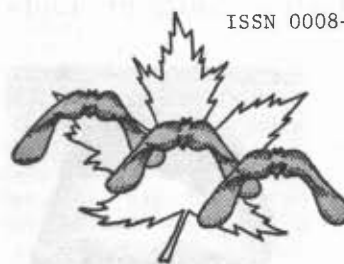


BULLETIN

L'ASSOCIATION BOTANIQUE DU CANADA



April 1977

Volume 10 Number 2

Waterloo

ANNUAL MEETING - JUNE 26-30

Plans for the annual meeting, B.G.T. '77, in Winnipeg are proceeding apace. You should have received full registration information with details of program, field trips and social events early in March.

The keynote speakers for all the symposia have now confirmed their willingness to participate so join with the geneticists and tree improvers for an exciting conference at the hub of the nation.

26 - 30 JUIN - CONGRES ANNUEL

L'organisation du congrès annuel, BGT '77, est bien avancée. Vous avez sans doute reçu tous les renseignements concernant les modalités d'inscription, le programme, les visites organisées et les activités sociales.

Les conférenciers principaux pour tous les symposia ont déjà confirmé leur participation. Vous êtes donc invité à participer, avec les génétistes et les spécialistes de l'amélioration de l'arbre, à ce congrès intéressant au coeur de la nation.

From the President

Your Executive, through the office of the President, has been busy trying to introduce changes in rulings and influencing establishment of policy in the various Departments of the Federal Government. In reply to the plea for assistance from Dr. David Mettrick, President of the B.C.C., letters were written to every government official including the Prime Minister, who has had or will have anything to do with creation of a Natural Science and Engineering Research Council. Your Executive supported the establishment of the Council which will take over the evaluation and awarding of operating grants from the NRC. What is at stake is the composition of the proposed 21-member Council which according to information available, was to have only one senior biologist. We have asked for six, one of whom was to be the Vice-President of the Council.

Your Executive has attempted to influence the policy makers of Agriculture Canada to relax the stringent regulations with respect to travel to meetings by those working in Federal Government labs. We have asked for one paid meeting a year for every scientist.

Carolyn Bird has proposed that the CBA student awards for the best paper presented at our annual meeting, be called the 'Mary Elliott Awards'. The Executive will consider the proposal as adopted unless the President receives some other suggestions. It seems to us that this is a fitting, continuing memorial to Mary Elliott.

As a result of our plea for the preservation of the Campbell Lake Site South of Inuvik, consultants have recommended two other locations for obtaining rock needed by the town of Inuvik and the industrial organizations involved, but no final decisions have been made.

REPORTS FROM THE SECTIONS

The Phycology Section

The Phycology Section had 50 members during 1976. At the Annual Business meeting in Lennoxville, the following were elected to the Sectional Executive Committee:

Dr. M. Munawar, Chairman
Dr. Czesia Nalewajko, Secretary
Dr. J. Gerrath and Miss C. Bird, members

A Symposium organized for the first time by the Phycology Section during the Lennoxville CBA meeting was attended by 40 scientists. This symposium was entitled "Freshwater algology in Canada" and was organized by Dr. M. Munawar. Twelve papers were presented, dealing with taxonomy, physiology and ecology of algae. From the comments we received, it appears that the symposium was a success; hence, an attempt will be made to have such symposia annually to review phycological research in Canada.

The next Symposium entitled, "Marine and Freshwater Phycology Symposium" will be held during the CBA meeting in Winnipeg, on June 29th. All Phycology Section members have been notified and invited to submit papers for the Symposium which has a wide theme to attract contributions from the whole spectrum of scientists working with algae. The deadline for submission of abstracts has been extended to April 15th. (Abstracts, of about 150 words, should be sent to Dr. M. Munawar, Canada Centre for Inland Waters, P.O. Box 5050, Burlington, Ontario L7R 4A6.)

We are also organizing a one-day workshop on "Taxonomy and culturing of freshwater algae" at the Canada Centre for Inland Waters on May 27th, 1977. For practical reasons the number of participants will be limited to 50. Further details of the workshop may be obtained from M. Munawar.

Ralph Anthony Ludwig



Those of us who attended the meeting of the Provisional Botanical Organization which was held at Queen's University on June 3, 1964, will remember Tony Ludwig as the Chairman of that meeting, and the man whom we elected to be our Chairman for the ensuing year. It was he, among others, who stressed the need for a strong national organization of Canadian botanists.

As Chairman during that year, Tony worked with a strong committee towards the founding meeting of the Canadian Botanical Association, which was held in Ottawa at Carleton University, May 26-28, 1965, on everything from a draft constitution to program for the meeting. At the Carleton meeting he was elected the first President of The Canadian Botanical Association, a fitting tribute to his efforts for which we are greatly indebted. He served in this office until the following spring, continuing his active pursuit of our interests.

Tony was born in Calgary, Alberta, on July 12, 1915. He received his B.Sc. from the University of Alberta in 1937, and in 1939, his M.Sc. from the same university. In 1947, he received his Ph.D. in plant pathology from Macdonald College of McGill University.

Tony was on the staff of Macdonald College from 1940 to 1951, first as a lecturer, and later as Associate Professor.

In 1951, Tony joined the Canada Department of Agriculture as Head of the Plant Pathology Unit at the Pesticides Research Institute in London, Ontario. From 1959 to 1961 he was Director of the Research Station at Kentville, Nova Scotia. In 1961 he was appointed Director of the Plant Research Institute at Ottawa, at which post he continued, until in 1965, he became Assistant Director General, Administration Division, Research Branch of the Canada Department of Agriculture.

Tony died suddenly at home on January 10, 1977. He had been recuperating from a serious fall several months previous.

Friends and associates will remember Tony as a teacher, an able researcher, an excellent administrator, and for some, a sympathetic and understanding person. He is survived by his wife Luella, and children Kathleen, Marion, Dorothy, Peter and Patricia. Our sincere sympathy is extended to them.

Publications:

- Ludwig, R.A. and Henry, A.W. Studies on the microbiology of recontaminated soil in relation to its infestation with Ophiobolus graminis Sacc. Can. J. Res. 21(C): 343-350. 1943.
- Barrales, H.L. and Ludwig, R.A. The clonal propagation of red clover. Sci. Agr. 32: 455-462. 1952.
- Ludwig, R.A. Studies on the physiology of hadromycotic wilting in the tomato plant. Macdonald College (McGill University) Tech. Bull. 20. 1952.
- Ludwig, R.A., Barrales, H.L. and Steppler, H. Studies on the effect of light on the growth and development of red clover. Can. J. Agr. Sci. 33: 274-287. 1953.
- Ludwig, R.A. and Thorn, G.D. Studies on the breakdown of disodium ethylene bisdithiocarbamate (nabam). Plant Dis. Repr. 37: 127-129. 1953.
- Julien, J.B. and Ludwig, R.A. Étude sur la résistance de l'orge à Helminthosporium sativum. Que. Soc. Prot. Plts. Rept. 32-33: 41-43. 1953.
- Sampson, R.E. and Ludwig, R.A. The effectiveness of certain fungicides against Botrytis tulipae (Lib.) Lind. Can. J. Bot. 31: 531-536. 1953.
- Ludwig, R.A., Thorn, G.D. and Miller, D.M. Studies on the mechanism of fungicidal action of disodium ethylene bisdithiocarbamate (nabam). Can. J. Bot. 32: 48-54. 1954.
- Thorn, G.D. and Ludwig, R.A. The aeration products of disodium ethylene bisdithiocarbamate. Can. J. Chem. 32: 872-879. 1954.
- Ludwig, R.A., Thorn, G.D. and Unwin, C.H. Studies on the mechanism of fungicidal action of the metallic ethylene bisdithiocarbamates. Can. J. Bot. 33: 42-59. 1955.
- Sampson, R.E. and Ludwig, R.A. Laboratory studies on evaluation and activity of antifungal fumigants. Can. J. Bot. 34: 37-43. 1956.
- Ludwig, R.A., Clark, R.V., Julien, J.B. and Robinson, D.B. Studies on the seedling disease of barley caused by Helminthosporium sativum P. K. & B. Can. J. Bot. 34: 653-673. 1956.
- Ross, R.G. and Ludwig, R.A. A comparative study of fungitoxicity and phytotoxicity in an homologous series of N-n-alkylethylene-thioureas. Can. J. Bot. 35: 65-95. 1957.
- Ludwig, R.A. Toxin production by Helminthosporium sativum P. K. & B. and its significance in disease development. Can. J. Bot. 35: 291-303. 1957.
- Ludwig, R.A., White, R.W. and Unwin, C.H. A rapid quantitative test for phytotoxicity and its use in the examination of a series of alkyl-substituted cyclohexanones. Can. J. Bot. 35: 605-613. 1957.

- Winslow, R.D. and Ludwig, R.A. Studies on hatching stimulation in the beet nematode, *Heterodera schachtii* Schmidt. Can. J. Bot. 35: 619-634. 1957.
- Thorn, G.D. and Ludwig, R.A. 5-alkyl-2, 5-dimercapto-1,3,4-thiadiazoles. Can. J. Bot. 36: 389-392. 1958.
- Ludwig, R.A. and Thorn, G.D. The interaction between disodium ethylene bisdithiocarbamate (nabam) and manganese. Can. J. Bot. 36: 473-482. 1958.
- Munnecke, D.E., Ludwig, R.A. and Sampson, R.E. The fungicidal activity of methyl bromide. Can. J. Bot. 37: 51-58. 1959.
- Illman, W.I., Ludwig, R.A. and Farmer, J. Anthracnose of canning tomatoes in Ontario. Can. J. Bot. 37: 1237-1246. 1959.
- Ludwig, R.A., Spencer, E.Y. and Unwin, C.H. An antifungal factor from barley of possible significance in disease resistance. Can. J. Bot. 38: 21-29. 1960.
- Ludwig, R.A. Toxins (Chapter 9, Volume 2 of "Plant Pathology" - a treatise on basic principles). Academic Press. 1960.
- Ludwig, R.A. and Thorn, G.D. The chemistry and mode of action of the dithiocarbamate fungicides. (In Volume 3 of "Recent Advances in Pest Control Research"). Interscience Publishers Inc. 1960.
- Taylor, R.L. and Ludwig, R.A. (editors). The evolution of Canada's flora, commemorating the founding meeting of The Canadian Botanical Association, L'Association Botanique du Canada, held at Carleton University, Ottawa, May 1965. Univ. of Toronto Press. 1966.

William J. Cody.

PERSONALIA

WILLIAM LEACH, B.Sc. (Manchester '22), M.Sc. (Manchester '24), Ph.D. (Birmingham '30), D.Sc. '32, F.R.S.C. died July 17, 1976, aged 84 years. Ecologist and physiologist. Dr. Leach retired as Chairman of the Department of Botany, University of Manitoba in 1954. He came to Canada in 1937 from the University of Birmingham where he had been for 15 years. Earlier, he had served with the R.A.F. from 1915 to 1919 and he was a native of Crewe, England. His research interests included methods of measuring plant respiration and the spectrographic determination of plant constituents. He was author of 'Plant Ecology for the Student of British Vegetation' and 'Textbook of Practical Botany', published in the 1930's and 1940's. Dr. Leach also co-authored with W. Stiles the text 'Respiration in Plants', first published in 1932, and translated into several languages.

RESOLUTIONS

The following Resolution was adopted unanimously by the Biological Council of Canada:

The Biological Council of Canada gratefully recognizes the late Mary E. Elliott's years of service to the Biological Council of Canada as a representative of the Canadian Botanical Association. Her faithful attendance at meetings of the Council and her participation in the affairs of the B.C.C. will be missed sincerely. The sympathy of the Council is extended to her relatives and friends.

D.F. Mettrick, President,
Biological Council of Canada.

BIOLOGICAL COUNCIL OF CANADA

Summary of the Report of the President, D.F. Mettrick

The Biological Council of Canada has now published four statements on the question of biology in the universities and co-authored, with the Science Council of Canada, "Tomorrow's Biology?". One of the four publications was a brief to the Senate Special Committee on Science Policy (the Lamontagne Committee). The Executive of the B.C.C., was invited to appear before this Committee in early September 1976.

We were the only biological organization invited to submit a Brief, and we were the only biological organization invited to appear before the senators. If we had not been there then there would have been no public expression of the very real crisis now facing university-based biological research.

The B.C.C. has supported over the past 18 months the plans being developed by M.O.S.S.T. to reorganize the Federal Granting Councils, and, in particular, the separation of the university research support programme from the N.R.C. and the creation of a new Natural Sciences and Engineering Research Council (N.S.E.R.C.). In spite of the fact that 28% of all current N.R.C. grants are in the biological sciences, the membership of the Council of the N.R.C. currently has only one senior biologist.

In December 1976, the Minister of State for Science and Technology tabled in the House,

Bill C-26 being "An Act respecting the organization of certain scientific activities of the Government of Canada". Part III of this Act established the Natural Sciences and Engineering Research Council having a membership of 21 plus a President. (The latter will probably be Dr. B. Gingras).

As this is literally a "now-or-never" opportunity for biology to be officially recognized as a major and important science in Canada and for biologists to obtain their rightful representation on the new council; we should expect and demand that at least 5 members of the new council are recognized senior biologists. (Members were encouraged in the last issue to write the Prime Minister about this matter).

The B.C.C. met in November 1976 to discuss Biology in Government. As a result, the B.C.C. is continuing to work with the C.C.U.B.C. on the formation of a Canadian Institute of Biology; continuing to press the case for university research support; commenced a study on Biology in Government; established liaison with A.I.C. and C.A.R.C. and is working with other scientific organizations towards a Science Manifesto. A review of the B.C.C. constitution has been initiated with the aim of obtaining even more effective input from societies to the Council and increased representation on the Executive.

L'ASSOCIATION BOTANIQUE DU CANADA CONSTITUTION

I. Nom de l'association

La présente association se nomme:
L'Association Botanique du Canada - The
Canadian Botanical Association.

II. But

L'association a pour but de promouvoir la recherche en botanique, de stimuler l'intérêt pour cette discipline scientifique, et de représenter ses membres tant au Canada que sur le plan international.

III. Membres

Toute personne intéressée à la botanique d'un point de vue scientifique peut devenir membre de l'Association. Les membres se répartissent en quatre catégories:

- i Membres réguliers
- ii Membres étudiants
- iii Membres à leur retraite, ceux qui ont quitté leur emploi professionnel. Les membres à leur retraite jouissent des mêmes privilèges que les membres réguliers.
- iv Membres à vie. Un membre régulier peut devenir membre à vie en payant une cotisation globale. Le montant de cette cotisation, qui peut varier de temps à autre, doit être proposé par le comité exécutif et soumis à l'approbation des membres par scrutin postal. Un membre à vie conserve tous les privilèges d'un membre régulier sans avoir à payer sa contribution annuelle.

IV. Direction

Le Bureau de l'Association se compose du président, du président-désigné, du vice-président, du secrétaire et du trésorier. Ces personnes, plus six directeurs et le président sortant, constituent le Comité exécutif. Au moins deux des directeurs doivent résider à l'ouest de la frontière de l'Ontario et du Manitoba, et deux à l'est de cette même frontière.

V. Règlements

Des règlements, compatibles avec la Constitution, seront adoptés en même temps que celle-ci et peuvent subir des amendements, tel qu'il est stipulé dans cette Constitution.

VI. Amendements à la Constitution

(a) Tout amendement à la Constitution doit être soumis à l'approbation de chaque membre régulier et en règle, par scrutin postal, au moins quatre semaines avant l'assemblée générale annuelle. Les bulletins de vote doivent être retournés au secrétaire avant la date limite, établie à sept jours avant l'assemblée générale.

(b) Les avis d'amendement doivent parvenir au secrétaire, par écrit, au moins huit semaines avant l'assemblée générale annuelle. Ils doivent porter la signature d'au moins trente membres réguliers.

(c) L'adoption d'un amendement requiert la majorité des bulletins de vote retournés par les membres réguliers. L'amendement ainsi approuvé entre en vigueur à la fin de l'assemblée générale subséquente.

RÈGLEMENTS

Règlement No. 1 - Membres

(a) Toute personne intéressée à l'aspect scientifique de la botanique peut devenir membre régulier. Toute demande d'admission doit être recommandée par un membre régulier. Les membres réguliers jouissent de tous les privilèges de l'Association.

(b) Tout étudiant inscrit à des cours pour sous-gradués ou gradués peut devenir membre étudiant. Ce dernier devient automatiquement éligible comme membre régulier au terme de l'année fiscale de l'Association durant laquelle se termine la période d'inscription du candidat comme étudiant. Toute demande pour devenir membre étudiant doit être appuyée par un professeur de l'étudiant.

(c) Toutes les demandes d'admission doivent être adressées au secrétaire. Il appartient ensuite au Comité exécutif d'approuver ou de rejeter la demande au nom de l'Association.

(d) Tout membre démissionnaire peut devenir éligible pour réinstallation sur paiement de la cotisation annuelle. Les avis de démission doivent parvenir au secrétaire, par écrit.

(e) Tout membre qui néglige d'acquitter sa cotisation pendant six mois doit être rayé des cadres. Il peut être réinstallé en acquittant la cotisation de l'année en cours et les arrérages d'une autre année.

Règlement No. 2 - Nomination et élection des membres du Comité exécutif

(a) Le secrétaire sollicitera des membres les mises en nomination au moins seize semaines avant l'assemblée générale annuelle. 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. Les nominations ainsi rédigées doivent être adressées immédiatement au secrétaire du comité des nominations, afin qu'il les ajoute à la liste des candidats.

(b) Au moins douze semaines avant l'assemblée générale annuelle, le Comité exécutif forme un comité des nominations constitué de trois membres réguliers. Le comité des nominations doit désigner au moins un candidat éligible pour chaque fonction devant se terminer à la fin de l'assemblée générale annuelle suivante. La liste des candidats et des fonctions pour lesquels on les propose doit être retournée au secrétaire au moins huit semaines avant l'assemblée générale annuelle.

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

(d) Chaque membre régulier et en règle doit recevoir par la poste, au moins quatre semaines avant l'assemblée générale annuelle, un bulletin de vote où sont inscrits, par ordre alphabétique pour chaque fonction, les noms des candidats. Les bulletins de vote doivent être retournés au secrétaire avant la date limite, établie à sept jours avant l'assemblée générale annuelle. Si le secrétaire se porte candidat à un poste quelconque, le président désigne un officier d'élection qui n'aura pas sa candidature à aucun poste.

(e) Le président devra être élu un an avant d'entrer en fonction et, en temps que président-désigné il devra siéger comme membre du Comité exécutif. Un candidat pour le poste de président-désigné, devra avoir siégé au Comité exécutif de l'Association, ou avoir donné un service équivalent ailleurs dans l'Association, par exemple comme officier dans une section.

Règlement No. 3 - Vérificateurs

Le Comité exécutif désigne deux vérificateurs, dont le choix devra être ratifié par l'assemblée générale annuelle.

Règlement No. 4 - Mandats

(a) Le mandat du président, du président-désigné et du vice-président est d'une année. Le secrétaire et le trésorier sont élus pour deux ans, alternativement. Le mandat des directeurs est aussi de deux ans, trois d'entre-eux étant élus chaque année.

(b) Le Bureau de direction doit combler toute vacance survenue au Comité exécutif en cours d'année; cette nomination vaut jusqu'à la prochaine assemblée générale. Tout mandat non complété doit alors faire l'objet d'une election.

(c) Les membres nouvellement élus au Comité exécutif entrent en fonction à la fin de l'assemblée générale annuelle où ils sont élus.

Règlement No. 5 - Fonctions des membres du Comité exécutif

(a) Le président doit convoquer et présider toutes les assemblées du Bureau de direction et du Comité exécutif, de même que l'assemblée générale annuelle; il doit assumer toute responsabilité relevant normalement de cette fonction.

(b) Le vice-président doit assumer la charge du président en cas d'absence ou d'incapacité de ce dernier.

(c) Le secrétaire doit veiller à la conservation des archives de l'Association; il se rend responsable des minutes de l'assemblée générale annuelle et des réunions du Comité exécutif et doit exécuter toutes les tâches qui relèvent normalement de la fonction de secrétaire.

(d) Le trésorier doit conserver à jour la liste des membres en règle, s'occuper des finances de l'Association (réfère au règlement No. 6) et exécuter toutes les tâches qui relèvent normalement de la fonction de trésorier.

Règlement No. 6 - Finances

(a) L'année fiscale sera du premier Juin au trente-et-un Mai.

(b) La cotisation annuelle des membres réguliers et des membres étudiants sera fixée par le Comité exécutif et ratifiée par les membres réguliers au cours de l'assemblée générale annuelle. Les frais sont payables au le premier jour de l'année ou avant. Cette cotisation couvre également les frais exigés par le Conseil canadien de biologie - Biological Council of Canada. Le comité exécutif a le pouvoir de réajuster la cotisation dans le cas d'un changement des frais exigés par le Conseil canadien de biologie mais toute autre modification non occasionnée par ces frais doit être déterminée par les membres comme le stipule l'article V de la Constitution.

Un changement de taux de la cotisation annuelle des membres de l'ABC/CBA proposé par le comité exécutif doit être soumis aux membres et ratifié par eux au moyen d'un vote par la poste.

(c) Le trésorier dûment élu, dont l'obligation sera portée par l'Association sera autorisé par le Comité exécutif à s'occuper de comptes de banque au nom de l'Association, à recevoir et à déboursier tout argent de la Société, sauf les fonds pour lesquels les règlements ont prévu un usage particulier. Le trésorier doit inscrire aux registres toutes les recettes et dépenses ou autre transaction financière de même que les capitaux et les investissements de l'Association.

(d) L'assemblée générale doit aussi, par résolution, autoriser le président à signer les chèques et à payer les comptes de l'Association. Toutefois le président utilisera ces prérogatives seulement lorsque le trésorier ne sera pas en mesure de remplir ces fonctions.

(e) Il y aura vérification des livres une fois l'an à la fin de l'exercice financier, et le rapport financier sera envoyé aux membres par la poste.

(f) Au cours de l'assemblée générale annuelle, le trésorier doit présenter un rapport sur l'état financier de l'Association.

(g) Le trésorier sortant bénéficie d'un délai de trente jours pour la fermeture et la vérification des livres et leur transfert à son successeur.

Règlement No. 7 - Sections

Le Comité exécutif a toute latitude pour autoriser la formation de sections à l'intérieur de l'association. Il peut dissoudre une section ainsi constituée lorsqu'elle devient inactive; il peut aussi dissoudre une telle section en tout temps, pour toute raison valable et avec le consentement de deux-tiers des membres qui en font partie.

Un même membre peut appartenir à plusieurs sections.

Dans chaque section, un directeur dûment élu doit se rendre responsable, devant le Comité exécutif, de la bonne conduite des activités de sa section et soumettre un rapport annuel au Comité exécutif. Chaque section sera désignée ainsi: "La section de l'Association botanique du Canada".

Bien que le Comité exécutif ait toute latitude de fournir une partie des fonds de l'Association à une section quelconque, les sections n'ont pas le droit d'engager les fonds de l'Association dans aucune transaction sans avoir l'autorisation du Bureau de direction.

Chaque section peut, avec l'approbation du Bureau de direction, faire des arrangements pour réunir les fonds nécessaires à la bonne conduite de ses opérations. La section doit rendre compte de ses finances au secrétaire, à la fin de chaque année fiscale.

Règlement No. 8 - Réunions

(a) L'Association tiendra une assemblée générale annuelle. Le Bureau de direction déterminera les endroits et les dates de ces réunions après consultation des membres à l'occasion de l'assemblée générale antérieure.

(b) L'Association tiendra des réunions scientifiques. Le Bureau de direction déterminera les endroits et les dates de ces réunions après consultation des membres à l'occasion de l'assemblée générale antérieure ou réunions scientifiques antérieures.

(c) Le Bureau de direction a toute latitude de convoquer des réunions spéciales.

(d) Le président ou son délégué convoque les réunions du Comité exécutif.

(e) Les avis de convocation aux réunions scientifiques, heure, lieu, etc., doivent parvenir par la poste à tous les membres, au moins trente 32 semaines avant les réunions. L'avis de convocation à l'assemblée générale annuelle, les grandes lignes du programme de même que la sollicitation de travaux à présenter lors des réunions scientifiques, doivent être envoyés par la poste à tous les membres, au moins seize semaines avant la réunion. L'envoi de ces avis relève du secrétaire.

(f) La présentation d'un travail à une réunion scientifique ne peut être acceptée que si un auteur au moins est membre de l'Association. Le Comité exécutif, s'il le juge à propos, peut accepter pour présentation tout travail soumis par un ou plusieurs auteurs qui ne sont pas membres, à la condition qu'un membre régulier fournisse une lettre d'introduction de l'auteur ou des auteurs lorsque le travail est soumis. Le sommaire doit inclure le nom du membre qui recommande le travail.

(g) Au moins dix mois avant la réunion annuelle et scientifique, le Bureau de direction doit désigner un président en charge des arrangements sur place de la réunion; pour cette nomination, le Bureau de direction doit consulter les membres locaux de la Société.

Règlement No. 9 - Quorum

(a) La quorum, à toute réunion de l'association, est de 30 membres réguliers.

(b) Le quorum est de trois officiers aux réunions du Comité exécutif.

Règlement No. 10 - Participation à d'autres organisations

Le Bureau de direction, avec l'approbation du Comité exécutif, peut organiser la participation à d'autres organisations à intérêts similaires, pour fins d'entraide et pour l'avancement de la biologie, si une telle participation ne va pas à l'encontre de la Constitution et des règlements de l'Association.

Règlement No. 11 - Amendements aux règlements

Tout règlement peut être amendé à condition que l'amendement soit voté par les deux-tiers des membres du Comité exécutif au cours d'une réunion du Comité exécutif. Dans le cas où un référendum est exigé par trente des membres, l'abrogation de l'amendement requiert la majorité des bulletins de vote retournés par les membres réguliers.

Tout amendement proposé au moins huit semaines avant l'assemblée générale annuelle par une pétition signée par trente membres de l'Association doit être envoyé par la poste à chaque membre régulier et en règle, au moins quatre semaines avant l'assemblée générale annuelle; l'amendement peut être adopté s'il obtient la majorité des bulletins de vote retournés par les membres réguliers.

Les bulletins de vote doivent parvenir au secrétaire avant la date limite, établie à sept jours avant l'assemblée annuelle de l'Association.

Règlement No. 12 - Bulletin

L'Association va créer une publication, le CBA Bulletin de l'ABC comprenant des articles d'intérêt général pour les membres. Un éditeur sera nommé par le comité exécutif et sera chargé de la publication. Le mandat sera de trois ans et sera renouvelable. Un comité éditorial, composé d'au moins trois des directeurs de l'Association, sera chargé d'aider l'éditeur. Leur mandat n'excèdera pas deux années. L'éditeur sera président du comité éditorial et membre ex-officio du comité exécutif.

Règlement 13 - Résolutions

i Toute décision de l'ABC/CBA qui dépasse les cadres de l'organisation c'est-à-dire de nature à atteindre le public et les divers gouvernements doit faire l'objet d'une résolution, exception faite des décisions d'ordre "domestique" telles que les remerciements adressés à l'institution qui patronne l'assemblée annuelle.

ii Les membres de l'ABC/CBA doivent clairement rédiger leur résolution de sorte que dans leur discipline ils expriment des opinions qui ne relèvent que de la compétence de l'ABC/CBA (vis - la science des plantes) et reflètent l'expertise opinion du groupe entier; en plus ces résolutions peuvent être soumises à des départements, à des entreprises de même compétence professionnelle.

iii Les résolutions requièrent un proposeur et quatre seconds lesquels doivent être membres réguliers et en règle.

iv Les résolutions relèvent du Comité exécutif.

v La demande pour les résolutions de l'année paraîtra dans le bulletin de janvier.

vi Les résolutions doivent être soumises au secrétaire au moins dix semaines avant la réunion annuelle. Afin d'être acceptées à l'agenda chaque résolution doit spécifier à qui elle doit être adressée et doit être accompagnée d'un résumé. Le comité exécutif décidera ensuite si la résolution répond aux exigences requises, sinon elle sera retournée au responsable avec indication précise des révisions à faire. Les résolutions corrigées devront alors être soumises au Comité exécutif six semaines avant la date de la réunion annuelle.

vii Les résolutions acceptées par le comité exécutif, avec leur résumé doivent être envoyés par la poste à tous les membres de l'ABC/CBA avant la réunion annuelle, de préférence en même temps que la correspondance concernant la réunion.

viii Une résolution doit être présentée à l'Assemblée annuelle par le proposeur ou un des seconds.

ix Les résolutions urgentes peuvent être soumises au comité exécutif à n'importe quel temps avant la réunion annuelle. Le Comité exécutif décidera ou non de les inscrire à l'agenda.

x Pour être acceptée chaque résolution doit recevoir l'approbation d'une majorité des deux-tiers (2/3) des membres présents à la Réunion annuelle.

THE CANADIAN BOTANICAL ASSOCIATION CONSTITUTION

I. Name

The name of this association shall be The Canadian Botanical Association - L'Association Botanique du Canada.

II. Objective

The object of the Association shall be to encourage research and education in botany and to represent its members both nationally and internationally.

III. Membership

The Membership shall consist of persons having a scientific interest in botany. There shall be the following classes of Membership:

- i Regular members.
- ii Student members.
- iii Retired members, for those regular members who have retired from formal professional employment. Retired members retain all privileges of a regular member.
- iv Life Members. A regular member may become a Life Member by paying a one time fee. The size of this fee shall be proposed by the Executive Committee and ratified by means of a mail ballot submitted to the membership, and may be changed in amount from time to time. A Life Member shall have all the privileges of a regular member but is released from the payment of annual dues.

IV. Officers and Management

The Executive of the Association shall consist of a President, a President-elect, a Vice-President, a Secretary, and a Treasurer. These, together with six Directors and the immediate past President, shall constitute the Executive Committee. At least two Directors shall reside West and two East of the Ontario-Manitoba provincial boundary.

V. By-Laws

By-laws, not inconsistent with this Constitution, shall be adopted at the time of the adoption of this Constitution and may be amended as therein provided.

VI. Amendment of Constitution

(a) Amendments to the Constitution shall be by mail ballot, mailed to each regular member in good standing not less than four weeks in advance of the Annual Business Meeting. Ballots must be returned to the Secretary prior to the closing date which shall be established as seven days before the Annual Meeting.

(b) Notices of motion for amendment shall be submitted to the Secretary in writing over the signatures of at least 30 regular members at least 8 weeks prior to the annual meeting.

(c) Amendments shall require a majority vote of returned ballots from regular members; approved amendments to become effective at the conclusion of the next annual business meeting.

By-Law 1 Membership

(a) Regular membership shall be open to all persons having a scientific interest in botany. Applicants for regular membership must

be sponsored by a regular member. Regular members shall have full privileges of the Association.

(b) Student membership is open to all students registered in undergraduate or post-graduate programs. Student members shall be automatically eligible for regular membership at the end of the Association's fiscal year in which the individual ceases to be a registered student. Applicants for student membership must be sponsored by a supervising professor.

(c) All applications shall be submitted to the Secretary and the Executive Committee shall be empowered to accept or reject candidates on behalf of the Association.

(d) Any member who has resigned is eligible for reinstatement upon payment of the annual dues. Resignations from membership shall be transmitted in writing to the Secretary.

(e) Members who are six months in arrears in payment of their dues shall be removed from the membership but may be reinstated on payment of current dues.

By-Law 2 Nomination and Election of Officers

(a) A call for nominations shall be circulated to the membership by the Secretary at least 16 weeks prior to the Annual Business Meeting. Nominations must be signed by not less than six regular members in good standing and be returned to the Secretary at least 12 weeks prior to the Annual Business Meeting. The proposed office for each nominee shall be clearly indicated. Such nominations shall be transmitted immediately by the Secretary to the Nominating Committee for inclusion on the ballots.

(b) The Executive Committee shall appoint three regular members to serve as a Nominating Committee at least 12 weeks prior to the Annual Business Meeting. The Nominating Committee shall nominate not less than one eligible candidate for each office, to be vacated at the conclusion of the next Annual Business Meeting. The list of the nominees and their proposed offices shall be returned to the Secretary at least eight weeks prior to the Annual Business Meeting.

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

(d) A ballot bearing the names of the nominees, listed for each office in alphabetical order, shall be mailed to each regular member in good standing not less than four weeks in advance of the Annual Business Meeting. Ballots must be returned to the Secretary prior to the closing date which shall be established as seven days before the Annual Meeting. If the Secretary is a candidate for an office, the President shall appoint a Returning Officer who is not a current nominee for any office.

(e) The President shall be elected one year before taking office and, as President-elect, shall serve as a member of the Executive Committee. A nominee for the position of President-elect should be a person who has served on the Executive of the Association or who has given equivalent service elsewhere in the Association, for example as an officer of a sectional group.

By-Law 3 Auditors

Two auditors and alternates shall be named by the Executive Committee and their appointment ratified at the Annual Business Meeting.

By-Law 4 Terms of Office

(a) The President, President-elect and Vice-President shall hold office for one year. The Secretary and Treasurer shall hold office for two years, these officers being replaced in alternate years. The Directors shall each hold office for two years, three being elected each year.

(b) Interim vacancies occurring in the Executive Committee shall be filled by appointment of the Executive. The appointee shall hold office until the next Annual Business Meeting and any unexpired term shall then be filled by election.

(c) Newly elected members of the Executive Committee shall assume their duties at the conclusion of the Annual Business Meeting at which their election is announced.

By-Law 5 Duties of Officers

(a) The President will call and chair all meetings of the Executive and the Executive Committee, as well as the Annual Business Meeting, and assume all powers normally associated with this office.

(b) The Vice-President will assume the powers of the President in the event of the absence or disability of the President.

(c) The Secretary will keep the records of the Association, and be responsible for the minutes of the Annual Business Meeting and the Executive Committee Meetings, and perform all duties normally assigned to the Secretary.

(d) The Treasurer will maintain a list of members in good standing, handle the Finances of the Association (see By-Law 6) and perform any duties normally assigned to the Treasurer.

By-Law 6 Finances

(a) The fiscal year shall be June 1 to May 31.

(b) The annual dues for regular and student members shall be set by the Executive Committee and ratified by the regular members at the Annual Business Meeting. Dues are payable on or before the first day of the Calendar Year. The annual dues include the assessment by the Biological Council of Canada.

A change in rate of annual dues for membership in CBA/ABC proposed by the Executive Committee shall be ratified by submission to the membership by means of a mail ballot.

(c) The duly elected Treasurer, who will be bonded by the Association, shall be empowered by the Executive Committee to operate bank accounts in the name of the Association, to collect and disburse all funds of the Society except those for which other provision shall have been made in the By-Laws. The Treasurer shall keep records of all receipts and disbursements and other financial transactions and of the funds and investments of the Association.

(d) The President also shall be empowered to sign cheques and pay all accounts. This power shall be used only when the Treasurer is unable to perform these duties.

(e) An annual audit shall be made at the end of the fiscal year and distributed to the membership by mail.

(f) At the Annual Business Meeting the Treasurer shall present a report on the current status of the Association's finances.

(g) An outgoing Treasurer shall have 30 days' grace in which to close the books, have them audited, and transfer all financial business to the incoming Treasurer.

By-Law 7 Sections

The Organization of groups to be known as Sections may be authorized by the Executive Committee. The Section may be dissolved by the Executive Committee at such time as the Section becomes inactive or for sufficient reason at any other time with the consent of 2/3 of the members of the Section.

A member may belong to any number of Sections.

The duly elected officers of such Sections shall be responsible to the Executive Committee for the conduct of the affairs of their Sections and shall render to the Executive Committee an annual report from their Sections. Each Section shall be known as "The Section of the Canadian Botanical Association".

Although the Executive Committee, at its discretion, may contribute Association funds to a Section, the Sections shall not commit any Association funds for any purpose without the authorization of the Executive.

Each Section may, with the approval of the Executive, make its own arrangements for the raising of the necessary funds for the proper conduct of its operations. Account of all such funds shall be rendered to the Secretary at the end of each fiscal year.

By-Law 8 Meetings

(a) An Annual Business Meeting shall be held at such time and place as may be decided upon by the Executive after consideration of the advice given by the members of preceding Annual Business Meetings.

(b) Special meetings may be called at the discretion of the Executive.

(c) Executive Committee meetings shall be called by the President or his designate.

(d) Scientific meetings shall be held at times and places to be decided upon by the Executive after consideration of the advice given by the members at preceding Annual Business or scientific meetings.

(e) Notification of scientific meetings, the time, place, etc. shall be mailed to all members at least 32 weeks in advance of the meeting. Notification of the Annual Business Meeting, general program details and the call for papers for the scientific meetings shall be mailed to all members at least 16 weeks in advance of the meeting. These notices shall be sent out by the Secretary.

(f) A paper shall be eligible for presentation at a scientific meeting of the Association if at least one author is a member of the Association. A paper submitted by one or more non-members may be accepted for presentation, at the discretion of the Executive, if the author(s) are introduced in writing by a regular member when the paper is submitted. The name of the member who is sponsoring the paper must appear on the abstract.

(g) A Chairman for local meeting arrangements shall be appointed, not later than ten months prior to the next Annual and Scientific Meeting, by the Executive after consultation with local members of the Society.

By-Law 9 Quorum

(a) Thirty regular members shall form a quorum at any meeting of the Association.

(b) Five officers shall form a quorum at any meeting of the Executive Committee.

(c) Three Executive Officers shall form a quorum at any meeting of the Executive.

By-Law 10 Co-operation with Other Organizations

The Executive, with the approval of the Executive Committee, may arrange for co-operation, not inconsistent with the Constitution and By-Laws of the Association, with other organizations having similar interests for mutual benefit and for the further promotion of biology.

By-Law 11 Amendments to the By-Laws

Amendments to the By-Laws may be made by a two-thirds vote of the members of the Executive Committee at a meeting of the Executive Committee. Every such amendment, if a referendum is requested by thirty members, may be repealed by a majority vote of the returned ballots from regular members.

Any amendment proposed not less than eight weeks before the next annual business meeting of the Association by a petition signed by thirty of the members of the Association, shall be mailed to each regular member in good standing not less than four weeks in advance of the Annual Business Meeting and may be adopted by a majority vote of the returned ballots from regular members.

Ballots must be returned to the Secretary prior to the closing date which shall be established as seven days before the Annual Meeting of the Association.

By-Law 12

The Association will establish a publication, to be called the C.B.A./A.B.C. BULLETIN. The Bulletin will publish timely articles and news of interest to the membership. An Editor shall be appointed by the Executive Committee to be in charge of the publication. The term of office shall be for 3 years and is renewable. An Editorial Committee composed of at least 3 of the Directors of the Association shall assist the Editor. Their term shall not exceed 2 years. The Editor shall chair the Editorial Committee and shall serve as an ex-officio member of the Executive Committee.

By-Law 13 Resolutions

i A resolution is a declaration of the policy of the CBA/ABC that shall be forwarded outside the organization to the public, to a governmental body, etc. Exceptions to this are "housekeeping resolutions" such as the expression of thanks to the institution hosting the annual meetings.

ii In the wording of resolutions CBA/ABC members are requested to avoid committing the CBA/ABC to any expression of opinion on technical matters outside the area of the plant sciences. Since any resolution could become a public expression of opinion of the entire CBA/ABC, each resolution must be carefully

worded; consultation with qualified departments, agencies, or individuals may be necessary.

iii Resolutions require a mover and four seconders, all of whom shall be members in good standing of the CBA/ABC.

iv Resolutions are to be handled by the Executive Committee.

v Resolutions should be called for each year in the January issue of the Bulletin.

vi Resolutions should be submitted to the Secretary at least 10 weeks prior to the Annual Business Meeting. To be admitted to the agenda, each resolution must specify to whom it will be addressed, and must be accompanied by a supporting brief. The Executive will then decide whether such a resolution conforms to the guidelines. If so, it will be admitted to the agenda; if not, it will be returned to its sponsors with a request that specific revisions be made. Such revisions must be submitted to the Executive 6 weeks before the date of the Annual Business Meeting.

vii Resolutions acceptable to the Executive, together with their supporting briefs, should be mailed to all CBA members before the Annual Business Meeting, preferably along with other meeting material.

viii A resolution must be presented at the Annual Business Meeting by either its mover or one of its seconders.

ix Urgent resolutions may be submitted, always prior to the Annual Business Meeting, to the Executive who will then decide whether to admit any or all such resolutions to the agenda.

x To be accepted, each resolution must be favored by a 2/3 majority of those present at the Annual Business Meeting.

BOOK REVIEW

Plant Cytogenetics by D.M. Moore. Chapman and Hall Pub., London (Wiley and Sons, N.Y.), 64 p. paper \$1.30.

Although a very short review of the subject matter, this little book is surprisingly broad in scope. Moore has included chapters on history of genetics and cytogenetics, chromosome structure, chromosomal division, chromosomal mutations (structural and number) and a brief survey of chromosomes and plant evolution. While his examples for each phenomenon discussed are typical angiosperms, he does cite an occasional animal and a Bryophyte.

The book includes some 350 references, which provide as reasonable a survey of the literature as can be expected in such a short text. References range from classics by T.H. Morgan, Avery, McCloud and McCarty and Lewis and John on genetics, and Stebbins on plants evolution to recent works on the cell cycle, haploidy, and fluorochrome and geimsa staining. The evolutionary cytogenetics of Oenothera, Clarkia, Claytonia, Primula and Haplopappus provide the classical examples of different kinds of chromosomal evolution in flowering plants.

A weak point is the sparsity of illustrations of chromosomes and no photomicrographs. For those of us familiar with plant chromosomes this presents no

problem. Students, however, lack such familiarity and more illustrations would aid them. Clearly though to write a short text something had to be left out. Better to cite references and cover more topics than to have many illustrations at the expense of necessary text. Students will like the size, length and paperback edition price. The book should be a useful genetics text for courses on plant biosystematics.

John C. Semple

BRITAIN'S LAW FOR WILD PLANTS

Britain's wild plants are threatened. Over the last 100 years agriculture, industry, housing and drainage have caused the extinction of twenty of our flowers and many more have been brought to the verge of extinction.

Until now, there has been no general law protecting wild plants, but since 1 August 1975, when the Conservation of Wild Creatures and Wild Plants Act became law, virtually every species in this country, with the exception of a few noxious weeds, has some measure of protection.

It is now an offence for anyone without permission of the owner or occupier, to dig up any wild plant including flowering plants, ferns, mosses, liverworts and lichens, but excluding plants like mushrooms and toadstools. This does not mean you are prevented from weeding your garden or picking most flowers. However, there are twenty-one plants which are so rare that even picking would be harmful and these are totally protected. Removal of any part of these plants is an offence. There are a few exceptions to this rule, for instance, the Nature Conservancy Council can issue licences for scientific, educational or conservation purposes, for example a licence to collect seed might be granted for conservation reasons. There are also exemptions for statutory undertakers such as Water Authorities and for farmers who unavoidably damage protected plants "as a result of good agriculture or forestry practice". The list of protected species may be altered from time to time on the recommendation of the Nature Conservancy Council - the Government's statutory advisers on nature conservation.

CONFERENCE

THE SECOND INTERNATIONAL CONGRESS ON ECOLOGY. 10-16 September, 1978: Jerusalem. Sponsored by the International Association for Ecology (INTECOL).

The four Plenary Sessions:

1. Structure and function of desert and semi-desert ecosystems

A two-day excursion will be organized across the Negev desert to Eilat and including visits to research stations and elsewhere to illustrate the possibilities of reconciling conservation with the exploitations of desert habitats.

2. Structure and function of tropical forest ecosystems

INTECOL's sister organization ISTE (International Society for Tropical Ecology) will play a major role in organizing this session.

3. Ecological effects of development projects

The emphasis here will be on major human modifications of forest and water bodies and water courses.

4. Recent advances in ecological theory

In addition to some 20 topics related to the above, which will be treated in the plenary sessions, the following additional subjects are also proposed for parallel non-plenary sessions in the late morning and afternoon.

Ecological monitoring

Coastal zone ecology (including MAB projects on Mangrove ecosystems and Seagrass ecosystems)

Biogeochemical cycles

Plants in saline environments

Limitations to the exploitation of living marine resources

There will also be the special sessions proposed by the INTECOL Working Groups in:-

Physiological ecology

Statistical ecology

Urban ecology

Offered papers will also be welcomed at the Congress. Before the start of the Congress two pre-Congress workshops are proposed on - a global project for the management of inland fisheries and Statistical ecology. Logistics, Travel, accommodation, costs and such matters will be described in a subsequent Bulletin.

TEMPERATE FORESTS

A regional meeting on research in the temperate forest region, within the framework of MAB Project 2, was convened in Brno, Czechoslovakia, from 24-29 April 1976 at the invitation of the Czechoslovakian and Polish MAB National Committees.

Fourteen European and North American countries sent delegates. Canada did not attend but submitted research proposals by telex. A member of the Unesco/MAB Secretariat and representatives of IIASA and IUFRO also attended.

Eight major research themes were identified:

- Effects of air pollution on forest ecosystems and the effects of forest ecosystems on air quality;
- The role of temperate forests in fixing, storing and supplying energy and the effects on forests of energy development technologies;
- The role of forests in maintaining and improving water resources and in regulating water flow in river basins;
- The ecological basis for integrated pest control;
- Interactions between forest and other ecosystems within the landscape under different human impacts;
- Recreation and tourism in temperate forests;
- Ecological and socio-economic effects of intensive forest management;
- Baseline studies of processes determining the response of forest ecosystems to human impact.

The meeting accepted the Czechoslovakian proposal to establish a small Project 2 co-ordinating centre in Brno. One of the functions of this centre would be to provide Newsletters as a means of maintaining contact between countries and individual scientists.

A draft report of this meeting has been received and copies are available from the Canada/MAB Secretariat, Environment Canada, Ottawa, Ontario K1A 0H3.

THE LESSONS OF CLIMATIC HISTORY

By late summer of 1974, the newspapers in the United States were carrying a new story. During the spring there had been many articles about the delays of crop planting in the midwest, brought about by ceaseless rains. But by late summer the story was of drought. When the rains finally stopped in June, they did not return, and the late, spotty stands were blasted by heat and withered by drought. High technology was not a match for the elements.

What had started out to be an all-out effort to replenish the depleted grain reserves had become a disaster. Was it a local phenomenon, limited to the United States, or was it part of a larger pattern of change from the especially good growing seasons of the previous decades? It appears that it is the latter. There is a growing consensus among climatologists that the world pattern of climate has been changing. The overriding question of today is whether that change will continue, for the complex of worldwide climatic problems that has appeared, especially since 1971, is totally incompatible with the high population growth rate of the world.

Climatic research has not yet produced a deterministic, predictive model of world climate with which we can state what the character of the coming decades will be - or even what next year will be like. However, there are lessons that can be learned from the study of climatic history that gives us some insight into the nature of the coming climate. Since about 1945:

- The average temperature of the northern hemisphere has declined nearly as much as it previously rose.
- Since 1951, the surface temperature of the whole North Atlantic has declined about one-eighth of the difference between recent temperatures and full glacial temperature conditions, and the Gulf Stream has shifted southward.
- The growing season in England has diminished by two weeks.
- Midsummer frosts returned to the upper midwestern United States.
- The Canadian Arctic has had severe ice conditions compared to the past few decades.
- The snow and ice cover of the northern hemisphere suddenly increased by about 13 percent in the winter of 1971-72, and has remained at the increased level.

The facts of past environmental history, especially if we restrict our attention to the last 10 millenia, teach us some non-theoretical lessons. If we combine a knowledge of climatic history with what we know of the mechanics of the atmosphere-earth system, we can see some patterns that can be used to assess the probable future course of the climate.

In brief the lessons of a climatic history are:

1. Climate is not fixed. On a long time scale it has varied from glacial, with vast continental glaciers, to non-glacial, such as the last 10,000 years. On the scale of centuries there have also been significant climatic changes associated with significant ecological changes.
2. Climate tends to change rapidly rather than gradually. The change from a glacial to a non-glacial climate may take less than a century, though full response of the biota and full adjustment of the environment to the new

condition may take much longer. Smaller, but still significant, changes of the climate may occur in a few decades.

3. Cultural changes usually accompany climatic changes. The relatively small climatic changes of the past 10 millenia have changed the human possibilities of the environment enough to make important changes in whole cultures.

4. What we think of as normal climate, at present, is not normal in the longer perspective of centuries.

5. When the high latitudes cool, the monsoons tend to fail. This is especially important because the high latitudes have been cooling in the last three decades, and the hungry half of the world is concentrated in the monsoon lands.

6. Cool periods of earth history are periods of greater climatic instability.

During the last thirty years, as the climate changed, the world of mankind has changed dramatically; an explosion of population has about doubled the number of inhabitants of our finite world, even more in the monsoon countries. As the world has become more crowded, the mobility of populations has decreased. It is no longer possible for a million Irish to emigrate in response to a famine. A mass movement of a nation of pastoralists to greener pastures would lead to bloodshed if the migration crossed national boundaries - and perhaps even if it didn't.

For many years, world reserves of food grains diminished after the post-World War II recovery peak. There was a short-lived increase with the introduction of the higher yielding rice and wheat of the "Green Revolution". Such rapid expansion of high technology agriculture requires inputs of energy and capital, both of which are in short supply.

Since 1972 a series of climatically-induced crop reductions have occurred in scores of countries. The result has been an inexorable decrease in reserves. With reserves on the order of three weeks, less than full production is fraught with hazards to survival for millions.

We know from the lessons of climatic history that significant climatic changes can occur rapidly and the changed climate can last for centuries. The cooler periods of climatic history are periods of highly variable climate.

What then does the future hold? Climatic theory is not sufficiently developed to give a definitive prediction. Indeed, the scientific effort to develop the capability has yet to be made. However, we can still turn to the past for guidance into the future. Examination of the record of past climates shows us that coolings such as that of the post-1945 period have not, in the past millenium, lasted less than 40 years, nor has the hemispheric climate returned to the original state in less than 70 years. This suggests that the coming decade will be either like the last few years or more "glacial."

The sea cannot change temperature with extreme rapidity because of its enormous thermal inertia. This also precludes an immediate return to the climate of a decade ago.

In Bonn, Germany, in May 1974, a meeting of scholars called by the International Federation of Institutes for Advanced Study reached a consensus that the present climatic trend would continue the rest of the century,

the climate would be more unstable, and that a climatically-related disaster was likely within the decade.

The nations of the world must heed the lessons of climatic history.

From Bull. Cons. Council Ont. 23, no. 3, July 1976.

PUBLICATIONS

Conservation in Canada: A Conspectus. J.S. Maini and A. Carlisle (Editors). Environment Canada, Canadian Forestry Service, Publication No. 1340, p. 441. Printing and Editorial, Department of Supply and Services, Ottawa, Ontario K1A 0S9. Hard cover \$12.75, soft cover \$9.50 in Canada (in other countries \$15.30 and \$11.40, respectively).

The book presents a diverse and comprehensive view of our resources. In 18 chapters, authored by 22 well-known authorities in their fields, it deals with the present state and probable future of our major natural resources, as well as man developed resources. Various topics discussed include Tundra, Forest, Grasslands, Peatland, Evolutionary Centres, National Parks, Ecological Reserves, Wildlife, Fisheries, Freshwater, Climatic Aspects, Minerals, Geological sites, Urban Open Spaces, Legal Problems and Organizations concerned with Conservation in Canada. Many of these reports "describe a resource and its value, consider the effects of man, outline present conservation measures and their adequacy, and list future needs".

La Conservation au Canada: Aperçu général. J.S. Maini et A. Carlisle (Editeurs). Environnement Canada, Service canadien des forêts, No de catalogue 1340F, p. 486. Imprimerie et édition, Approvisionnements et Services, Ottawa, Ontario K1A 0S9. Couverture de toile \$12.75, couverture souple \$9.50 au Canada (à l'étranger \$15.30 et \$11.40, respectivement).

Ce livre traite dans le détail et sous divers angles des ressources nationales. Ses 18 chapitres, rédigés par 22 spécialistes réputés en leur domaine, décrivent l'état actuel, et l'avenir qui leur est réservé, de nos principales ressources naturelles, ainsi que de celles que l'homme a créées. Les divers sujets traités incluent la toundra, les forêts, les prairies, les tourbières, les centres évolutionnaires, les parcs nationaux, les réserves écologiques, la faune, les ressources halieutiques, les ressources en eau douce, les aspects climatiques, les minéraux, les sites géologiques, les espaces verts urbains, les problèmes juridiques et les organismes qui s'intéressent à la conservation au Canada. Plusieurs de ces exposés "commencent par décrire une ressource et sa valeur, étudient l'influence de l'homme et indiquent les mesures actuelles de conservation, leur pertinence et les besoins futurs".

An Atlas of Pollen of the Trees and Shrubs of Eastern Canada and the Adjacent United States, Part 3, Leguminosae to Cornaceae by R.J. Adams and J.K. Morton, published in the University of Waterloo Biology Series number 10 and obtainable from:- The Department of Biology, University of Waterloo, Waterloo, Ontario N2L

3G1, price \$2.50 prepaid. Parts I (Gymnospermae to Fagaceae) and II (Ulmaceae to Rosaceae) are still available at the same price. It is intended to publish the final part (part IV) later this year.

POSITIONS AVAILABLE

The University of Toronto - Applications are invited for a faculty position in the Department of Botany. Applicants should have an interest in Experimental Taxonomy. The appointment will be made in the tenure stream. The successful candidate will normally have a Ph.D. and a significant research record, together with teaching experience in taxonomy. The appointment will be at the assistant or associate professor level, at a starting salary of not less than \$15,000, dependent upon experience. An appointment may be made at a higher level in the case of exceptionally well qualified applicants.

Further particulars can be obtained from Professor T.C. Hutchinson, 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, 1977.

Scarborough College, University of Toronto - Applications are invited for a position in ecology at the level of Assistant Professor, effective July 1, 1977. Candidates must have a completed Ph.D. degree, or equivalent. The appointee will be expected to teach a general ecology course, be involved in advanced teaching (graduate) in ecology and develop an active research program. Applications, including complete curriculum vitae and the names of three referees should be sent to: Dr. R.E. Dengler, Associate Chairman, Division of Life Sciences, Scarborough College, University of Toronto, 1265 Military Trail, West Hill, Ontario, Canada, M1C 1A4.

The Bulletin of the Canadian Botanical Assoc.
Editor:- Dr. J.K. Morton
Department of Biology
University of Waterloo
Waterloo, Ontario. N2L 3G1

Issued quarterly in January, April, July & October, and sent to all members of the Association. Non members can receive it at a price of \$6.00p.a. (\$1.50 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.

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

Enquiries about membership of the CBA/ABC should be addressed to the secretary of the association:- Dr. Janet R. Dugle, Environmental Research, Whiteshell Nuclear Research Institute, Pinawa, Manitoba ROE 1L0.