOL was begun several years ago being originally set up to take over from IBP, the "International Biological Program," although this function has now been taken up by MAB, the "Man and the Biosphere" Program. Professor A. D. Hasler, Limnology Laboratory, University of Wisconsin, Madison, Wisconsin, was very active in establishing INTECOL and was named its President. At present, one of the major functions of INTECOL is the dissemination of information among Ecologists throughout the world. INTECOL includes several committees or commissions of which Dr. van Groenewoud is Chairman of the Terrestrial Ecology Commission. This commission considers its three main functions as being:

(1) The preparation of a list of Ecologists with their addresses and areas of interest in various countries throughout the world.

(2) Establishing a roster of one or two correspondents in each country who could assist in making contact with Ecologists in their own country.

(3) To set up symposia on topics related to Terrestrial Ecology. Three such symposia have been proposed but there has been little action taken upon them because of a shortage of funds and a considerable difficulty in communicating with people in various parts of the world who are very slow in replying to correspondence.

INTECOL is desperately in need of new members who are willing to support it financially by their membership fee and to support it by physical or professional help wherever possible. Recently INTECOL has appointed an Executive Director who is Dr. Royce LaNier at the Limnology Laboratory, University of Wisconsin, Madison, Wisconsin. He is employed specifically to do the executive work in respect to the operation of INTECOL and it is anticipated that this organization can now move forward more rapidly than before when it depended exclusively on voluntary contributions of time as well as money.

Among the benefits of individual membership in INTECOL are the receipt of the INTECOL bulletin which is published two or three times a year. But Dr. van Groenewoud stressed the need was more for individual support of the long-term aims and objectives of INTECOL rather than for what INTECOL could do for the individual member on a short-term basis.

(ii) Discussion then centered around the \$1.00 fee that had been requested of Ecology Section membership to cover the cost of Section Affiliate Membership in INTECOL because this contradicted the provisions of Section 6 of the General Statutes of the Ecology Section, as dated April 10, 1967. It was further pointed out that a portion of the fees received so far had been used to pay mailing expenses for sending materials to the mailing list of the Ecology Section after this practice had recently been disallowed by the CBA-ABC treasurer.

Moved (A. N. Langford/J. S. Maini) that the Executive of the Ecology Section ask the CBA-ABC Executive for a sum of money to cover the operating expenses of the Section. Carried.

It was then pointed out that Section 25 of the General Statutes indicated the method by which the present rules could be changed.

Motion (A.N. Langford/H. van Groenewoud) that we go through the constitutional procedures to amend Section 6 of the General Statutes at next year's annual meeting to enable the Ecology Section to collect an extra fee of \$1.00 from its membership to support an Affiliated Membership in INTECOL. Carried.

The point was then raised that Section 3 of the General Statutes states that "there shall be two classes: regular members and student members." Apparently these two classes of membership were introduced into the General Statutes of the Ecology Section because they are also the provisions of the parent body, the CBA-ABC.

Motion (H. van Groenewoud/R. E. Redmann) that Section 3 be amended by dropping the distinction of regular and student members, and that the class of membership be consistent with Section 6 as proposed for amendment at next year's meeting. Carried.

4. An invitation was relayed to the Section from Mr. T. M. Taschereau, Curator of Botany, Nova Scotia Museum, inviting participants to visit the Museum where they could have access to the 20,000 herbarium specimens and view the 90-year old collection of wild flower drawings.

5. Chairman's Remarks: (copy not available at press time)

6. **New business:** a) Dr. Maini suggested that two of the points in the Chairman's remarks are particularly relevant: (1) the questions of do we need an Ecology Section? and (2) the possibilities of involvement of the Ecology Section in activities across Canada. It was the feeling of the meeting that the incoming Executive should pay attention to the Chairman's remarks respecting activities that would draw more attention to the Ecology Section. One suggestion raised was that the Section begin now to organize a symposium for next year's meeting and request the CBA-ABC Executive to guarantee that funds be available to underwrite at least a portion of the costs of invited speakers. Although it was pointed out that the past practice of inviting participants to a symposium before there was a guarantee of funds was walking a tenuous tight-rope, to wait until funds are definitely available could jeopardize the success of a symposium because support derived from NRC is usually not confirmed until February or later.

Symposia topics included: the possibility of each year bringing in a particular group such as Foresters one year, Zoologists another; contributors around the topic of chemical antagonisms and allelopathy; joint meetings with other allied professional societies such as Geology, Wild Life, or a broad spectrum of professionals with interests related to the disturbance of the natural environment.

6. b) **Motion** (J.F. Alex/J.S. Maini) that the financial report prepared by the Secretary/Treasurer and dated June 16, 1972 be adopted. Carried.

7. The Secretary/Treasurer reported that there were only two confirmed nominees for the two 3-year positions on the Executive that fall vacant at the end of this Annual Meeting: Dr. R. T. Ogilvie of Calgary and Dr. R. C. Brooke of Simon Fraser University. Both are elected by acclamation. The two retiring members are Drs. P.B. Cavers and R. G. McMinn.

It was then pointed out that Dr. Ogilvie (term expires 1974) and Dr. L. Orloci (term expires 1974) will be inactive in the coming year because both men are going on Sabbatical leave. There being no provision

in the General Statutes to cover such a situation, the Chairman called for two alternates to be nominated for one-year periods during which the presently elected members are out of the country. Dr. H. van Groenewoud was nominated by Dr. McMinn and consented to stand. Dr. A. Gordon Thomas was nominated by Mr. W. H. Hawthorn and consented to stand.

Motion (R. Suffling/W.H. Hawthorn) that nominations cease. Carried.

Drs. van Groenewoud and Thomas were declared to be the alternates for Drs. Brooke and Ogilvie when they are unable to act on the Executive in the coming year.

Motion (A.N. Langford/R. E. Redman) that the Executive be instructed to initiate another change in the General Statutes to the effect that "the Executive of the Ecology Section may, at any time during the year when a vacancy occurs on the Executive, appoint a member to fill that vacancy for the balance of the year". Carried.

The new Executive of the Ecology Section together with the immediate past Chairman agreed to hold their first meeting over breakfast the next morning.

There being no further business the motion for adjournment was entertained at 5:45 p.m. June 19, 1972. (A.N. Langford/W.H. Hawthorn). Carried.

J. F. Alex, Secretary-Treasurer

FIRST INTERNATIONAL CONGRESS OF ECOLOGY

Scheduled for 8-14 Sept., 1974, in The Hague, the First International Congress of Ecology will provide an opportunity for a final intersectional synthesis session for the International Biological Programme. The Congress will also mark the termination of IBP and formally recognize the significance of this programme to the advancement of the science of ecology.

"Structure, Function and Management of Ecosystems," will be the general topic, with five sub-topics to be established by an International Steering Committee. Emphasis will be on the unifying concepts of the science. The Steering Committee consists of: W. H. van Dobben, general ecology (Netherlands), Chairman; Arthur D. Hasler, limnology (United States), President of the Congress; W. Frank Blair, terrestrial ecology (USA); A. E. Boyo, human biology (Nigeria); Claude Delamare-Deboutville, soil ecology (France); V. Delucchi, entomology (Switzerland); M. J. Dunbar, marine-biology and primary production (Canada); T. Kira, population biology (Japan); Eric LeCren, limnology (Britain); C. V. Nikolsky, fish ecology (USSR); D. Neumann, terrestrial physiology (German Federal Republic); Moshe Shilo, microbiology (Israel); R. O. Slayter, plant physiology (Australia); G. J. Vervelde, agronomy (Netherlands) and G. T. de Wit, terrestrial ecology and systems analysis (Netherlands).

IBP-CT IN THE MARITIMES

Region 7 of the International Biological Program-CT, has been very active. With the programme ending this year, field teams are attempting to visit and checksheet as many possible ecosystems as they can before final reports are made and presented to governments.

Last year 84 areas were checksheeted, 43 in Nova Scotia, 22 in New Brunswick and 9 in Prince Edward Island. One hundred and sixteen others were examined and rejected in the three Maritime Provinces. This summer, while finishing up some of the areas missed in Nova Scotia and Prince Edward Island, field teams will be concentrating on New Brunswick.

The provincial forestry services, educators, and a number of private businesses involved in the exploitation of our natural resources, have shown a keen interest in and an enthusiasm for the work being attempted by the International Biological Programme.

COMPUTER SIMULATION AT IBP (PT) WOODLANDS WORKSHOP ON ECOSYSTEM ANALYSIS

Dr. Alan G. Gordon of the Research Branch, Ontario Ministry of Natural Resources, whose studies on spruce forest ecosystems form part of the Canadian contribution to I.B.P., P.T. (Woodlands), recently attended the International Woodlands Workshop on Ecosystem Analysis at Oak Ridge, Tennessee, August 14-26, 1972.

More than 50 ecologists from 18 countries shared information on the world's forests during the unique workshop at Oak Ridge National Laboratory, Tennessee.

As a part of the International Biological Program, a joint ecological effort by 57 countries, the scientists brought global data, which was fed into the computer systems at Oak Ridge. The purpose was to develop preliminary mathematical models of the earth's forests for future study. (The United States is a major participant in the International Biological Program and Oak Ridge National Laboratory plays a key role as the directing institute for the analyses covering the Eastern United States.)

Scientists from Europe, Asia, and Australia brought data on tropical, subtropical, evergreen and deciduous forests. Working with the staff of the Environmental Sciences Division they proposed to construct first order simulation models of the functioning of these systems.

The "International Woodlands Workshop on Ecosystem Analysis" was the first of its kind. Objectives were to initiate data summaries for primary production and mineral cycling in forest ecosystems, and the application of systems analyses techniques for modeling dynamic

behaviour. Special work groups concentrated on interpretation and comparison of ecosystem data on a global scale.

Participants also visited the Ocoee Gorge near Copper Hill, Tenn., the Coweeta Hydrologic Laboratory at Franklin, N.C., and the Great Smoky Mountains National Park.

Participants came from Sweden, Canada, Malaysia, Denmark, Belgium, Germany, Finland, India, France, the Congo, Japan, Australia, the United Kingdom, and Italy, as well as the United States.

The Workshop was held in preparation of the Fifth General Assembly of the IBP, August 30-September 7, in Seattle, Wash.

GLEB KROTKOV MEMORIAL LECTURESHIP

Queen's University is planning an annual or biennial lectureship in Plant Physiology to honour the memory of Professor Gleb Krotkov. The endowment for this lectureship is a memorial fund now established at Queen's. Contributions from his many former students, associates and friends are needed to make this venture a success, and will be most welcome. Cheques may be written to the G. Krotkov Memorial Fund, c/o Alumni Office, Queen's University, Kingston.

NICOL—THE NATIONAL INVENTORY OF COLLECTIONS

The Secretary of State, Gerard Pelletier, has announced that an inventory of national collections will be undertaken with the aid of a computer-based system to be developed and based in the National Museums of Canada. A pilot system is scheduled to include collections in the National Gallery and in the Botany Division (National Herbarium) and Zoology Division (malacology Section) of the National Museum of Natural Sciences.

The implementation of the inventory program is under the direction of Mr. M. de Tedesco, Systems Analyst for the National Museums of Canada. He has been provided with a budget to set up the system, which will include a data bank, input terminals, and programs for data collection, and storage and retrieval of records of paintings, sculpture, artifacts, and biological specimens. It is anticipated that after the system is in operation, a network of contributing centres across Canada may be tied into it.

The list of attributes being recorded about botanical specimens is available from Dr. J. H. Soper, National Herbarium of Canada, National Museums of Canada, Ottawa. K1A 0M8.

F.O.N. ANNUAL MEETING

The Federation of Ontario Naturalists, at their 1972 annual meeting, passed the following resolutions, most of which will be of interest to botanists and naturalists across Canada:

1. To the Government of Ontario: that the use of defoliant, weed killers and allied chemicals and preparations along all rights-of-way, including those of Ontario Hydro, be examined with a view to seeking other methods of control.

2. To the Government of Ontario: that it initiate specific policies that will ensure that full environmental and aesthetic considerations to be given to all road projects and government construction projects.

3. To the Government of Canada: recognizing that the exponential growth of human populations is fundamental to increasing environmental degradation, pollution, resource depletion, extinction of species, and general deterioration of the human condition in almost all parts of the world and recognizing also that Canada is in a unique position to set a world example in this regard, be it resolved that the F.O.N. urges the Government of Canada to set as an immediate priority the development of a population policy which would involve the earliest possible stabilization of human numbers in Canada.

4. To the Government of Ontario: that policies be initiated to encourage the owners of agricultural land to maintain and/or to provide wildlife habitats such as shrub fencing, woodlots, marshes, ponds, streams and native tree plantings.

5. To the Government of Canada: that the F.O.N. urges the Government of Canada to ratify the U.N. Convention based on the I.U.C.N. Red Book, concerning the export, import or transit of endangered species.

6. To the Government of Canada: that the area of southern Alberta known as the Suffield Military Reserve be set aside as a prairie National Park and that its use as a training establishment for military personnel be discontinued at once.

7. To the Government of Ontario: that the F.O.N. commends the Government of Ontario on the decision to remove the wolf bounty.

8. To the Governments of Canada and Ontario: that the use of air cushion vehicles by the general public be banned.

9. That the Province of Ontario make use of land easement procedures and land use controls to ensure that the Niagara Escarpment is preserved.

10. That the Annual Meeting of the F.O.N. endorse the resolution of the Directors that the Federal and Provincial Governments be urged to withdraw plans for establishing a second major airport near Toronto and urges instead that they expand the facilities for Toronto International Airport to the extent required.

THE NATIONAL HERBARIUM OF CANADA

Mr. W. K. W. Baldwin retired on May 15, 1972, after 25 years of service with the National Museum. Bill plans to complete papers on field work conducted in several parts of the Boreal Forest Region of Canada.

On June 1, 1972, Dr. J. M. Gillett was appointed Curator in the Vascular Plant Section (CAN) of the National Herbarium. Jack previously worked at the Plant Research Institute herbarium (DAO) in the Canada Department of Agriculture.

Dr. H. J. Scoggan retired on June 7, 1972, after 25 years in the National Herbarium. Homer completed his magnum opus, a Flora of Canada, and awaits the joys and tribulations of proofreading this large publication.

On June 14, 1972, Dr. G. W. Argus was appointed Associate Curator in the Vascular Plant Section (CAN) of the National Herbarium. George transferred to the Museum from the Forest Ecology Research Institute in the Department of the Environment.

Dr. R. K. S. Lee, Head of the Phycology Section of the National Herbarium (CANA), has been granted special leave to teach in the Biological Sciences Department of Simon Fraser University, Burnaby, British Columbia, during the fall semester in 1972. Bob will remain in British Columbia for six months in 1973 in a student-advisor capacity and will carry out field work and culture experiments at Simon Fraser University.

HERBERT GROH: BOTANIST AND NATURALIST 1883-1971

Botanists, and indeed people from all walks of life who came in contact with Herbert Groh, were saddened to learn of his death December 8, 1971.

Mr. Groh's name is scattered on pages of Canadian floras from Nova Scotia to British Columbia. The first report of the *Canadian Weed Survey*, issued in 1942, was written by Mr. Groh. The work culminated in the 7th Report, prepared with Dr. Clarence Frankton and issued in 1949, summarizing the distribution of 1200 species of weedy plants in Canada, and compiled from 4687 survey lists by Mr. Groh.

Perhaps the finest epitaph to Herb Groh is the inspiration and feeling for nature he instilled in so many young people through his work in summer boys' camps, the Ottawa Boys' Work Board, Sunday School, the YMCA and the Macoun Field Club. He taught them to appreciate the world around them; to develop interests in the natural world that enriched them for the rest of their lives. As they grew up, Herb kept in contact with many of the youth with whom he had worked, recording by means of photographs, newspaper clippings, notes and correspondence, their progress in life.

Mr. Groh published more than 200 articles in the form of scientific papers, notes, reviews, and essays related to his youth work. His major scientific publications are the *Canadian Weed Survey Reports* (numbers 6 and 7 with C. Frankton) and his "*Prunus* in Eastern Canada," (with H. A. Senn). In his booklet: *Natural History for Young Campers*, he sets forth some of the techniques he had so effectively used in interesting young people in natural history.

PERSONALIA

Dr. Thane W. Anderson has accepted a permanent appointment with the Geological Survey of Canada as of July 5, 1972, to be stationed at the Canada Centre for Inland Waters, Burlington, Ontario. He will be continuing with pollen analysis on Great Lakes sediments in conjunction with Dr. C.F.M. Lewis' studies on the Quaternary history of the Great Lakes and is presently investigating the palaeoecology and chronology of buried plant-bearing beds in Lake Ontario, Erie and Huron.

Dr. Robin South, Biology Dept., Memorial University, St. John's, N.F. will be taking up a fellowship in January 1973 at the University of Canterbury, Christchurch, New Zealand. He will be away initially for a two year period and will head a project, to study the ecology, life history and economic potential in New Zealand of the fucoid genus *Durvillea*. During Dr. South's absence his teaching duties will be carried out by Mr. Alan Whittick and the algal herbarium will be curated by Mr. Robert Hooper. Any correspondence regarding the herbarium should be directed to Mr. Hooper.

DEPARTMENT OF PLANT SCIENCES, UNIVERSITY OF WESTERN ONTARIO
During the 1972-73 sessions a number of our members are on study leave. Dr. L. Orloci is spending the year in the Department of Botany, University of Hawaii, while Dr. R. I. Greyson will be in the Department of Botany, University College of Wales, Aberystwyth, Cards, Wales. Dr. J. B. Phipps is spending his study leave in the Department of Botany, Edinburgh University, Edinburgh, Scotland. Dr. P. B. Cavers, conversely, has just returned to Western after spending a year at the Imperial College Field Station, Ascot, England.

At its Annual Meeting in June Dr. C. J. Hickman was elected Vice-President of the Canadian Phytopathological Society. In August Dr. Hickman attended the Annual Meeting of the American Phytopathological Society in Mexico City. There he was co-author with Laura Jefferson and G. Z. Zentmyer of a paper entitled *Persea americana*, a new host for *Phytophthora citricola*. He also made a contribution on the biology of *Phytophthora* zoospores in a Discussion Session on *Phytophthora* and *Pythium* diseases; and returned home a victim of Montezuma's revenge.

DEPARTMENT OF BIOLOGICAL SCIENCES, SIMON FRASER UNIVERSITY, B.C.

Dr. L. D. Druehl will be on sabbatical leave during the Fall and Winter terms, 1972-73. He will be spending the time in Japan on physiological research. He will be replaced by Dr. R. K. S. Lee, of the Botany Division of the National Museum, who will be a visiting associate professor for this period.

POSITION AVAILABLE

BOTANICO-HORTICULTURAL LIBRARIAN

Qualifications—preferably degree in Botany and/or Horticulture plus a love for books and library experience; person with degree in Library Science and a strong proven background in Botany and/or Horticulture could also qualify. Applicant must be well versed in Botanico-horticultural literature.

Expectations—"Single-handed" Librarian of a 3,000 volume library (plus 130 serials) which is focused on Botany (mainly taxonomic) and Horticulture (mainly ornamental), but also includes Natural History and Plant Pathology. Library serves professional staff of about ten and Members' Association. Duties and responsibilities include all phases of library operation such as acquisitions, accessions, cataloguing, classifications (L.C.) and loans. Experience as Reference Librarian and Editor of technical and popular botanico-horticultural publications desirable. Non-smoker preferred because non-smoking regulations exist for all library areas.

Location—The Royal Botanical Gardens is located in Burlington, six miles from McMaster University, twenty-five miles from the University of Guelph and approximately forty miles from Toronto. The Gardens serve a population of about one million, including the City of Hamilton, the Towns of Burlington and Dundas and the surrounding Counties.

Position available—January, 1973.

Applications—accompanied by a *curriculum vitae* and references should be sent to: Dr. Leslie Laking, Director, Royal Botanical Gardens, Box 399, Station A, Hamilton 20, Ontario, Canada.

PUBLICATIONS

ENVIRONMENTAL STUDY MANUAL SERIES

The Science Section of the Nova Scotia Museum, including the Botany Unit, is preparing a series of outdoor environmental study manuals designed for use in the schools as practical guides to field work and associated laboratory study. The programme will be part of the 1972-73 Biology curriculum of Nova Scotia high schools.

The Environmental Studies Series makes accessible to schools and interested groups basic information on ecosystems characteristic of the Nova Scotia environment, including bogs, forests, salt-marshes, and the coastal intertidal zones. Although the programme is ecologically oriented, teachers who recently completed a course given by the museum science staff, felt the botanical aspects of the series to be the most interesting and most important part of the programme.

DIRECTORY OF CANADIAN UNIVERSITY BIOLOGISTS 1972-1973

This updated edition of the directory has again been produced by Dr. J. W. Green, Dept. of Biology, Laurentian University, Sudbury, Ontario. It is a computer print out containing information under alphabetical order of names and universities, of present location, date of present appointment, title, rank, department and area of interest.

OFF-ROAD VEHICLES

The U.S. Department of the Interior's Draft Environmental Statement on the proposed use of off-road vehicles on lands managed by the Department has been recently released. The Statement considers the effects on the environment of the Department's proposed implementation of the President's Executive Order 11644 on the use of off-road vehicles on public lands. The order directed U.S. Federal Agencies to establish policies and provide for procedures to ensure that the use of off-road vehicles be controlled and directed so as to protect the resources, promote the safety of all users and minimize conflicts among the various uses of the public lands. (Copies are available at \$3.00 from National Technical Information Service U.S. Department of Commerce, Springfield, Virginia 22151. The Statement number is INT-Des-72-62.)

A task force of the Interior Department's Bureau of Outdoor Recreation released in March 1972 a study of Off-road Recreation Vehicles use on public lands. It is available from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402, at a cost of \$1.25.

(From *Man & Resources*. *Environment Bulletin*)