

## THE CANADIAN BOTANICAL ASSOCIATION

**BULLETIN**

## L'ASSOCIATION BOTANIQUE DU CANADA



April 1975

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Waterloo

NOMINATION OF OFFICERS FOR THE CBA/ABC,  
1975-76

This is a formal call for nominations to the Executive Committee for 1975-76.

By-law 2A of the constitution says, in part:

"Nominations must be signed by not less than six regular members in good standing, and must be returned to the secretary at least twelve weeks prior to the Annual Business Meeting. The proposed office for each nominee shall be clearly indicated.

"Chaque mise en nomination doit porter la signature d'au moins six membres réguliers et en règle, et être retournée au secrétaire au moins douze semaines avant l'assemblée générale annuelle. Chaque soumission doit stipuler clairement pour quelle fonction le candidat est proposé."

By-law 2C says:

"All nominations must be accompanied by the written consent of the nominees who shall be regular members in good standing."

"Toute nomination doit être accompagnée du consentement écrit de la personne nommée, laquelle doit être membre régulier et en règle."

This year, we shall inaugurate a new office, that of President-elect, according to constitutional revisions passed last year. On completion of a one-year term, this officer will automatically become President for the forthcoming year. Thus, the office of President will hereafter be omitted from ballots and the call for nominations.

Please note that the candidate for President-elect should be a person who either has served on the Executive Committee, or has given equivalent service to the Association in another capacity, for example as an officer of a section.

Positions to be filled this year:

1. President
2. President-elect
3. Vice-President
4. Treasurer
5. 3 Directors (Continuing Directors are P. Morisset, J.N. Owens, and J.G. Packer)

Will you please return your nominations by May 24, 1975 to

Carolyn J. Bird  
Secretary, CBA/ABC  
Atlantic Regional Laboratory, NRCC  
1411 Oxford Street  
Halifax, N.S.  
B3H 3Z1

## THE 1975 ANNUAL MEETING "BEP 1975"

Preparations for the meeting to be held at Saskatoon, are proceeding smoothly under the able direction of Dr. Stan Rowe, our programme chairman. Dr. Rowe is working closely with his counterparts in the Entomological Society of Canada and the Canadian Phytopathological Society, for this will be the first joint meeting of our three societies. A full and interesting programme is being planned. This is outlined in the January issue of the Bulletin. The final programme will be sent to all our members well in advance of the meeting which will be held from August 17 to 22, 1975. All our members are urged to attend if at all possible for this promises to be one of our most successful meetings and also it coincides with the tenth anniversary of the founding of the CBA/ABC.

## THE LENINGRAD INTERNATIONAL BOTANICAL CONGRESS

The charter flight being arranged for CBA/ABC members has had to be cancelled but group flight arrangements are being made by the travel agents for the benefit of those members who indicated their wish to travel on the charter flight. The necessity for this action is regretted but the high costs associated with the conference have caused many of our members to review their plans to attend. Our thanks are due to Dr. Ritchie and Mrs. Sanguin for the considerable amount of effort which they put into these arrangements. It now appears that about 60 of our members may attend the Congress.

## ECOLOGICAL INTERPRETATIVE MAPS

In 1972, the Canadian Forestry Service (Canada Department of Environment) undertook the production of Ecological Interpretative Maps for major routes of travel in Canada. The project aims initially at producing about twenty maps, covering the Trans-Canada Highway from St. Johns, Newfoundland, to Victoria, B.C.

The series was started because, despite a widely expressed concern for "ecology", very few persons understand the complexities of ecosystems and the economic, social, cultural, political and ecological aspects of resource conservation. And as urbanization increases the public are further removed from intimate contact with their resource base; consequently, they have little appreciation of its dynamics and capabilities of providing them with economic, social, and the less tangible personal benefits.

The primary goal is a public more interested in and better informed on the Canadian environment and natural resources. The presumed benefit of this goal is extrinsic: a better informed public should lead to more rational decision-making in environment and resource management. A secondary goal is an enhanced environmental experience for the travelling public; the benefits of this are intrinsic, being realised during the act of travel.

A pilot phase of the project tested the scheme with two maps or "Ecotours" as they are now known. The first map, for Ottawa-North Bay in Ontario, became available in summer 1973; the second, for Calgary-Golden, B.C., was completed in 1974. The maps were distributed without charge from tourist bureaus, museums, libraries, bus stations, tourist attractions and government information centres. They were also made available to school boards. Conceptually, the maps have been highly successful; furthermore, much valuable experience has been gained in design and format, and will be reflected in new editions.

Basically, the maps attempt to stimulate perception of the landscape, and to interpret this percept in terms of natural and man-made components. The process is conducted at three levels: first, the route as a whole is described; second, various identifiable "Ecozones" are introduced; third, and perhaps most important, specific points of interest relevant to the concept of landscape interpretation are identified and interpreted. As an example, the Ottawa-North Bay map describes 11 "Ecozones" and 41 specific points of interest along the 221-mile route. While several places are mentioned that require a traveller to stop and leave the vehicle, the map has been designed for use at 60 mph. A family travelling on a nonstop bus has been the guideline.

Each map carries a self-mailing questionnaire; well over a thousand have been returned, with very encouraging comments on the project. These have helped considerably, not only for evaluation of the results of the project, but also in preparation of new maps. There is no doubt that the project has succeeded in its second goal, namely to enhance the environmental experience of the

travelling public. We can also conclude that interest in environment matters has been stimulated; whether this interest will lead to concern, and ultimately more rational decision-making in environment and resource management will, of course, be more difficult to assess.

D.F.W. Pollard

## L'HERBIER ROLLAND-GERMAIN

L'incorporation d'un 100,000e spécimen à l'herbier de l'Université et un "baptême officiel": voilà qui réunissaient en fin d'après-midi, vendredi dernier, professeurs du Département de biologie, doyen et vice-doyen de la Faculté des sciences et membres de l'Exécutif de l'Université, ces derniers manifestement heureux de se plonger dans la flore québécoise et d'oublier, pendant quelques instants, la jungle des négociations provinciales-universitaires.

A l'occasion de l'incorporation du 100,000e spécimen à l'herbier de l'Université, on a officiellement donné à cette collection le nom d'Herbier Rolland-Germain. Hommage bien mérité à un botaniste de grande valeur décédé en septembre 1972: le frère Rolland-Germain, F.E.C., fut, en effet, pendant 40 ans, le collaborateur dévoué et discret, le bras droit fidèle et efficace du frère Marie-Victorin. Si Marie-Victorin avait son pavillon à l'Université de Sherbrooke, il était donc convenable que Rolland-Germain ait son herbier!

En 1968, au moment de prendre sa retraite, le frère Rolland-Germain donnait à l'Université sa collection personnelle: plus de 7,000 spécimens purent être incorporés à l'herbier de l'Université, tandis que 30,000 duplicata étaient distribués aux herbiers du Canada, des Etats-Unis et d'Europe.

En mai dernier, la communauté des Frères des écoles chrétiennes faisait don à l'Université de la collection de plantes de l'ancien Mont-St-Louis: 9,651 spécimens tous bien identifiés et montés.

La communauté des Frères des écoles chrétiennes a donc joué un rôle inestimable dans l'évolution de la collection de l'Université de Sherbrooke. Commencée au printemps 1963 par son conservateur actuel, le professeur Albert Legault, aidé de son fidèle collaborateur (lui aussi!), M. Samuel Brisson, la collection de l'Université de Sherbrooke compte aujourd'hui parmi les herbiers les plus importants au Canada. Le 100,000e spécimen ne marque, en somme, qu'une étape puisque, en vertu d'un intensif programme d'échanges que poursuit le professeur Legault, l'Herbier Rolland-Germain doit encore recevoir entre 50,000 et 60,000 spécimens venant d'autres établissements collectionneurs.

On November the 22nd, Mgr. Roger Maltais, rector of the University of Sherbrooke, presided over the incorporation of the 100,000th specimen in our Herbarium. For the occasion we had invited guests, the assistants-rectors, deans, biology professors and others who could make it in spite of the snow storm we had on that Friday.

On that occasion, our herbarium was officially named "Rolland-Germain" in honour of the faithful companion and co-author of Brother Marie-Victorin. In 1968, Bro.

Rolland-Germain had given to our herbarium his personal plant collections: over 7,000 specimens from Victorin and Rolland fieldtrips in all parts of Quebec and over 30,000 duplicates from the Ottawa region (1914-1926) and St. Adolphe d'Howard, Que. Region (1950-1962).

Albert Legault,  
Professor and Curator of the Rolland-Germain  
Herbarium,

## PUBLICATIONS

The Herbicide Handbook. The 3rd edition of this book by the Weed Science Society of America is now available. It contains detailed biological and toxicological information on 132 herbicidal chemicals. Thirty-four new compounds are included and the information on many of the old compounds has been revised and brought up to date. The official definition of terms as used in Weed Science publications are given, tables of practical conversion factors are listed, and the Wiswesser Line Notation is included for all the chemicals. Price \$5.00 from Weed Science Society of America, 113 N. Neil Street, Champaign, Illinois 61820.

Environmental Impact Assessment:  
Principles and Procedures. Munn, R.F. (Editor) 1975. (SCOPE Workshop on impact studies in the Environment (WISE). Co-sponsored by UNEP and UNESCO. SCOPE Report No. 5. Toronto, Canada). This is concerned with the practical problems of preparing impact assessments as a basis for political action and should provide a useful lead into the field both for the decision maker and the ecologist who must provide him with the data.

Dictionary of Canadian Biography/  
Dictionnaire Biographique du Canada, vol. 3, U. of T. Press and Presses de l'U. Laval, \$20.00. Published simultaneously in French and English editions.

This volume contains biographies of 550 people who died in the three decades from 1741 to 1770. Includes 10 or 12 people who contributed to botany. The leading botanical personality is J.F. Gaultier, well known as the eponym of Gaultheria, of Wintergreen and ground cover fame. Also two botanical writers: J.F. Lafitau, who discovered Ginseng in Canada, and F.X. Charlevoix, who wrote an illustrated flora. Two collectors who sent plants to Paris: H.J. Lacroix and C. Jérémie (=Mrs. LePailleur). Two travellers who wrote reports, published much later, in which are found the earliest descriptions of the vegetation in the Prairie Provinces: P. La Vérendrye frequently mentions plants and was aware of the only Celtis colony in Manitoba; this particular mention is reproduced in Nat. Can. 94: 622, 1967; A. Henday's botanical notes help to establish his actual itinerary across the plains. Travelling along one of the branches of the Saskatchewan, he mentioned the presence of Hazelnut, the White Birch, and other plants. These are not distributed throughout the prairies and exclude the possibility of his having travelled west along the South Saskatchewan or the Red Deer. West of Prince Albert the Hazelnut is quite restricted in range and Henday must have followed the North Saskatchewan. Among the candidates for the post of physician and

naturalist, the post occupied by Sarrasin, and later by Gaultier, there is a Montreal physician, T. Sullivan, who was not appointed, and two appointees, Chomel and Lebeau, who never came to Canada. One governor, La Galissonnière, took special interest in the botanical exploration of the country; he carried on an extensive botanical correspondence, maintained a private botanical garden on his estate in France and a transit nursery in the garden of one of the government offices in Quebec, and made annual shipments of seeds and bulbs to Paris. He is co-author of a small book on the collecting, care and preparation of natural history objects for shipment overseas.

In 1749 he sends G.J. Chaussegros de Léry to survey the shoreline from Montreal to Detroit and the instructions from La Galissonnière include the collecting of seeds and plants. Similarly with his instructions to M.C. de Lotbinière the same year. In the 1730's Deneau DeMuy, commander of a fort near Niles (Mich.), collected some plants and sent them to the intendant in Quebec.

The original text is now the French edition, not the English. The translations seem generally fair, but we were disappointed with the English translation of our own text on Gaultier. There is too much approximation or loss of meaning, too many connotations escaped the translator. Many translations are actually faulty. An ice-jam is a poor substitute for a "pont de glace", an "indice" falls far short of a report, the "College des Jésuites" is not to be confused with the seminary that also existed in Quebec at the time, and so on with 15 or 20 other terms. And at least one sentence was dropped. We now regret not having written Gaultier's bibliography in English in the first place.

This Dictionary is planned as a 20 volume series. If the present volume is a good indicator, we can expect 200 or more biographies of botanical interest. It will be a bigger body of Canadian botanical biography than anything else presently in existence.

B. Boivin

The Life History of Douglas-fir, by George S. Allen and John N. Owens. Forestry Service Publication, Environment Canada, Ottawa, 1972. 139 pp. and The Reproductive Cycle of Douglas-fir, by John N. Owens. Pacific Forest Research Centre, Canadian Forestry Service, Environment Canada, Victoria, B.C. Report BC-P-8. 23 pp.

These publications, of interest to botanists, have been issued by the Canadian Forestry Service, and may be obtained gratis from the Pacific Forest Research Centre, Canadian Forestry Service, Victoria, B.C. The book by Drs. G.S. Allen and J.N. Owens gives a comprehensive account of the reproductive cycle of Douglas-fir (Pseudotsuga menziesii (Mirb.) Franco) from initiation of seed- and pollen-cone buds to seed shedding. Following a short introductory chapter, other chapters deal with bud initiation and early development, the pollen cone, ovule and female gametophyte development, pollination and fertilization, embryo and seed development, and cone maturation and seed release. The book is well referenced and profusely illustrated with 27 figures, including 7 color plates, 10 black and white plates and several scanning electron micrographs. The booklet

authored by Dr. J.N. Owens resulted from requests for a condensed and less technical account of the first book, for use by students of forestry and biology, at universities, technical schools and high schools.

Cytotaxonomical Atlas of the Slovenian Flora by Askeell Löve and Doris Löve. Verlag von J. Cramer, Lehre, Germany. 1974. Subscription DM 160 or DM 200.

Unfortunately, the title of this 1241 page atlas may turn away prospective North American users as the northernmost state of Yugoslavia, Slovenia, will not be familiar to most North Americans. However, as the authors point out, Slovenia is a region comprising a rich flora that is mainly Central European in its composition but includes plants from the Mediterranean at the northern part of the Adriatic Sea, the easternmost alps, and a small part of the Pannonian and Balkan floras. Thus, the atlas includes a much greater number of species than one might imagine from the title. The atlas consists of an introduction, a printout of the chromosome numbers of the vascular flora (796 pages), an extensive reference section (427 pages) and an index to the genera. Rather than a mere reporting of chromosome numbers, the authors have studied the literature concerned with the taxa reported and have given revised nomenclature and synonyms where required. Information is also given for each taxon on its geographical distribution. The plants are arranged in the atlas in a modified Engler system, however, any genus may be quickly located through the index of genera. The index consists of a very workable computer classification numbering system consisting of three sections. For example, the genus Lotus (Fabaceae) is listed under 4-2250-14000 (4, Dicotyledon; 2250, Fabaceae; 14000, Lotus). The numbers of the families and genera run consecutively in progression throughout the atlas and so a family or genus can easily be located.

The authors familiarity with the European literature and the listing of references from many journals which are not abstracted by North American abstracting services make this atlas a most valuable asset to anyone studying the European flora. It will be a classic chromosome atlas, including format, that will be referred to for many years.

W.F. Grant, McGill University

Guide to Graduate Study in Botany for the United States and Canada published by The Botanical Society of America. Price \$3.00 post paid from Secretary, Botanical Society of America, Dr. Patricia Holmgren, New York Botanical Garden, Bronx, N.Y. 10458.

The Guide lists: 108 departments in U.S. and 21 in Canada which offer Ph.D. work in botany. Each departmental listing includes: Name and address of institution, name of department with number of faculty, and names of related departments; Name of chairman; Graduate degrees offered, with number of Ph.D.s conferred in (1) last 5 years and (2) in 1972-1973; Current graduate enrollment; Fields of specialization represented in the department; Name, academic background, area(s) of specialization, and titles of recent Ph.D. theses directed for all botanical faculty in the department.

Ecological Reserves in British Columbia by V.J. Krajina, P.A. Larkin, J.B. Foster and D.F. Pearson. Report of the Canadian Committee for the International Biological Programme, Conservation of Terrestrial Communities Subcommittee, Region 1, British Columbia.

This report represents the culmination of the labours of the British Columbia Ecological Reserves Committee. The achievements are remarkable and are of major importance both to botanists and all who have a concern for our countryside and its wild life. They could well be a model for other provinces in Canada and other countries to emulate. They include:

- 1) The Ecological Reserves Act, passed in B.C. Legislature on April 2nd, 1971, became the major pivot for the work (Appendix 1).
  - 2) Biogeoclimatic zones and plant associations (biogeocoenoses) were accepted as a basis for the survey work (Krajina, 1969, 1974).
  - 3) 235 applications for ecological reserves have been presented at the annual meetings of B.C. Ecological Reserves Committee (Appendix 2).
  - 4) 55 ecological reserves were established on Crown Land (Appendix 3). These 55 ecological reserves in British Columbia, established since the Ecological Reserves Act was passed, are in existence in November 1974, totalling 90,016.4 acres or 36,429.7 ha (with some approximation: 36,432.7 ha) or 140.65 sq. mi. (364.28 km<sup>2</sup>), representing 0.04% of the total area of the province. The largest (No. 45) reserve amounts to 24,300 acres or 9,834.2 ha (37.97 sq. mi. or 98.34 km<sup>2</sup>), the smallest (No. 17) totals only 1.5 acres or 0.61 ha (0.002 sq. mi. or 0.005 km<sup>2</sup>). The average size of all ecological reserves is 1,636.66 acres or 662.35 ha (2.55 sq. mi. or 6.60 km<sup>2</sup>).
- Note: In Appendix 4, for convenience of readers, a table of biogeoclimatic units in British Columbia, quoted in descriptions of reserves, a number of selected climatograms for different biogeoclimatic zones (and their subzones) and a table of applications for ecological reserves and reserves already established, related to the biogeoclimatic units, are included.
- 5) In 1974, a position of Director of Ecological Reserves was established at the Department of Lands, Forests, and Water Resources and Dr. J.B. Foster became the first Director of Ecological Reserves in British Columbia.

The report includes a copy of the B.C. Ecological Reserves Act and gives information on each of the reserves, including a map showing its location and information on its climate and outstanding features:- both plant and animal.

## PERSONALIA

### Stanley T.B. Losee

A brief announcement of Mr. Losee's death appeared in the last issue of the Bulletin. Information for the following appreciation has been supplied by Dr. Lindsay.

Stan Losee was born in 1909 and graduated from the University of Toronto in 1931 with a Bachelor of the Science of Forestry degree. He continued his formal education at the university taking postgraduate courses in both forestry and botany, until 1934 when he began his working career by undertaking a series of botanical surveys along the north shore of Lake Superior. From that time, he was heavily involved in photogrammetric and inventory work with the old Dominion Forest Service and the Abitibi Paper Company in various locations across Canada. During World War II he served as an air photo intelligence officer with the Royal Canadian Air Force. He later transferred to the field of teaching becoming a professor at Lakehead University in 1973 until his untimely passing in September of this year.

Stan was an active member of the Canadian Institute of Forestry and devoted much of his time to the Institute and to the improvement of forest management practices. He wrote and published many works on mapping, aerial surveys, photogrammetric and silvicultural methods. In connection with the latter, he was one of the first foresters in Ontario to promote patch and alternate strip cutting as a viable regeneration technique. Stan was the first Managing Director of the Wishart Botanical Gardens in Sault Ste. Marie, Ontario. He was twice winner of the Canadian Pulp and Paper Association's Bothwell Award which was awarded for "the most meritorious work during the current year on behalf of forest conservation in Canada".

There is no question that Stan was a driving force in the development of forestry in Ontario and indeed in all of Canada. Forest managers have benefitted and will continue to benefit from his efforts in forestry and forest management. The Canadian Institute of Forestry has posthumously elected him as an Honorary Member in recognition of his contribution to forestry in this country.

Stan was a member of the Canadian Botanical Association. Many of our members will recall with pleasure and appreciation the active role he played in our 1968 annual meetings at The Lakehead. He will be sorely missed by his many friends and colleagues.

### Kjeld Holmen

Canadian botanists will be saddened to hear of the death of Kjeld Holmen, the eminent Danish botanist, in December 1974. Dr. Holmen published numerous papers on the flora of Greenland, was co-author of "The Flora of Greenland", and, in his special field, he had also published several important papers on bryophytes of the Canadian Arctic. Dr. Holmen had contacts with many Canadian botanists, and had visited Canada twice, in 1959 for the Montreal Botanical Congress, and in 1967, when he attended the CBA Annual Meeting at the University of Ottawa.

Guy R. Brassard

## CAN/OLE - A NEW REFERENCE RETRIEVAL SERVICE

A CAN/OLE (Canadian On-Line Enquiry) computer terminal has been installed in the Science and Engineering Library on the 10th floor of the Concordia University, Sir George Williams Campus. This system has the capability of retrieving current information instantly from large retrospective bibliographic data banks. The service covers the fields of biology, chemistry, computer science, physics, engineering and technology. Concordia University, through negotiations with the Canada Institute for Scientific and Technical Information, became one of 15 pilot centres in this project, which is eventually to be part of a Canada-wide scientific and technical information network.

The terminal in the library is linked to the Computation Centre at the National Research Council via Bell Canada's new communication system, Dataroute. The librarian can search the computer files directly by keying in title or subject words, dates, authors, journal names, subject codes or organization names. By using the appropriate data base and simple logic a literature search may be performed. During the search the terminal replies with various responses which enable the librarian to monitor the logic used, streamline the search, and print out the bibliographic data of some or all relevant articles appearing in the literature.

Searches resulting in 25 or more relevant references are usually printed off-line in Ottawa and mailed within 24 hours.

To date, data bases are operational providing access to some 800,000 references in science and technology. These include: BA Previews (Biological Abstracts Previews) which covers the most current 1 3/4 years of references to world literature dealing with life sciences; CAC (Chemical Abstracts Condensates) which covers the most current year of literature dealing with chemistry, biochemistry, and chemical engineering.

Academic libraries are charged \$15.00 and other outside users are charged a service fee of \$25.00 for a complete CAN/OLE search.

The system is operational between 10 a.m. and 7 p.m. daily from Monday to Friday. Speed, direct user control, easy access to a variety of current bibliographic files, and individually produced printed bibliographies are some of the benefits derived from the CAN/OLE system.

For more information contact the Science and Engineering Library, Concordia University, 1455 de Maisonneuve Blvd. West, Montreal, Quebec H3G 1M8.

## CONFERENCES

Mathematics and the Life Sciences August 10-23, 1975. The 15th Biennial Seminar of the Canadian Mathematical Congress to be held at the University of Sherbrooke, Quebec.

Professor McQueen writes "We are anticipating the participation of some 100-125 researchers and graduate students. There will be 6 main lecture series of 5 lectures each, spread over the 2 weeks. These will be of a survey nature: background, recent developments and unsolved problems. In addition, some 6 first rate Canadian research

groups will make presentations of their recent work in this area (some 20 lectures). These will be in the fields of ecology and resource management (UBC and Halifax), disease processes (Waterloo, Hamilton, London, Toronto, Buffalo), health systems (UBC, Laval, Montreal), physiology (Laval, Montreal, Toronto), cardiology (Halifax), and molecular biology (Montreal, Ottawa). We anticipate other contributions of this nature, and also some contributed papers from participants, round tables etc. For more information write to Prof. C. McQueen (S.M.C. Séminaire 1975), Département de Mathématiques Université Laval, Québec, Québec, Canada G1K 7P4.

Fourth International Palynological Conference December 29, 1976 at the Birbal Sahni Institute of Palaeobotany, Lucknow, India. The programme includes sections on:-  
 Division I: Morphology and Taxonomy: Pollen and Spores  
 Division II: Morphology and Taxonomy: Dinoflagellates, Acritarchs, Diatoms, Coccoliths, Chitinozoa and Radiolarians  
 Division III: Palynological Stratigraphy and Geography  
 Division IV: Quaternary Palynology  
 Division V: Palynological data handling and Methodology  
 Division VI: Palynology in medicine, agriculture, forestry etc.

A set of excursions, pre-conference and post-conference, are being planned for the benefit of those delegates, who are interested in undertaking field trips to various regions of India. The trips will cover places of geological, botanical and cultural interest.

For more information write to:- Secretary-General, IV International Palynological Conference, 53, University Road, Lucknow-226007, India.

International Conference on Heavy Metals in the Environment, Toronto, October 27-31, 1975. Sponsored by the Institute for Environmental Studies, University of Toronto and the National Research Council of Canada. A wide range of subjects will be covered, including:-

- (a) Analytical techniques and problems, and standard setting.
- (b) Pathways and cycles of heavy metals in the environment, including sources and mechanisms of distribution, biological pathways, geochemical and atmospheric movements, ecosystems and community effects.
- (c) Human health effects and epidemiology, including toxicity of specific metals, sub lethal effects, sites and modes of action, and sources of problems. Related animal effects will be included here.
- (d) Regulatory Problems, to include panel discussions of scientists and policy decision makers.

Invited Speakers include: J. Willis (Australia), D. Segar (U.S.A.), H.J.M. Bowen (U.K.), A. Allaway (U.S.A.), J.M. Wood (U.S.A.), L. Friberg (Sweden), Jane Lin Fu (U.S.A.) and J. Lagerwerff (U.S.A.).

For further information contact:- M.K. Ward, Executive Secretary, International Conference on Heavy Metals in the Environment, c/o National Research Council of Canada, Ottawa, Ontario K1A 0R6.

## POSITIONS AVAILABLE

Applications are invited for the position of Sessional Lecturer in the Department of Botany, University of Alberta. Qualifications: Ph.D. in Plant Ecology  
 Salary: \$15,184

A 12 month appointment commencing August 15, 1975, with responsibilities in the teaching and coordinating of portions of the environmental section of the Introductory Biology Program.

Applications, including Curriculum Vitae and the names of three persons whom you have asked to supply references should be sent, immediately to:

Dr. D.H. Vitt  
 Chairman, Search Committee  
 Department of Botany  
 University of Alberta  
 Edmonton, Alberta T6G 2E1

*The Bulletin of the Canadian Botanical Assoc.*  
 Editor:- Dr. J.K. Morton  
 Department of Biology  
 University of Waterloo  
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To ensure prompt delivery of the Bulletin please notify the Editor of any change of address as soon as possible.