THE CANADIAN BOTANICAL ASSOCIATION

ISSN 0008-3046

BULLETIN

L'ASSOCIATION BOTANIQUE DU CANADA

April 1976 Volume 9 Number 2 Waterloo

THE ANNUAL MEETING, June 6-10

The local organizating committee reports that all arrangements for the conference are proceeding smoothly. They are confident that participants will find a delightful atmosphere for a botanical conference, with all the arrangements at the University attractive and very convenient.

Jardin Botanique de Montreal.

Participants at the Lennoxville meetings have been invited to an all day visit at the Botanic Gardens, where the day's activities will be planned jointly by Mr. André Bouchard, curator of the Garden and Mr. Michel Famélart of l'Institut Botanique de l'Université de Montreal. In view of the distance from Montreal to Lennoxville and the fact that nearly all participants at the annual meeting will leave Lennoxville for Montreal, it seemed best to have this item at the end of the conference so that participants might leave for home thereafter from Montreal. All those wishing to go to the Botanic Gardens can be accommodated at Bishop's University for the night of June 10/11.

NOMINATIONS FOR N.R.C. GRANT COMMITTEES

The CBA/ABC Nominating Committee is responsible for making nominations to the Biological Council of Canada for membership on the National Research Council Grant Selection Committees. Would you please forward immediately suggestions for the following committees to Dr. J.K. Morton, Chairman of the Nominating Committee:

a. Cell Biology

b. Plant Biology (we need 2 nominations here)

c. Population Biology

His address is:- Department of Biology
University of Waterloo
Waterloo, Ontario N2L 3G1

CONGRES ANNUEL, 6-10 juin

Le comité local d'organisation fait rapport à l'effet que les arrangements prévus s'organisent de facon normale. On est confiant d'assurer aux participants un atmosphère propice et les accomodations disponibles à l'Université s'avèrent a la fois attrayantes et convenables.

Jardin botanique de Montreal.

Les participants au congrès à Lennoxville sont invités à passer une journée au Jardin botanique de Montréal. Les activités de la journée seront planifiées conjointement par M. André Bouchard, conservateur du Jardin botanique et M. Michel Famélart a l'Institut botanique de l'Université de Montreal. Compte tenu de la distance entre Montréal et Lennoxville et du fait que la plupart des congressistes quitteront Lennoxville pour Montréal, il a semblé opportun de planifier cette journée à Montréal comme la dernière du congrès, de telle facon que tous puissent retourner chez eux en partant de Montréal. Les personnes désirent profiter de la visite du Jardin botanique peuvent passer la nuit du 10 au 11 juin à l'Université Bishop's.

A WORKSHOP ON ENDANGERED SPECIES is being planned for the Lennoxville meetings if there is sufficient interest from members who will be attending the meetings. Amongst the objectives of the workshop would be to try to complete national and provincial lists and to discuss ways of utilizing this information so as to ensure the protection and survival of these plants. If you are willing to participate in such a workshop please write and let me know -- J.K. Morton, Department of Biology, University of Waterloo, Waterloo, Ontario N2L 3G1.

A CBA AWARD FOR STUDENTS

The Canadian Botanical Association is introducing a cash award to foster participation of students at Annual Meetings. This award will be $50, for the best oral presentation by a student of his or her own research, as a contributed paper at the Annual Meeting. Among the criteria will be originality of research, organization and interpretation of data, and presentation. To be eligible, a student must be a member of the Canadian Botanical Association, and the presentation must be made in English or French on research towards a bachelor's, master's or doctoral degree. If the paper is co-authored, documentation from the other author(s) stating that the research was primarily that of the student is required. Papers will follow the same format as the regular contributed papers, as specified by the organizers of the Annual Meeting. A minimum of five student papers must be presented for the award to be given, and a maximum of two such awards will be made in one year.

Prix pour la meilleure communication par un étudiant au Congrès annuel

L'Association Botanique du Canada offre un prix en argent pour encourager la participation des étudiants au Congrès annuel de l'Association. Ce prix de $50 est décerné pour la meilleure communication inscrite et présentée au Congrès annuel par un étudiant ou une étudiante et portant sur ses propres recherches. Les critères d'évaluation comprennent l'originalité de la recherche, l'organisation et l'interprétation des données, ainsi que la présentation elle-même. Pour être éligible à ce prix, l'étudiant(e) doit être membre de l'Association Botanique du Canada. La communication peut être présentée en français ou en anglais et doit porter sur des recherches effectuées en vue de l'obtention du baccalauréat, de la maîtrise ou du doctorat. Si la communication est signée par plus d'un auteur, on exige une attestation écrite de l'autre ou des autres auteurs à l'effet que le travail de recherche a d'abord et surtout été effectué par l'étudiant(e). Les communications doivent suivre les spécifications des organisateurs du Congrès pour toute communication inscrite. Le prix n'est attribué que si au moins cinq communications par des étudiant(e)s sont présentées et deux prix au maximum peuvent être attribués chaque année.

OFFICERS OF THE CBA/ABC SECTIONS 1975-76

Ecology

Chairman:
Dr. H. van Groenewoud
Maritime Forest Research Centre
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FREDERICTON, N.B. E3B 5G4

Secretary:
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General

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OTTAWA, Ontario K1A 0C6

Phycology

Chairman:
Dr. M. Munawar
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Environment Canada
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Secretary:
Dr. G.R. South
Department of Biology
Memorial University
ST. JOHN'S, Newfoundland A1C 5S7

Systematics and Phytogeography

The section is currently without officers. Dr. J.K. Morton, Department of Biology, University of Waterloo, Waterloo, Ontario N2L 3G1 is looking after the affairs of the section until new officers can be elected.

LETTERS TO THE EDITOR

I wish to strongly support Jack Maze's view (CBA Bulletin, vol. 9, page 6) that the CBA/ABC ought to be able to represent itself at all levels. Indeed, Article 2 of the Constitution states, "The object of the Association shall be to encourage research and education in botany and to represent its members both nationally and internationally" (Italics mine). I cannot help but feel that, no matter how well-intentioned the Biological Council of Canada and the Royal Society of Canada are, their positions on matters of national or international importance are not likely to coincide entirely with the position of our Association. The BCC fee ($3.00), which most of our members must pay, is almost half our own fees ($7.00), and I do not think that this rather hefty subsidization of BCC provides our members with anything essential in the way of national or international representation that could not be provided by our own Association directly.

Guy R. Brassard.

You invited comments in a recent CBA Bulletin, especially from CBA members who rarely attend annual meetings, on what we get from CBA membership and on how your services to us could be improved. Well, you may be especially interested in my comments because I have never attended a CBA meeting. Yet I consider myself a botanist and am a member of CBA.

Primarily, I consider myself a biologist, and only secondarily a botanist, geneticist, and horticulturist. I do not profess to be thoroughly schooled in all these areas, but I certainly have interests in them.

I normally attend no more than one scientific convention per year, mostly for reasons of finance. I have preferred the meetings of the Genetics Society of Canada and secondarily the American Society for Horticultural Science, because my interests are most closely represented there. Consequently, other society meetings are mostly ignored.

Yet I like to support the CBA by annual membership, and by having my name listed as an active botanist in Canada. I like to browse, if not completely read, the CBA Bulletin. It helps keep me informed of Canadian biology in the broadest sense. I think it also makes me a better scientist, and my participation, I hope, makes science in Canada stronger. I think that that is well worth my annual membership dues. I would encourage you to keep up the good work.

Lewis E. Aalders.

The meetings in alternate years proposal does seem wise. Our problem is partly made by the size factor. As Immo Hustich used to say: "Canada is so BIG, Bill" (the pronunciation 'BEEG' always made the statement more impressive!). The bigness trouble can be combatted by periodicals, correspondence, and meetings, but only at considerable costs in time, money and energy. Meetings every other year will cut currently inflated costs. More periodical news and correspondence, however, will be needed to maintain what the footballers call 'momentum'.

Bill Baldwin.

I imagine you should have had a flood of responses to Jack Maze's letter in the Bulletin. If you didn't I'll put one down for you on request. I can sympathize with his intentions in wishing Botanists to fight their own battles but he has demonstrated a very naive approach to what the political process is all about! Heaven knows, if botanists don't, that the politicans pay little enough heed to the concerted and unified body of scientific thought on what is good for Biology in Canada, let alone what might be expected were they confronted with a dozen briefs on every issue requiring a political decision!

Bill Illman.

Reading your outcry "Whither the CBA", I thought to respond, so at least you'll know that people read the Bulletin.

I am a stratigraphic palynologist, with a training in geology, but of necessity involved for many years with aspects of paleobotany.

I joined the ABC several years ago when it seemed that through a paleobotanical section, it would provide a means of contact and communication with kindred souls. These anticipations were never fulfilled, partly because the American Association of Stratigraphic Palynologists was formed in those years (the AASP went on to flower, with more than 400 members) and partly because there also already exists the Paleobotanical Section of the American Botanical Society.

However, I have maintained my membership because I have an (amateurish) interest in botany and nature, and occasionally find bits of information in the Bulletin. But also, because of those interests, I want to support any "offical" voice speaking for the Canadian biologists. This borders on politics, may be, but I think it is desirable to have a forum where matters of concern can be rapidly communicated, even if such matters (thankfully) may not occur with great frequency. The obvious "section" to be involved in such matters is that for ecology, which you say is the most viable section at present. To me, that makes sense.

In matters of mercury pollution, for instance, or large scale dissemination of sulfurous ashes, or the deadly potions brewed by coal exploitation, the direct and measurable effects are in the scope of ecology. I hope and trust that the CBA, through its sections, will have sufficient documented opinion and concern, to make a stand or lobby when necessary for changes in government (or big Company) practice and philosophy.

For these reasons I have continued to pay my money and be counted in the CBA, and intend to do so for the immediate future.

Jan Jansonius.

ENDANGERED SPECIES TRADE CONVENTION RATIFIED

Canada last year ratified the Convention on International Trade in Endangered Species, finalized back in 1973 and the treaty was implemented on July 1st. But the Convention is still not in effect. The restrictions under the Convention will affect zoos, collectors, the fur industry, tourists, and pet dealers -- indeed, almost anyone who purchases specimens or byproducts of specimens listed on its three appendices.

The first appendix lists species considered to be in imminent danger of extinction. Trade on such specimens is to be allowed only under exceptional circumstances and with the approval of a scientific authority in both the exporting and importing countries.

The second appendix lists species not in imminent danger, but likely to become so unless carefully regulated. It also includes species that are very similar in appearance to those in appendix I, so that adequate protection can be given species of appendix I. An export permit is required for these species.

The third appendix lists species that are protected by each country, but which may not be in any serious jeopardy. The walrus and the snowy owl are both listed for Canada. Again, an export permit is required before the specimens will be accepted in any other country.

Although the treaty contains some weaknesses and loopholes, it is a very definite step forward. Hopefully, it will be in effect later this year.

Copies of the treaty are available from Information Canada and from the Information Branch of the Federal Department of the Environment.

Airlines Won't Carry Endangered Species

Eighty-two airlines have agreed, under pressure from the World Wildlife Fund, to assist in the protection of Endangered Species.

Specifically, the carriers have pledged:

1. not to sponsor expeditions to hunt any species threatened with extinction; and
2. not to transport any endangered species taken in contravention of national laws, or shipped in violation of the Trade Convention.

LA FONDATION MARIE-VICTORIN DECERNE QUATRE MEDAILLES

La Fondation Marie-Victorin, établie en 1944, peu après le décès du fondateur du Jardin botanique de Montréal, avait pour premier but d'ériger un monument à la mémoire du célèbre botaniste,- projet qui fut réalisé en 1954,- et secondairement d'octroyer périodiquement une médaille à un botaniste ayant oeuvré pour l'avancement de la botanique systématique au Québec. Un premier groupe de quatre médailles fut attribué pour les années 1949-1952. Après une longue interruption due au déplacement du personnel administratif, un deuxième groupe de quatre médailles fut attribué de 1966 à 1969. Par suite du décès de l'administrateur, Monsieur Jacques Rousseau, l'attribution d'un troisième et dernier groupe de quatre médailles fut retardée jusqu'à ce jour, ce groupe représentant les médaillés de 1972-1975.

Telle que reconstituée sous la précédente administration, la Fondation est dirigée par un comité composé des anciens médaillés. C'est ce comité qui, en reconnaissance de l'oeuvre accomplie dans le champ de la botanique québécoise, a proposé que les prochains médaillés soient: pour 1972, Monsieur Ernest ROULEAU (Montréal); pour 1973, Monsieur Bernard BOIVIN (Ottawa); pour 1974, Monsieur Ernest LEPAGE (Rimouski); pour 1975, Monsieur Henry TEUSCHER (Montréal).

LIVING PLANT COLLECTIONS AND CONSERVATION

Recommendations for the preservation of endangered plants have come from an international conference, held at the Royal Botanic Gardens, Kew on September 2-6, 1975. Participants from 28 countries, meeting to consider the function of living plant collections in conservation and related research and public education, produced some resolutions calling for early action.

They include the following:

1. A worldwide network of nature reserves and gardens oriented towards conservation should be established, and institutions in temperate countries should provide technical aid and personnel through the auspices of the International Union for Conservation of Nature and Natural Resources.
2. Institutions with plant collections are recommended to give priority to the local flora, so as to benefit from available specialist knowledge and to reduce the need for simulated climatic conditions. In this way institutions will be best able to advise and educate specialists and the public about the conservation of indigenous species.
3. Wherever possible, all living plant collections grown for conservation purposes should also be stored in the form of seeds.
4. The propagation of rare and endangered species should be actively pursued by botanic gardens and other bodies maintaining living plant collections, and when necessary, they should be supported by conservation or other appropriate organisations. Special attention should be given to economic plants and their wild relatives and to plants which may have commercial value.

Patricia Roberts-Pichette.

ASSOCIATE COMMITTEE ON ECOLOGICAL RESERVES (ACER)

The National Research Council has approved formation of an Associate Committee on Ecological Reserves (ACER). Its terms of reference are:

1. To ensure continuing availability of a source of information and advice to federal and provincial authorities on the protection and preservation of ecological reserves.
2. To provide federal and provincial jurisdictions, native peoples' groups, commissioners and territorial authorities with information and services regarding areas surveyed and recommended for preservation by IBP/CT.
3. The activities of this committee shall be restricted to the consolidation and dissemination of information concerning sites recommended for preservation by IBP/CT and encouragement of action by legislative and regulatory authorities.
4. It is understood that this is an interim committee that will be disbanded when the above tasks are completed or when they can be taken over by any committee that may be formed having similar and continuing responsibilities. With this in mind, the committee shall make recommendations annually on any unfinished duties that require its continuation and, in the absence of such recommendation, it shall be disbanded automatically by the National Research Council of Canada.

Membership

Because the prescribed duties are a continuation of IBP/CT activities, the proposed membership consists of the ex-Chairman of the IBP/CT Subcommittee and one university ex-Co-Chairman from each of its ten

regional panels.

Chairman: Dr. W.A. Fuller,
Department of Zoology,
University of Alberta,
Edmonton, Alberta T6G 2E9.

Members: Dr. V.J. Krajina,
Department of Botany,
University of British Columbia,
Vancouver, B.C. V6T 1W5.

Dr. G.H. LaRoi,
Department of Botany,
University of Alberta
Edmonton, Alberta T6G 2E9.

Dr. J.S. Rowe,
Department of Plant Ecology,
University of Saskatchewan,
Saskatoon, Saskatchewan S7N 0W0.

Dr. J.M. Shay,
Department of Botany,
University of Manitoba,
Winnipeg, Manitoba R3T 2N2.

Dr. J.B. Falls,
Department of Zoology,
University of Toronto,
Toronto, Ontario M5S 1A1.

Dr. G. Lemieux,
Department of Pedology and Ecology,
Université Laval,
Québec, Québec G1K 7P4.

Dr. I. MacQuarrie,
Department of Biology,
University of Prince Edward Island,
Charlottetown, P.E.I.

Dr. D. Steele,
Department of Biology,
Memorial University,
St. John's, Newfoundland A1C 5A7.

Dr. J.D.H. Lambert,
Department of Biology,
Carleton University,
Ottawa, Ontario K1S 5B7.

Dr. V. Geist,
Faculty of Environmental Design,
University of Calgary,
Calgary, Alberta T2N 1N4.

Government officers and other university personnel in a position to make specific contributions to the work of the committee may serve on an ad hoc basis as required.

ACER has also assumed responsibility for up-dating the National Notebook of IBP areas. Some 500 new checksheets have been received and are now being processed. Enquiries respecting the revised edition, to be available in late spring, should be directed to Dr. G.H. LaRoi.

Committee members will be pleased to keep in touch with professional societies or naturalist's groups having an interest in preservation of natural areas for research, education, demonstration, or protection of rare or endangered habitats or species.

BCC

At the end of the second day of meetings, I got the impression that the Biological Council of Canada was on the track so to speak as far as the representation of several groups of Canadian biologists is concerned. The evidence for this is twofold. First we had distributed to us a penultimate draft of "Tomorrow's Biology - A National Statement on Basic Biology in Canadian Universities", familiarly known as the Mettrick-Walden report. The most significant aspect of the report is the fact that under the auspices of the Science Council of Canada, three Canadian organizations representing different professional societies in the biological sciences cooperated to synthesize the report. The three organizations are: The Biological Council of Canada, Canadian Committee of University Biology Chairmen, and the Canadian Federation of Biological Societies. Getting these three organizations to agree on the contents and presentation in the "statement" is, I think we will agree, an important forward step for Canadian biologists.

The "statement" in the penultimate stage is, in my opinion, well written and achieves a level that is easily understood by the layman. The presentation is based on the thesis that governmental - "support for research in basic biology has seriously deteriorated".

Over one-third of the report relates to Financial Requirements. Other chapters tell in a very lucid way the Justification for Support of research in basic biology and the scope of and requirements for biological research.

Some specific recommendations of the statement are: (1) There be an immediate remedial budget for $19.9 million; (2) That a budget of $1 million be provided for research associates with appointments which might last 5 years. These people would have the sole function of working on research teams where the area of their expertise is required; (3) That a "target budget" of $30 million be provided to permit a scale of grants that would permit a level of support for a few bioscientists at the most ambitious level. There are several other recommendations which would make the granting of funds in support of research, more uniform and representative.

The final draft of the statement will be available in March or April and will be widely circulated with public releases on chosen campuses across Canada. Science Council personnel will assist with this part of the undertaking.

The executive of the BCC is actively engaged in investigating the role that professionalism could play in the biological sciences i.e., that some kind of certification mechanism might be adopted for biological scientists as is the case for other professional groups. The philosophy was stressed that we are biologists first, working in specific fields which should be of secondary importance.

The executive empowered to develop the programs outlined consists of:

President - David F. Mettrick, Department of Zoology, University of Toronto

Vice-President - Robert H. Hayes, National Research Council

Secretary - Donald J. Durzan, Environment Canada
Treasurer - William F. Grant, Continuing Executive member
Executive members - Gordon A. MacLachlan
Wilson H. Stewart
Past President - David B. Walden

Sooner or later we will be asked to discuss these items in the CBA and hopefully support a more centralized and more effective organization representing all areas of the biological sciences from Agriculture to Zoology (A-Z).

Bill Stewart.

MOSST REORGANIZATION

The Ministry of State for Science and Technology (MOSST) has recently undergone yet another reorganization. In addition, changes have been made in MOSST's main objective and sub-objectives.

The new objective of MOSST is "To Encourage the Development and Use of Science and Technology in Support of National Goals". The old objective was "To assure the optimum use of science and technology in support of national objectives."

The new sub-objectives are:

1. To formulate and develop policies for and to advise on the support of science and technology.
2. To formulate and develop policies for and to advise on the application of science and technology to national issues.
3. To foster the use of scientific and technological knowledge in the formulation and development of public policies.

Dropped as a sub-objective is MOSST's coordinating role in relation to science and technology oriented programs of other Federal Government departments, S & T programs in other government organizations in Canada and between Canadian S & T programs in general and foreign programs.

Also dropped is MOSST's earlier sub-objective concerned with "developing improved methods for evaluating the effectiveness of scientific policies and programs and to promote their most efficient application". It was under this sub-objective that MOSST's limited activities in the R & D management improvement area were undertaken. It is interesting to note that all references in the new sub-objectives to "optimum" or "effective" utilization of science and technology have been deleted.

The old functionally organized structure of the Ministry consisted of four branches: International and Domestic Branch, Policy Branch, Program Review and Assessment Branch, and the Personnel, Finance and Administration Branch.

The new organization structure also consists of four branches: Government Branch, Universities Branch, Industry Branch, and the Corporate Services Branch.

Operationally, MOSST has switched from a functional management style to a matrix style. MOSST activities will now be focussed on high priority projects of a cross-departmental, cross-discipline nature with project team members being drawn from its four functional branches.

- From SCITEC Bulletin/November 1975.

SCIENCE COUNCIL OF CANADA NEW EXECUTIVE DIRECTOR

On February 20th, 1975 Dr. Roger Gaudry, Chairman of the Science Council of Canada, announced the appointment of Mr. J.J. Shepherd as Executive Director of the Science Council. Mr. Shepherd, formerly Chairman of the Board of Leigh Instruments Ltd., Ottawa and a member of the Science Council, will replace Dr. P.D. McTaggart-Cowan who has been Executive Director of the Science Council since 1968; Dr. McTaggart-Cowan retired May 31st, 1975.

THE ROYAL SOCIETY OF CANADA

At our last Annual General Meeting, the discussions encompassed the Royal Society. Many of our members appeared to have inadequate information about the Society, hence I asked Dr. Gor if he would write the following article for the Bulletin. - Editor.

The Royal Society of Canada was founded in 1882 by the Marquis of Lorne, during his term as Governor-General, to promote the development of literature and science in Canada. There were 80 charter members in four sections of 20 Fellows each. Among these Charter members were Sir William Dawson, Sir Sanford Fleming, Sir William Osler, William Saunders, and George Lawson. There are now about 800 Fellows in three Academies, each with its own Council; Lettres et Sciences Humaines, Humanities and Social Sciences, and Science. H.R.H. the Duke of Edinburgh and the Rt. Hon. John G. Diefenbaker are Honorary Fellows and there are ten distinguished Fellows Unattached. The Council of the Society is composed of elected officers, officers and members of the three Academies, and chairmen of standing committees. The President 1975-76 is Dr. Laykin Kerwin, Recteur, Université Laval. The Academy of Science currently has about 550 Fellows and elects 22 each year, at least three of whom must be in Applied Science. Nominations and elections are conducted by ten Subject Divisions: Mathematics, Physics, Chemistry, Interdisciplinary, Earth Sciences, Plant Biology, Animal Biology, Microbiology and Biochemistry, Applied Science and Medical Science.

The Royal Society initially received an annual grant of $5,000 from the Dominion Government for the publication of its Transactions. In 1975 it received a grant of $20,000 from the Canada Council and a grant of $30,000 from the National Research Council. Besides publishing the Transactions and Proceedings it has, in recent years, published two series called Studia Varia and Special Publications. Since 1970 it has organized and published the proceedings of eight symposia on current topics of an interdisciplinary nature. With support from a special grant it is currently engaged in publishing the national volume summarizing the many projects which formed part of Canada's contribution to the International Biological Programme (1967-1974).

The Royal Society of Canada has a number of important activities and successful appeals to its credit: the National Museum, the National Library and Public Archives, and the National Sites and Monuments Board. It supported the formation of the Dominion

Observatory, the National Research Council and the National Parks Service.

The Society, for many years, awarded scholarships and fellowships on behalf of various Foundations and governments but this was discontinued with the advent of the Canada Council and the post-war expansion of NRC and MRC awards. The Society awards a number of gold medals and prizes for outstanding achievement in the arts and sciences. These include the Chauveau (humanities), Flavelle (biological sciences), Innis-Gerin (literature, social sciences), Miller (earth sciences), Lorne Pierce (French or English literature), Tyrell (Canadian history), and Henry Marshall Tory (astronomy, chemistry, mathematics, physics).

In 1963, the Society, through its Plant Science Subject Division invited the botanists of Canada to a scientific and discussion meeting which was held in conjunction with the annual meeting of the Canadian Society of Plant Physiologists at Queen's University, Kingston, Ontario. At this meeting the decision was taken to appoint a small committee under Dr. R.A. Ludwig to develop plans for a national botanical organization and make arrangements for the founding meeting in 1964 of what became the Canadian Botanical Association/L'Association Botanique du Canada.

The Society is currently discussing possibilities for expanding and deepening the program of interdisciplinary symposia, placing particular emphasis on public concerns for the impacts that science and technology are having on social customs and institutions. In response to a recent suggestion by the Government of Canada the Society is exploring the feasibility of the Academy of Science assuming some degree of contractual responsibility for Canadian representation and participation in the affairs of international non-governmental scientific organizations such as the scientific unions that report to the International Council of Scientific Unions (ICSU). The Society has gone as far as asking the various scientific, engineering and professional societies of Canada whether they would be interested in supporting some form of cooperative arrangement to enable such a task to be performed satisfactorily. These initiatives are examples of current efforts by the Society to explore new areas for service to the development of arts and science in Canada.

Paul R. Gorham, F.R.S.C.

NATIONAL PARKS BANFF - Massive Highway Contemplated

Parks Canada is proposing to widen the Trans-Canada highway to four lanes along the Bow River Valley, through Banff National Park. The proposal stems from recent safety studies, which show above-normal accident rates on the stretch from the East Gate to the Banff townsite. In addition, the studies claim that continued growth of traffic will completely outstrip highway capacity by 1978.

The report is identified as dealing with "East Gate to Banff Townsite", about eight miles, but in fact illustrates reconstruction of over 20 miles. The report says much about four-laning the existing highway. But of the eight-mile townsite to East Gate stretch, the "preferred route" involves over seven miles of entirely new highway. The effect would be completely to encircle a major wetland with pavement.

The Bow Valley Naturalists are vigorously opposed to the proposal. They believe that the new highway is neither needed nor justified. Among their points:

1. An environmental assessment was produced, but was prepared upon the assumption that the new road would be built. It dealt only with minimizing the impacts, and did not seriously address the question of whether the reconstruction should proceed at all, despite the fact that ungulate (hoofed mammals) habitat could be significantly and permanently ruined.
2. Safety is not handled well. No real examination was undertaken of when the accidents occurred, of the weather conditions which contributed to the accidents, or of methods other than a whole new road to reduce accidents.
3. No attention was given to alternatives such as reduced speed limits or restricted truck travel periods.
4. The naturalists agree that the highway is crowded in peak periods on a few days of the year. But what, they argue, is wrong with travelling slowly through eight miles of the most spectacular scenery in Canada.

The naturalists feel that Parks Canada is too easily influenced by the Department of Works, and fear that park principles are not going to be upheld.

At writing, the National and Provincial Parks Association is preparing a statement and, by the time you read this, Parks Minister Judd Buchanan may have made a decision on the proposal's fate.

- From Ontario Naturalist/October 1975.

INTERNATIONAL REGISTER OF COMPUTER PROJECTS IN SYSTEMATICS, sponsored by the International Association for Plant Taxonomy, and the Society of Systematic Zoology.

The above two international associations are the prime sponsors of an International Register of Computer Projects In Systematics. For the purpose of the Register, systematics includes taxonomy, biosystematics, evolution, and biogeography of all biological taxa. The Register also welcomes information about nonbiological data files of use to systematics (e.g., the long range weather data tapes of the U.S. Weather Bureau). For the present, our project is a Register, which hopefully can direct people to the source of information desired. Depending on demand, it could be extended into a repository and clearing house for computerized files of systematic value.

As in the first such Register (see Taxon 19: 63-76 [1970]) we welcome systematic information on computerized data files about living organisms, preserved organisms, experimental data, literature files, etc. We also welcome information on well-written and documented computer program packages (other than basic statistics) that are of value for systematic research and/or teaching.

If you or a colleague use computers in systematics (or definitely plan to), please write to the Chairman of the Register, and

request as many copies of the Register Questionnaire as you have separate projects or program packages. You will be helping systematics in general by avoiding duplication of effort and by contributing to our attempts to minimize the incompatibility of computerized systematic data, or programs generated on different projects. You will be helping yourself because not only might you discover that someone else has already written the program, or computerized the data that you want, but also the data and programs you have created may be useful to others, thus enhancing their value.

The Register will be computerized and available for customized search requests by September 1976. As demand warrants it, published summaries will also appear. This Register will be compatible with a similar Register for all of biology that Crovello is organizing for the American Institute of Biological Sciences.

Please address all suggestions, requests for information, and for Register Questionnaires, to: Theodore J. Crovello, Chairman, International Register, Department of Biology, University of Notre Dame, Notre Dame, Indiana 46556, U.S.A.

THE HUNT INSTITUTE FOR BOTANICAL DOCUMENTATION, Carnegie-Mellon University, Pittsburgh, has recently effected a reorganization and reorientation of its Bibliographia Huntiana (BH) project, a long-term effort to compile a bibliography of all botanical literature published between 1730 and 1840. After 15 years of research and information processing, the BH master file is now substantially complete for both books and periodical literature. As originally planned, the BH file was to have been published in its entirety, with entries arranged alphabetically by author. Now, in order to maximize utility and minimize production time, the idea of publishing the entire content of the file in conventional bibliographic format has been abandoned. Instead, a series of "BH Monographs" will be produced, each based on a topical subset of the master file. The first such Monograph will treat the floristic literature published in book form during the BH period. Entries will be arranged geographically and full indices will be provided for access by author name, title, and chronology. Subsequent monographs may deal with floristic articles in the periodical literature, taxonomic treatments (organized by taxon), historical and biographical literature, medical botany, and botanical theory and philosophy, among other topics. Publication of the first Monograph is planned for early 1977, with subsequent volumes following at yearly to biennial intervals.

Botanists, historians, and others interested in consulting Bibliographia Huntiana are encouraged to contact the Institute regarding their needs. Specific queries will be handled by mail or phone, and consultation in person will be welcomed.

FORTCOMING MEETINGS

Symposium on Cytobiology of sexual reproduction in ovulated plants

To be held in the Faculty of Sciences, University of Reims, France on 17th to 19th November 1976. Proceedings will be published in the Bulletin de la Société Botanique de France. Registration fee: 80 French Francs. For more information write to:- professeur M. Favre-Duchartre, Laboratoire de Botanique, Faculté des Sciences, Université de Reims, B.P. 347 - 51062 Reims Cedex, France.

Conference on the Solanaceae

A five-day conference on the Biology and Taxonomy of the Solanaceae will cover the systematics, phytogeography, cytogenetics, incompatibility mechanisms, morphology, ethnobotany, and chemistry and other aspects of many taxa of Solanaceae, both cultivated and wild. The conference will be held in Birmingham, England, July 13-17, 1976. Thursday, 15 July will be devoted to chemotaxonomy, especially of the tropane and steroid alkaloids. Registration will begin July 12.

Further details of the Conference (cost about £55), and copies of the Solanaceae Newsletter (price $2), can be obtained from: professor J.G. Hawkes, Department of Botany, University of Birmingham, P.O. Box 363, Birmingham B15 2TT, United Kingdom.

Ontario Ecology Colloquium 1976

A second meeting of Ontario ecologists will be held at York University on Thursday, April 22 and Friday, April 23, 1976. Both days will be devoted to the presentation of submitted papers with allowance for adequate discussion time. The colloquium is sponsored jointly by York University and the University of Toronto. Participants will include both university and government scientists working in a wide range of ecological fields. Graduate students are particularly welcome to participate and contribute papers.

For further details concerning registration, accommodation and the programme contact:

Dr. R.L. Jefferies,
Botany Department,
University of Toronto,
Toronto, Ontario M5S 1A1.
Tel. (416) 928-3534.

or Dr. Martin C. Lewis,
Biology Department,
York University,
Downsview, Ontario M3J 1P3.
Tel. (416) 667-3748.

The International Society for Vegetation Science will meet in the United States (Chicago, Illinois to Plattsburgh, New York) and Canada (Montreal to the Magdalen Island and return to Quebec City) from 1st to 22nd June 1976.

The programme will include:-
June 1-9. Field conference in the United States. Assemble at Morton Arboretum, Lisle, Illinois; study prairies of Andropogon and Sorghastrum in Illinois and Indiana; dune

vegetation on the Lake Michigan shore; forests of Acer saccharum--Fagus grandifolia, Quercus alba--Carya ovata, and Quercus with mixed broadleaved deciduous trees, and low-moor bogs and swamps in southern Michigan and Ohio; "Mixed mesophytic forest" in southern Ohio and West Virginia; Quercus prinus forest in Pennsylvania; "Northern Hardwoods" (Acer--Fagus--Betula--Pinus--Tsuga) forests and forests (Picea and Abies) of the Adirondack Mountains in New York State.

June 9-18. Field conference in Canada. Study of forests of Acer saccharum, Acer saccharinum, Ulmus americana, Betula lutea, Fagus grandifolia, Tsuga canadensis, Abies balsamea, Picea mariana, Pinus divaricata, Picea glauca, and of vegetation of the taiga, peatlands, salt marshes, serpentine soils, alpine zone, and littoral dunes between Montreal and the Magdalen Islands. In the Magdalen Archipelago, a colloquium will be convened on Ecological Reserves.

June 19-20. Free days at Quebec City.

June 21-22. Symposium at Laval University, Quebec. Theme: The forests of the Northern Hemisphere, with emphasis on deciduous forests.

For further information contact:
Prof. Dr. W.S. Benninghoff,
Department of Botany,
The University of Michigan,
Ann Arbor, Michigan 48109, U.S.A.
Telephone: (Area Code 313) 764-1488.
or
Prof. Dr. M.M. Grandtner,
Faculté de foresterie,
Université Laval,
Québec 10, Québec, Canada G1K 7P4.
Téléphone: (Code régional 418) 656-2838.

OBITUARIES

E. Bruce Tregunna

The sudden death of E. Bruce Tregunna on September 13, 1975, is a great loss to plant physiology and biology in Canada. In his brief but active scientific career, Bruce had grown to be one of our brightest and most promising talents.

Born in 1937 in Neepawa, Manitoba, Bruce was raised in British Columbia and took his B.Sc. from Queen's University in 1959, winning the medal in Biology. At Queen's he came under the influence of Professor Gleb Krotkov and Dr. C. Donald Nelson, and he remained there to complete his M.Sc. in 1961 and Ph.D. in 1963, with an intervening year at the University of Pennsylvania in 1961. After graduation, he spent a year lecturing at McGill University, and in 1964 he joined the Department of Botany at the University of British Columbia where he became a full professor in 1974.

In his scientific endeavours, Bruce had a flair for experimentation and an astute intuitive ability to extract and interpret evidence from experimental results. He published over forty scientific papers on diverse topics, including algal photosynthesis, conifer physiology and plant response to virus infection. He participated in pioneer research which led to the recognition of photorespiration as a distinctive plant process and which demonstrated the general absence of photorespiration in C_4 plants. At the time of his death he was again exploring new territory in studies of the action of carbon dioxide on photoperiodism and phytochrome-mediated plant development.

Bruce was an active member of the Canadian Society of Plant Physiologists, regularly contributing to its meetings and serving as its Western Director in 1966-68. His reputation as a scientist, however, was international. He was assistant editor of Phycologia in 1968-72 and he was invited to speak to conferences in the United States and Europe. In England, he gained many friends during a sabbatical in 1970-71.

As a teacher, Bruce had the gift to share with his students the joy of discovery and the challenge of the unknown. His clear thinking, enthusiasm and quiet good humour were most effective with small groups of students and in discussing new or complex topics. It is a blow to science that the legacy of his teaching and research will not be more extensive, and it is his personal warmth and friendship which will be deeply missed and long remembered.

P.A. Jolliffe.

Henry Allan Gleason, died 21 April, 1975 at 93 years of age; pioneer ecologist and vigorous alpha-taxonomist, world specialist on the Melastomataceae, author of the revised Britton and Brown Illustrated Flora of the Northern United States, and oftimes administrator at the New York Garden.

PERSONALIA

Mr. P.M. Taschereau has resigned from his position as Curator of Botany at the Nova Scotia Museum and is studying for a Ph.D. at the University of Manchester. His research programme, which is under the supervision of Prof. D.H. Valentine, is on the evolution, phytogeography and experimental taxonomy of the amphi-atlantic species of Atriplex (Chenopodiaceae). Mr. Taschereau will be happy to continue to identify specimens of Atriplex from eastern Canada. His current address is: Department of Botany, The University, Manchester M13 9PL, England.

Dr. Shirley Conover is now employed as a biological oceanographer with MacLaren Atlantic Limited, in Halifax. She is engaged in supervision of mariculture of seaweeds, and ecological studies on marine phytoplankton.

Dr. J.C. Ritchie is currently on research leave, after completing his 5-year term as Divisional Chairman - Life Science, at Scarborough College in the University of Toronto. His year consists of a spell of writing up research, visits to laboratories at Cambridge, Aberdeen, Helsinki and Oulu, and field work in Manitoba and the N. Yukon. He will resume normal academic life at Scarborough in Fall 1976.

BOOK REVIEWS AND PUBLICATIONS

Common Weeds of Canada/Les Mauvaises Herbes communes du Canada by G.A. Mulligan. McClelland and Stewart 1976 price $4.95, paperback.

Another book on Canadian weeds -- but a good one! Such were my initial reactions when I thumbed through this book. It is, to quote the publishers, "A definitive, illustrated compendium of Canada's most common weeds" and will be "an invaluable aid to farmers, campers, cottagers, sports-people, nature buffs, gardeners and backyard botanists" -- and I would add students as well! It contains an account and coloured illustration of 117 weeds, each conveniently presented on the same page with the brief description in English and French -- a truly bilingual publication! The illustrations are almost all from colour photographs taken by the author. They vary considerably in quality (either of photography or of reproduction) from superb to pretty horrible, but all serve their purpose of conveying an impression of the general appearance of the plant. In all fairness it should be pointed out that many of these weeds are not the best or most inspiring subjects for colour photography! This little book should have a place on the shelves of every Canadian botanist and in the pocket of students and interested members of the public. It is a good book and good value for the money. - J.K. Morton.

Plant Chromosomes by Askell Löve and Doris Löve. 184 pp., 29 figs. Published by J. Cramer, Germany, 1975; available in U.S.A. from ISBS Inc., 10300 S.W. Allen Blvd., Beaverton, Oregon. Price $15 U.S.

This book is a very practical combination of chromosome theory and techniques of staining and studying plant chromosomes. It should be helpful to university students and to technicians working in the fields of plant cytogenetics and cytotaxonomy.

The first 70 pages deal with chromosome structure, mitosis and meiosis, polyploidy, cytological criteria of hybridity, significance of chromosome numbers and morphology in evolutionary studies and sexual and agamospermous reproduction.

Cytological techniques make up the remaining 100 pages and these include not only the usual procedures and formulas but instruction on choosing suitable tissues for study, the technique of observing chromosomes and many other practical matters.

This little book is an up-to-date digest of material usually to be found only by consulting a number of texts. - R.J. Moore.

A new pocket manual of plant genera growing in eastern North America

A newly published second edition of Professor Wade T. Batson's little manual entitled "Genera of the Eastern Plants" offers in a very convenient paperback format (18 x 11 x 1 cm) keys to the major groups, to families (to tribes of larger families) and to genera of all the commonly encountered plants growing out-of-doors in eastern North America from South Florida to the Arctic. Pertinent details given for each genus (arranged alphabetically within each family following the generic key) include authority, common name, synonyms, habit, habitat and distribution (if limited), as well as an estimate of the number of species to be encountered in the area and a finely executed line drawing of diagnostic features.

In a personal communication, following my initial very positive reaction, Prof. Batson has pointed out that "The book is an outgrowth of my now having taught the course Spring, Summer, or Fall Flora seventy-five times" and that "I've tried very hard to make a presentation of practical information as broadly useful, as concisely, as conveniently and as inexpensively as I could". The author has done his work well, founded on his experience in using the highly practical genus approach and I should say that he has eminently fulfilled his objectives!

The book will fill a need which has long been felt for a practical pocket guide to the surnames of vascular plants of this half continent.

The book is privately published by the author, who is Professor of Botany at the University of South Carolina, at $4.50. Obtainable from Prof. Wade T. Batson, 1120 Blake Drive, Cayce, S.C. 29033, U.S.A.

W.I. Illman.

A monograph of Chalara and allied genera by T.R. Nag Raj and Bryce Kendrick. Wilfrid Laurier University Press, Waterloo, Ontario. Cloth, 200 pp. 61 illus. $9.00.

The conceptual problems raised by imperfect fungi which have more than one conidial state have long plagued mycologists. In this book, which deals with sixteen generic names* applied to supposedly morphologically and developmentally similar hyphomycetes, the authors have adopted the idea of the lectostate -- a single state embodying the generic concept -- and have thus been able to present an expanded but unified concept of the genus Chalara, incorporating the species previously placed in such well-known dimorphic genera as Thielaviopsis and Chalaropsis. In addition to the Chalara states of Ceratocystis adiposa, C. autographa, C. fimbriata, C. moniliformis, C. radicicola, and Cryptendoxyla hypophloia, sixty-one species of Chalara are recognized, including twenty-six new species and three new combinations. Five generic names are reduced to synonymy with Chalara, and six others with affinity to Chalara are discussed.

Guide to Graduate Study in Botany for the United States and Canada

This Guide, published by the Botanical Society of America, lists 98 plant science departments in the U.S. and 20 in Canada which offer the Ph.D. degree in some area of the plant sciences. Each departmental listing includes the name and address of the institution, name of the department with number of faculty, current graduate enrollment, fields of specialization

*Chalara, Thielaviopsis, Chalaropsis, Stilbochalara, Hughesiella, Fusichalara, Chaetochalara, Sporoschisma, Ascoconidium, Bloxamia, Sporendocladia, Excioconidium, Endoconidium, Endosporostilbe, Milowia and Columnophora.

represented in the department, and name, academic background, area of specialization, and titles of recent Ph.D. theses directed for all botanical faculty in the department. This valuable Guide for assisting students in making the wisest choice of a graduate school for the study of botany is available for $3 from: Dr. Patricia Holmgren, Secretary, Botanical Society of America, The New York Botanical Garden, Bronx, New York 10458, U.S.A. Cheques should be made payable to The Botanical Society of America, Inc. and should be included with the order.

Précis de botanique. I. Protocaryotes et Thallophytes eucaryotes. R. Gorenflot, 1975. Doin, Paris, 184 pages, 16 planches h.-t., broché, $24.50.

L'auteur nous présente ici le premier de deux volumes destinés à couvrir l'ensemble des grands groupes végétaux. Dans ce premier tome, il traite exclusivement des Protocaryotes et des Thallophytes eucaryotes, alors que le second sera consacré aux Cormophytes. Même s'il est étonnant au premier abord de constater une scission aussi nette entre Thallophytes et Cormophytes -- ce premier volume n'étant pas tellement considérable, 184 pages, le tout aurait pu faire l'objet d'un seul livre et l'acheteur y aurait vraisemblablement gagné -- cette idée convainc au fur et à mesure que l'on progresse dans la lecture de ce manuel. Il est en effet très judicieux de maintenir en constant parallèle les Thallophytes chlorophylliens et non chlorophylliens, et une telle perspective aurait peut-être dû être modifiée si le tout avait été presénté en un seul volume.

L'auteur rompt avec la tradition voulant que le traitement des algues et des champignons se fasse selon une progression systématique qui va des formes "les plus primitives" aux formes "les plus évoluées", astreignant ainsi le lecteur éventuel à jongler avec une multitude de noms de familles ou de classes qui n'évoquent encore chez lui que peu de choses. Cette étape n'intervient qu'à la toute fin du manuel, dans le chapitre consacré à la classification et à la phylogénie; le lecteur a alors eu le temps de se familiariser avec les divers aspects passés en revue précédemment pour l'ensemble des Thallophytes (cytologie, morphologie, reproduction, écologie, etc.) et peut plus intelligemment maîtriser les critères conduisant au regroupement systématique des différents taxons.

Ce livre est très bien présenté. Le texte est bien ventilé par de nombreuses figures photographies ou tableaux, presque tous originaux et fort bien sélectionnés et exécutés. Les 16 planches hors-texte, situées au milieu du manuel, schématisent autant d'exemples de cycles de développement d'algues ou de champignons et, encore là, l'association entre les deux groupes s'avère des plus heureuse. Les tableaux synthétiques, au nombre de 39, acquièrent une importance très grande dans ce type de présentation et jouent leur rôle parfaitement en réunissant de façon claire et consise les caractères mentionnés dans le texte.

En somme, R. Gorenflot a produit un excellent petit traité de langue française -- il y en a si peu -- qui, vu sa simplicité, ne remplacera peut-être pas les traités traditionnels de botanique systématique, mais qui, par ses qualités d'ordre pédagogique, leur fournira une très agréable introduction. La note est cependant quelque peu élevée ($24.50) et rendra malheureusement ce volume peu compétitif dans le contexte nord-américain. - André Cardinal.

POSITIONS AVAILABLE

University of Toronto - Applications are invited for three faculty positions in the Department of Botany. Applicants should have an interest in one of the following fields: experimental taxonomy/ecological genetics, fungal physiology, plant virology and soil microbial ecology. At least one of the appointments will be in the tenure stream, the others will be filled on an annual contractual basis. The appointments normally will be at the assistant or associate professor level, at a starting salary of between $13,000 to $20,000. However, an appointment may be made at a higher level in the case of exceptionally well qualified applicants.

Further particulars can be obtained from Professor J. Dainty, Chairman, Department of Botany, University of Toronto, Toronto, Ontario, M5S 1A1, Canada, to whom applications and the names and addresses of three referees should be sent before 15th April, 1976.

University of Waterloo - Applications are invited for a faculty position in the Department of Biology. The appointment will be at the assistant or associate professor level, current starting salaries are $14,500 and $18,900 respectively. The successful candidate will be required to develop a programme of teaching and research in quaternary ecology, particularly palynology and to undertake teaching in other areas of biology. Applications, citing three referees, should be sent to Dr. J.K. Morton, Chairman, Department of Biology, University of Waterloo, Waterloo, Ontario N2L 3G1, Canada before May 15, 1976.

Sessional Lecturer

Applications are invited for the position of Sessional Lecturer in the Department of Botany, University of Alberta. Qualifications M.Sc. or Ph.D. in Plant Ecology. Salary commensurate with experience starting at $11,884 and $15,184 respectively (presently under revision). A one year appointment (with possibilities of a two-year extension), commencing 1st September, 1976. Responsibilities include lecturing in, and coordinating the laboratory portions of, the environmental section of the Introductory Biology Program. Applications, including curriculum vitae and three letters of reference should be sent, by April 19th, 1976 to: Mr. J.A. Marken, Search Committee, Department of Botany, University of Alberta, Edmonton, Alberta, Canada T6G 2E9.

RARE AND POTENTIALLY ENDANGERED SPECIES IN THE CANADIAN FLORA - A PRELIMINARY LIST OF VASCULAR PLANTS

Compiled by Linda Kershaw and J.K. Morton, Department of Biology, University of Waterloo, Waterloo, Ontario N2L 3G1, Canada.

In assembling information for a list of endangered species in Canada it has become increasingly apparent that there are several levels of concern, each of which will generate its own quite different list.

1) Canadian endemics of restricted range and species which are very rare throughout their range - ie. a list of what is "unique" to Canada. Such a list recognizes no national or provincial boundaries and should be of international significance.

2) A national list of plants which are very rare and/or very restricted in Canada. This list includes many species which, though common and often widespread in the U.S., are very rare and restricted in Canada. Its significance is primarily to Canadian botanists.

3) Provincial lists. These contain many species which, though common across neighbouring state or provincial borders, are rare or restricted in that province.

4) Local lists. Many of the species on these lists, though rare and rightly of concern to local botanists and naturalists, are nevertheless common in other parts of Canada and the adjoining United States.

Each of these types of list has its own purpose and value. In our work we have concentrated on the first two types. The list that follows is of Canadian endemics of restricted range and includes species which occur in other countries (usually the U.S.) but are very rare throughout their range. Also included are major disjunct populations when these are of small size; a disjunction of 500 miles or more being the criterion for inclusion. The reason for including disjuncts is the fact that many are genetically distinct and of considerable phytogeographic as well as taxonomic significance. Aliens and adventives have been excluded from the list, as also have members of the two critical genera Crataegus and Rubus. Major problems in assembling the lists centre around synonomy and taxonomy. These problems are far from being resolved, and are probably greater in the Canadian flora because most of our endemics appear to be of recent origin and are closely related to other more widespread species. The list is of species, but some major infraspecific variations have been included and we have no doubt that others should be added to the list. Unfortunately there is frequent disagreement amongst botanists as to the status of this variation -- species, subspecies or variety. We are of the opinion that the list should not be encumbered by the inclusion of minor variation.

Our list is based on the literature, an examination of several of the larger herbaria, on the provincial lists produced by Dr. Argus and others, and on personal communications from many of you. It is only intended as a preliminary list and we are sure it will prove to be incomplete and to contain taxa which do not warrant inclusion. However, we are at the stage where further searching of the literature and of herbaria is progressively less productive and the list needs the input of botanists and naturalists across Canada. For this reason we are publishing it in the Bulletin so as to reach as many of you as quickly as possible. We hope it will stimulate comment and criticism and that you will help us to produce a revised and more complete list. We consider that it is important for Canadians to know what is unique in their flora, and is thus deserving of the highest concern for its protection and continued survival.

We also have compiled a national list which is available, as a computer print out, on request. Its size (some 1400 species are listed) makes publication prohibitive, at least in preliminary form. A high proportion of the species on this national list, though rare and restricted in Canada are common across the border in the U.S. and we are inclined to question the value of such a list. We feel that the concerns over these species are probably best handled at the local level.

Abbreviations

Status:- D = small major disjunct populations in the area(s) indicated
E = endemic to the area(s) indicated
R = Occurs outside Canada, very rare throughout its range, Canadian distribution as indicated.
X = very rare species extinct in the Canadian part of their range.

Provinces etc.:-
A = Alberta
B = British Columbia
L = Labrador
M = Manitoba
NB = New Brunswick
NF = Newfoundland (excl. Labrador)
NT = North West Territories
O = Ontario
P = Prince Edward Island
Q = Quebec
S = Saskatchewan
Y = Yukon

ADOXACEAE
Adoxa moschatellina L. - D in A, S, sM, wO
ALISMATACEAE
Sagitarria montevidensis spongiosa (Eng.) Boiv. - R in eQ, neNB
ARACEAE
Acorus calamus L. - D in sNT
ARALIACEAE
Oplopanax horridus (Sm.) Miq. - D in nwO
Panax quinquefolium L. - R in sM, sO, swQ
BALSAMINACEAE
Impatiens noli-tangere L.-D at Gt. Bear L. (NT)
BETULACEAE
Betula kenaica Ev. - R in wY, nB, S
Betula michauxii Sp. - D in nQ, NF, L, NS
BORAGINACEAE
Amsinkia menziesii N. & M. - D in swM
Cryptantha interrupta (Gr.) Pay. - R in sS, sA
Cryptantha sobolifera Pay. - R in swA
Hackelia arida (Pip.) Joh. - R in sB
Hackelia hispida (Gray) Joh. - R in sB
Mertensia drummondii (Lehm.) Don - R in nNT
CACTACEAE
Opuntia polycantha Haw. - D in O
CALLITRICHACEAE
Callitriche anceps Fern. - D in nM
Callitriche marginata Tor. - R in swB
CARYOPHYLLACEAE
Arenaria groenlandica (R.) Spr. - D in sNS
Arenaria marcescens Fern. - E in eQ, wNF
Arenaria rossii (R.Br.) Gr. - D in nO
Cerastium beeringianum Ch. & Sch. - D in cO
Cerastium terrae-novae F. & W. - E in wNF
Silene taimyrense (Tolm.) Boc. - D in eNW
Stellaria alaskana Hult. - R in swY, nwB
Stellaria arenicola Raup - E in nwS
CHENOPODIACEAE
Atriplex aptera A. Nels. - R in sA, sS
Atriplex gmelini C.A. Mey. - D in nwNT
Chenopodium subglabrum (Wats.) Nel.-R in sA, sS
Chenopodium watsoni A. Nels - R in sA, sS
Corisperum simplicissimum Lun. - R in sM
Eurotia lanata (Pursh) Moq. - D in swY
Suadea occidentalis Wat. - D in sY
Suadea richii Fern. - R in seNF, NS
COMPOSITAE
Achillea megacephala Raup - E in sNT, neA, nwS
Achillea sibirica Led. - D in seQ
Actinea herbacea (Gr.) Rob. - R in cO
Adenocaulon bicolor Hook. - D on Bruce Pen.(cO)
Agoseris aurantiaca (Hook.) Gr. - D in sQ
Antennaria albicans Fern. - E in wNF
Antennaria alborosea Pors. - D in swB
Antennaria angustata Gr. - D in wNT, sA
Antennaria atriceps Fern. - R in nB
Antennaria bocheriana Pors. - R in neNT, nQ
Antennaria cana (F. & W.) Fern. - E in nwNF
Antennaria columnaris Fern. - E in wNF
Antennaria crymophila Pors. - E in nwNT
Antennaria ellyae Pors. - E in wY
Antennaria erigeroides Gr. - E in sB
Antennaria eucomosa F. & W. - E in nNF
Antennaria eximia Gr. - E in sB
Antennaria farwellii Gr. - R in cO
Antennaria glabrata (Vahl) Gr. - D in neNT, swA
Antennaria leuchippii Pors. - E in sY
Antennaria megacephala Fern. - E in seY, nB
Antennaria neodioica Gr. - D in sA
Antennaria pedunculata Pors. - R in Y, nB
Antennaria pulcherrima (Hook.) Gr. - R in eQ, NF
Antennaria stolonifera Pors. - R in seY, B
Antennaria straminea Fern. - E in seQ, wNF
Antennaria subviscosa Fern. - D in cO, seQ
Antennaria ungavensis (Fern.) Malte - D in A
Antennaria vexillifera Fern.-E in seQ, nwNF, L
Antennaria wiegandii Fern. - E in wNF
Arnica amplexicaulis prima Mag. - R in wNT, cY
Arnica chionopappa Fern. - D in cO
Arnica griscomi Fern. - E in seQ, wNF
Arnica louiseana Farr. - D in sA, sQ, nwNF
Arnica parryi Gray - D in cY
Arnica plantaginea Pursh - E in nQ, nNF, L
Arnica tomentosa Mac. - D in wNF
Arnica unalaskensis Less. - R in sY
Artemesia laciniata Willd. - D in cY
Artemesia rupestris woodii Niel. - E in swY
Aster anticostensis Fern. - E on Anticosti(seQ)
Aster nahanniensis Cody - E in swNT
Aster paucicapitatus Rob. - R in swB
Aster subgeminatus (Fern.) Boiv. - E in nwNF
Aster yukonensis Cron. - E in swY
Bidens eatonii Fern. - R in sQ
Bidens heterodoxa (Fern.) F. & St. J. - E in seQ, P
Bidens hyperborea Gr. - R in Q, NS, NB
Bidens infirma Fern. - E in sQ
Cirsium foliosum (Hook.) DC. - D in seQ
Cirsium pitcheri (Torr.) T & G - R in sO
Cirsium pumilum ssp. hillii (Nutt.) Spr. - R in cO
Cirsium scariosum Nutt. - D on Mingen I. (seQ)
Crepis nana Rich. - D in nwNF, cL
Erigeron compositus Pursh - D in seNT, seQ, wNF
Erigeron elatus (Hook.) Gr. - D in seQ, nNF, sL
Erigeron evermannii Rydb. - R in swA
Erigeron flagellaris Gray - D in sB, swA
Erigeron hyperboreus Gr. - R in wY, nwNT
Erigeron lanatus Hook. - D in swY
Erigeron linearis (Hook.) Pip. - D in swY
Erigeron lonchophyllos Hook. - D in seQ
Erigeron pallens Cron. - E in seB, swA
Erigeron provancheri V. & R. - E in sQ
Erigeron pumilus Nutt. - D in swY
Erigeron radicatus Hook. - E in sA, sS
Erigeron uncialis Blake - R in swA
Haplopappus macleanii Bran. - E in Y
Helenium autumnale L. - D in sNT
Hieracium albiflorum Hook. - D in wNW, M
Hymenoxys acaulis (Pursh) Park. - D in cO
Lactuca terrae-novae Fern. - E in nwNF
Petasites arcticus Pors. - E nY, nwNT
Petasites vitifolius Gr. - D in seQ, L
Saussurea americana D.C. - D in nwB, Y
Senecio elmeri Pip. - R in swB
Senecio fuscatus (J. & F.) Hayck - D in B
Senecio gaspensis Gr. - R in seQ
Senecio newcombei Gr.-E in Q. Charlotte I.(nwB)
Senecio pseudo-arnica Less. - D in nO
Senecio resedifolius Less. - D in B, seQ, wNF
Solidago anticostensis Fern. - E on Anticosti (seQ)
Solidago bartramiana Fern. - E in NF
Solidago chlorolepis Fern. - E in seQ
Solidago houghtonii T. & G. - R in cO
Solidago mensalis Fern. - E in seQ
Solidago victorinii Fern. - E on Anticosti I.(seQ)
Taraxacum ambigens Fern. - E in seQ, sNF, seL
Taraxacum arcticum (Tr.) Dahl. - R in sNT
Taraxacum carneocoloratum A. Nels - R in wY
Taraxacum laurentianum Fern. - E in sQ, wNF
Taraxacum longii Fern. - E in eQ, nwNF
Taraxacum mackenziense Pors. - E in Mackenzie Delta (nwNT)
Taraxacum phymatocarpum Vahl. - D in nNF
Taraxacum torngatense Fern. - E in nL
Thelesperma marginatum Rydb. - R in seA, swS
Townsendia condensata Eat. - R in swA
Townsendia hookeri Beam. - D in swY
CRASSULACEAE
Sedum villosum L. - R in eQ

CRUCIFERAE
Alyssum americanum Gr. - R in cY, wNT
Aphragmus escholtzianus Andrz. - R in swY
Arabis arenicola (Rich.) Gel. - D in sB
Arabis holbeollii Horn. - D in seQ
Arabis lemmonii Wat. - D in swY
Arabis lyallii Wat. - D in swY
Arabis lyrata L. - D in NT, nQ
Braya fernaldii Abbe - E in nwNF
Braya longii Fern. - E in nwNF
Braya pilosa Hook. - D in nY, nNT
Braya purpurascens (R. Br.) Bunge - D in sA
Cardamine minuta Willd. - R in nY, nwNT
Draba aurea Vahl. - D in eNT, cO
Draba cana Rydb. - D in nM, neO, Q
Draba fladnizensis Wulf. - D in B, A, neM
Draba incerta Pay. - D in nNT, seQ
Draba kananaskis Mull. - E in swA
Draba lactea Adams - D in sL, seQ
Draba macounii Sch. - D in nY, B, A
Draba nemorosa L. - D in eNT, seQ
Draba norvegica Gunn - D in cNT
Draba ogilviensis Hult. - E in wY
Draba porsildii Mull. - E in Y, B, A
Draba pycnosperma F. & K. - E in seQ, nwNF
Draba ruaxes P. & St. J. - R in swY, swB
Draba stenopetala Traupt - R in Y, wNT
Draba ventosa Gray - R in swY, sB, wA
Draba yukonensis Pors. - E in swY
Erysimum angustatum Rydb. - E in wY
Erysimum pallasii (Pursh) Fern. - D in swA
Halimolobus whitedi (Pip.) Roll. - R in sB
Hutchinsia procumbens (L) Desv. - D in nNF, sL
Lesquerella arctica (W. ex H.) Wats. - D in A, Q, wNF
Lesquerella calderi Mull. & Pors. - E in nY
Rorippa crystallina Roll. - E in sNT
Rorippa tenerrima Gr. - D in sNT, swQ
Thellungiella salsuginea (Pall.) Sch. - D in sY, NT
Thlaspi arcticum Pors. - R in Y, nwNT
CYPERACEAE
Carex abdita Bick. - D in swBC, swA
Carex adelostoma Krecz. - D in NT, neM, nQ, cL
Carex arctaeformis Mack. - R in wB
Carex athabascensis Herm. - E to Jasper (swA)
Carex bicolor All. - D in cO, nwNF
Carex enanderi Hult. - R in wB, swA
Carex fulvescens Mack. - R in seQ, wNF
Carex heleonastes Ehrh. - D in Y, nO, nQ
Carex hostiana D.C. - D in seQ, NF
Carex incurviformis Mack. - E in eB, swA
Carex krausei Boe. - D in cNT
Carex langeana Fern. - R in nQ, NF
Carex lapponica Lang - R in Y, wNT
Carex laxa Wahl. - R in cY, nwNT
Carex lyngbyaei Horn. - D in seQ, sL
Carex mackenziei Krecz. - D in nwNT
Carex maritima Gunn - D in swA
Carex microglochin Wahl. - D in seB, swA
Carex misandra R. Br. - D in B, sA
Carex morrisseyi Pors. - D in sNT, nM, nQ, nL
Carex nesophila Holm - D in swA
Carex parryana Dew. - D in swY
Carex peckii Howe - D in Y
Carex rousseaui Ray. - E in wQ
Carex rufina Dr. - D in eNT, neM
Carex sabulosa Turcz. - D in sY
Carex soperi Raup - E in swNT
Carex supina Willd. - D in wO
Carex terrae-novae Fern. - R in cQ, nwNF
Carex williamsii Br. - D in neB, nwA
Cladium mariscoides (M.) T. - D in eS
Eleocharis kamtschatica (Mey.) Kom. - D in nQ
Kobresia simpliciuscula (Wahl.) Mack. - D in seB, swA
Scirpus americanus Pers. - D in sNT
Scirpus longii Fern. - R in sQ, wNS
Scirpus paludosa Nels. - D in sNT, nO
Scirpus rollandi Fern. - D & R in Y, NT, B, A, S, sQ
Scirpus rufus (Hud.) Sch. - D in wNT
ELAEGNACEAE
Elaeagnus commutata Bernh. - D in seQ
ELANTINACEAE
Elatine rubella Rydb. - R in B
ERICACEAE
Monotropis odorata Ell. - R in sO
Rhododendron lapponicum (L) Wah. - D in sA
Vaccinium membranaceum Doug. - D in cO
Vaccinium nubigenum Fern. - E in seQ, nNF
Vaccinium ovalifolium Sm. - D in cO, sQ, NS
GENTIANACEAE
Gentiana affinis Gr. - D in wNT
Gentiana aquatica L. - R in sA, sS
Gentiana nesophila Holm - E in nO, Q, NF
Gentiana nivalis L. - R in eL
Gentiana raupii Pors. - D in nwO
Gentianella crinita victorinii (F.) G. - E on Gulf of St. Lawrence (sQ)
Gentianella propinqua (Rich.) Gill.-D in sQ, NF
GERANIACEAE
Geranium erianthum D.C. - D in swA
GRAMINAE
Agrostis clavata Tr. - D in wY
Alopecurus alpinus Sm. - D in sQ
Arctagrostis poaeoides Nash - R in swY
Avena hookeri Scr. - D in swY
Calamagrostis chordorrhiza Pors. - E in nNT, Q
Calamagrostis crassiglumis Th. - R in swB
Calamagrostis deschampsioides Trin. - D in L
Calamagrostis labradorica Kear. - E in seQ, seL
Calamagrostis lepageana L.-M. - E in seQ
Calamagrostis purpurascens R. Br.-D in nwO, sQ
Calamagrostis robertii Pors. - E in wY
Deschampsia alpina (L) R & S - R in eNT, nQ, nL
Deschampsia flexuosa (L) Trin. - D in swB, M
Deschampsia mackenzieana Raup - E at L. Athabasca (sA, sS)
Distichlis stricta (Torr.) Rydb. - D in sNT
Elymus sibiricus L. - D in swNT, neB
Festuca scabrella Torr. - D in wNF, Q
Hordeum brachyantherum Nev. - D in Y, sQ, wNF
Koeleria asiatica Dom. - D in swY, nwNT
Melica smithii (Port.) Vas. - D in cO
Phleum commutatum Gand. - D in sNT, cO
Poa alpina L. - D in cO, swQ
Poa canbyi (Scr.) Pip. - D in wO, seQ
Poa gaspensis Fern. - E in seQ, L
Poa jordalii Pors. - R in eY
Poa marcida Hitch. - R in swB
Poa nascopieana Pol. - E in nNT (Baffin I.)
Poa nevadensis Vas. - D in swY
Poa occidentalis Vas. - D in nB
Poa porsildii Gj. - E in Y
Poa pseudoabbreviata Ros. - D in nwB
Poa stenantha Trin. - D in seQ
Puccinellia agrostidea Sor. - R in swY, nwNT
Puccinellia ambigua Sor. - E in NS, P
Puccinellia andersonii Sw. - D in nwQ, M
Puccinellia deschampsioides Sor. - in swY, nNT, nM, nQ
Puccinellia hauptiana (Kr.) Kit. - D in nO
Puccinellia laurentiana F. & W. - E in seQ
Puccinellia lucida F. & W. - D in seQ
Puccinellia macra F. & W. - E in seQ
Puccinellia nuttalliana (Sch.) Hitch. - D in nO
Puccinellia poacea Sor. - E in nNT
Puccinellia vaginata (Lange) F. & W. - D in neM
Stipa richardsonii Link - D in sY
Torreyochloa pallida (Torr.) Ch. - D in sB, sS
Trisetum montanum Vas. - D in swA

GROSSULARIACEAE
Ribes watsonianum Koe. - R in sB
HALORAGACEAE
Myriophyllum magdalenense Fern. - E in seQ
HYDROPHYLLACEAE
Phacelia mollis Macbr. - R in cY
Romanzoffia tracyi Jep. - R in swB
HYMENOPHYLLACEAE
Mecodium wrightii (Bos.) Cop. - D in wB
IRIDACEAE
Iris lacustris Nutt. - R in swO
ISOETACEAE
Isoetes macrospora Dur. - D in S
JUNCACEAE
Juncus acutiflorus Ehrh. - D in sNF
Juncus bulbosus L. - D in seNF, NS
Juncus effusus L. - D in neM (Churchill)
Juncus ensifolius Wik. - D in nO, nQ
Juncus leucochlamys Z. & K. - D in nwY
Juncus longistylis Torr. - D in sO, Q, swNF
Juncus pelocarpus salulonensis St. J. -
E in swNF, NS
Luzula spicata (L) DC. - D in NT, M
JUNCAGINACEAE
Triglochin gaspense L. & L. -
E in seQ, NF, nNB, P
LEGUMINOSAE
Astragalus aboriginum Rich. - D in eO, seQ
Astragalus adsurgens viciifolius (Hult.) Welsh
- R in swY
Astragalus americanus (Hook.) Jones - D in seQ
Astragalus bodinii Sheld. - nM, NF
Astragalus microcystis Gray - R in seB
Astragalus robbinsii (Oak.) Gr. -
D in NS, nwNF, seQ
Hedysarum mackenzii Rich. - D in seQ, swNF
Lathyrus bijugatus Wh. - R in seB
Lathyrus maritimus L. - D in nwNT
Lathyrus venosus Muhl. - D in wB, seQ
Lupinus kusckei East. - R in swY, nB
Oxytropis huddelsonii Pors. - R in swY, nwB
Oxytropis hudsonica Gr. - D in sNT
Oxytropis ixodes B. & A. - R in wO
Oxytropis jordalii Pors. - R in cY, swNT
Oxytropis podocarpa Gray - D in nwB
Oxytropis sheldonensis Pors. - E in eY, wNT
Oxytropis viscida Nutt. - D in seQ
Vicia americana Muhl. - D in seQ
LENTIBULARIACEAE
Utricularia cornuta Michx. - D in A
LILIACEAE
Calochortus lyallii Bak. - R in sB
Erythronium montanum Wat. - R in swB
Smilax tamnoides Gray - D in sO
Tofieldia coccinea Rich. - D in swA
Tofieldia pusilla (Michx.) Pers. - D in wO
LIMNANTHACEAE
Limnanthes macounii Trel. - E in swB
NYMPHAEACEAE
Nymphaea tetragona Geo. - D in sNT
ONAGRACEAE
Epilobium behringianum Haus. - D in swY, NF
Epilobium ecomosum (Fas.) Fern. - E in sQ
Epilobium leptocarpum Haus. -
D in NT, cO, nNF, NS
Epilobium leptophyllum Raf.-D in swY, sNT, neB
Epilobium nesophilum Fern. - E in seQ, nNF
Epilobium pylaieanum Fern. - E in sNF
Epilobium scalare Fern. - E in nwNF
OPHIOGLOSSACEAE
Botrychium dusenii (Ch.) Al. - E in A
Ophioglossum vulgatum L. - D in sB, sA
ORCHIDACEAE
Cypripedium candidum Muhl. - R in swO
Cypripedium guttatum Swal. - D in NT
Cypripedium passerinum Rich. - D in sQ
Liparis loeselii (L) Rich. - D in sB
Malaxis paludosa (L) Sw. - R in NT, B, A, S, O
Platanthera albida straminea (Fern.) Luer -
R in eNT, nQ, NF
Platanthera chorisiana (Cham) Reich. - R in wB
Platanthera leucophaea (Nutt.) Lind. -
R in sO, sQ, sNB
PAPAVERACEAE
Papaver alboroseum Hult. R in Y, D in B
Papaver freedmanianum Love - E & D in Y, swA
Papaver kluanense Love - E in seB, swA
Papaver mcconnellii Hult. - E in nwNT, Y
Papaver pygmaeum Rydb. - R in sB, swA
Papaver radicatum Rot. - D in swA
Papaver walpolei Pors. - R in wY
PLANTAGINACEAE
Plantago canescens Adams - D in swA
Plantago maritima L. - D in nwNT
PLUMBAGINACEAE
Armeria maritima interior (Raup) Law. -
E at L. Athabasca (nwS)
POLEMONIACEAE
Phlox richardsonii Hook. - R in sY, nNT
Polemonium elegans Gr. - R in sB
POLYGONACEAE
Polygonum caurianum Rob. - D in seQ, L
Rumex arcticus Tr. - D in swA, neM
Rumex graminifolius Lamb. - D in swNF
POLYPODIACEAE
Adiantum capillus-vernis L. - D in seB
Asplenium viride Huds. - D in wY, swNT
Athyrium distentifolium Taus. - D in eQ, NF
Cheilanthes siliquosa Max. - D in cO, seQ
Cystopteris montana (Lam.) Bernh. - D in cO
Gymnocarpium heterosporum Wag. - D in wO
Pellaea atropurpurea (L) Link-D in swA, nS, seB
Phyllitis scolopendrium (L) Newn. - R in sO
Polystichum kruckbergiiWag. - R in sB
Thelypteris limbosperma (All.) Fuchs - R in B
Woodsia alpina (Bolt.) Gr. - D in cNT, cM, wO
Woodsia scopulina Eat. - D in wM, O, Q
PORTULACACEAE
Claytonia arctica Adams - D in wY
Claytonia bostickii Pors. - R in swY
Claytonia megarhiza (Gr.) Parry - D in wNT
Claytonia scammaniana Hult. - R in cY
Lewisia tweedyi (Gr.) Rob. - R in swB
Talinium okanoganense Eng. - R in sB
Talinium spinescens Torr. - R in swB
POTAMOGETONACEAE
Potamogeton oblongus Viv. - D in eNF, NS
Potamogeton polygonifolius Pourr.-R in eNF, NS
Potamogeton pusillus gemmiparus Rob. - R in sQ
PRIMULACEAE
Douglasia arctica Hook. - R in nY, nwNT
Douglasia laevigata Gr. - R in swB
Primula stricta Horn. - D in sB, sA
RANUNCULACEAE
Anemone multiceps (Gr.) St. - R in nwY
Anemone quinquefolia L. - D in sA
Anemone richardsonii Hook. - D in S
Aquilegia jonesii Par. - R in swA
Coptis occidentalis (Nutt). T. & G. - R in sB
Isopyrum savilei C. & T. -
E to Q. Charlotte I.(wB)
Ranunculus allenii Robinson - D in seQ
Ranunculus gelidus K. & K. -
D in swY, NT, seB, swA
Raununculus grayi Britt. - D in B, Y
Ranunculus natans Mey. - D in swY
Ranunculus pygmaeus Wahl. - D in seQ
Ranunculus rhomboideus Gold. - D in sNT
Ranunculus pacificus (Hult.) Ben. - R in cY, NT
Ranunculus turneri Gr. - R in nY, nwNT
Thalictrum sparsiflorum Turcz. - D in nO

ROSACEAE
Dryas drummondii Rich. - D in cO, seQ
Fragaria multicipita Fern. - E in seQ
Geum peckii Pursh - R in wNS
Geum schofieldii C. & T. -
E on Q. Charlotte I. (wB)
Potentilla elegans C. &. S. - R in Y, wNT, nwB
Potentilla furcata Pors. -
R & D in seY, nB, swA, nS, wM
Potentilla hyparctica Malte - D in neO, Q, nNF
Potentilla uniflora Ledeb. - D in nNT
Potentilla usticapensis Fern. - E in nNF
Prunus nigra Ait. - D in swA
Rosa rousseauiorum Boiv. - E in seQ
Rosa terrens Lun. - R in swS
Rosa williamsii Fern. - E in seQ
Rubus alaskensis Bail. - R in eY
RUBIACEAE
Galium palustre L. - D in sY, nA neM
SALICACEAE
Salix brachycarpa Nutt. - D in seQ
Salix chlorolepis Fern. - E in seQ
Salix jejuna F. & W. - E in NF
Salix lanata calcicola F. & W. - D in A
Salix obtusata Fern. - E in seQ
Salix paraleuca Fern. - E in seQ
Salix raupii Argus - E in nwB
Salix setchelliana Ball - R in swY
Salix silicola Raup - E of L. Athabasca (nwS)
Salix sphenophylla Skv. - R in nwNT
Salix turnorii Raup - E of L. Athabasca (nwS)
Salix tyrrellii Raup - E of L. Athabasca (nwS)
Salix wiegandii Fern. - E in nwSF
SAXIFRAGACEAE
Elmera racemosa (Wat.) Rydb. - R in swB
Saxifraga cernua L. - D in cO, seQ
Saxifraga foliosa Br. - D in sB, seQ, nNF
Saxifraga rivularis L. - D in seQ
Saxifraga taylorii C. & S. -
E on Q. Charlotte I.(nwB)
Tiarella laciniata Hook. - R in swB

SCHIZAEACEAE
Schizaea pusilla Pursh - R & D in cO, NF, NS
SCROPHULARIACEAE
Castilleja chyrmactis Penn. - R in swY, nwB
Castilleja elmeri Fern. - R in sB
Castilleja villosissima Penn. - E in swY
Castilleja yukonsis Penn. - R in swY, nwNT
Collinsia parviflora Doug. - D in O
Euphrasia disjuncta F. & W. - R in sQ, NF
Euphrasia oakesii Wettstein - E in seQ, nNF
Euphrasia vinaceae S. & Y. - E in nM, nL, nO
Gerardia neoscotica Gr. - E in wNS
Lindernia anagallidea (Michx.) Penn. - R in sB
Pedicularis albertae Hult. - E in seB, swA
Pedicularis flammea L. - D in A
Pedicularis furbishiae Wat. - X in nNB
Pedicularis palustris L. - R in eQ, seNF, NS
Pedicularis pennellii Hult. -
E on Q. Charlotte I. (nwB)
Synthris borealis Penn. - R in swY
SELAGINELLACEAE
Selaginella sibirica (Milde) Hier. - D in neB
SPARGANIACEAE
Sparganium glomeratum Lae. -
R & D in wY, wB, cA, sQ, cL
UMBELLIFERAE
Cicuta victorinii Fern. - E in sQ
Glehnia littoralis Sch. - R in wB
Ligusticum calderi M. & C. -
E on Q. Charlotte I. (nwB)
Lomatium brandegeei (C. & R.) Macbr. - R in sB
Podistera yukonensis M. & C. - E in cY
VIOLACEAE
Viola biflora L. - D in nwB
Viola epipsila Led. - D in wO

The Bulletin of the Canadian Botanical Assoc.
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Issued quarterly in January, April, July & October, and sent to all members of the Association. Non members can receive it at a price of $5.00p.a. ($1.25 per issue) post free, made payable to "The Canadian Botanical Association" and addressed to the editor. Material for inclusion in the Bulletin should reach the editor at least one month prior to the date of publication of that issue.

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To ensure prompt delivery of the Bulletin please notify the Editor of any change of address as soon as possible.