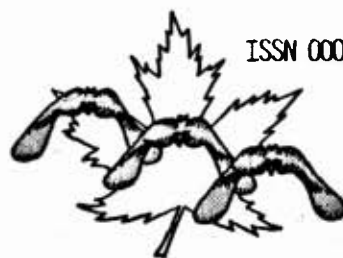


THE CANADIAN BOTANICAL ASSOCIATION

BULLETIN

L'ASSOCIATION BOTANIQUE DU CANADA



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VANCOUVER

PATRON

HER EXCELLENCY THE RIGHT HONOURABLE JEANNE SAUVE,
P.C., C.C., C.M.M., C.D., GOVERNOR GENERAL OF CANADA

PATRON

SON EXCELLENCE LA TRES HONORABLE JEANNE SAUVE,
C.P., C.C., C.M.M., C.D., GOUVERNEUR GENERALE DU CANADA

IMPRESSIONS OF THE MONTREAL MEETING

The problem with meetings in Montreal is the distractions that seem to be everywhere! Fortunately, the programme was varied and interesting enough to keep the majority of the participants crowding the different symposia and other presentations. The only exception was the symposium on "New and Contrasting Approaches to the Study of Ecological Patterns" that because it was presented on the last afternoon of the meeting had relatively fewer people in attendance. The symposium on "The Diversity of Forms in Vascular Plants" was truly a success. An appropriate appraisal of the success of this symposium can be seen in Dr. Steeve's remarks 'Congratulations to the organizers for preparing an excellent symposium and showing excellent judgement in their choice of speakers'. Not less successful were other activities such as the high quality of papers on the ecology of various types of vegetation from as diverse regions as Ellesmere Island, coastal British Columbia, southwestern Ontario and Newfoundland. This high quality was also well apparent in the Structure and Development section and other presentations.

Exclusions from the listing of meritorious presentations is not an indication of lesser standards, just of typing space management. Indeed, overall success can be evaluated from the record attendance of more than 200 people at the general symposium on Monday, June 15. The weather was cooperative except for the wet visit of the Jardin botanique de Montreal. The banquet was, using the words of one of the contributors to this brief review, a sumptuous affair held at a downtown restaurant, "Chez La Mere Tucker". The restaurant is located in a beautiful old stone building that used to be the Engineer's club, a private dining club that operated at a time when private clubs were common in Montreal. This added to the graciousness of the dinner event. During the banquet, Dr. C.O. Person was awarded the Lawson, but, as he was unable to attend, Iain Taylor received the plaque for him. Dr. W. Illman was awarded the Mary Elliot Award, which he accepted with emotion and pleasure. Several student prizes were also given that evening: the anonymous \$500.00 donation to travel to the Int. Bot. Congress of Berlin was given to Mr. Sergio Cevallos (U. Alberta); and two travel bursaries were awarded from the Endowment fund, to Mrs. Deborah Katz (U. Ottawa) and Ms. Ewa Mellerowicz (U.N.B.); finally, president-elect Keith Denford presented the Lionel-Cinq-Mars Prize to Ms. Andree Alle, a graduate student of A. Gagnon at the Universite du Quebec a Montreal.

All in all a very good meeting and as Iain Taylor put it, "It was a real pleasure to see so many from Quebec. Let us hope that we shall see better representation from Quebec at meetings elsewhere in Canada. Next year see you in beautiful Victoria, Super Natural British Columbia."

GEORGE LAWSON AWARDS

The George Lawson Award of the Canadian Botanical Association/L'Association Botanique du Canada is awarded to Dr. C.O. Person of the University of British Columbia for his outstanding cumulative contribution to the advancement of Canadian Botany.

Dr. Clayton Person is generally acknowledged as one of the world's leading authorities on the genetics of plant parasites, and he is regarded as one of the most influential experimentalist and theoretician in that field. The study of the genetics of plant pathogens is of immense economic significance for Canada and the whole world, and Person's theoretical models are acting as the bases for crop management procedures where they are concerned.

Dr. Person made several noticeable contributions to fundamental and applied botanical science, ranging from cytogenetics to molecular biology and from phytopathology to the genetics of plant host-parasite interactions and disease management. In 1956, he was the first to suggest the mechanism of the DNA double helix replication via rotation about its longitudinal axis. His work on the genetics of host-parasite interactions is seminal, and he provided a method of analysis for these systems.

The Canadian Botanical Association/L'Association Botanique du Canada is very proud to honour a scientist that has so highly contributed to the development of Botany, bringing acclaim to his University and his country.

THE MARY E. ELLIOTT SERVICE AWARD

The Mary E. Elliott Service Award of the Canadian Botanical Association/L'Association Botanique du Canada is awarded to Dr. W.I. Illman of Carleton University, in recognition of his long service to the Association as a founding member, Treasurer (1969-71), Vice-President (1978-79) and Archivist for many years (mid 70's - 1986).

Dr. Illman has always been an enthusiastic supporter of CBA and has been one of the willing group of Ottawa members who have represented the Association as alternates on a variety of committees. He has that essential instinct for details that is the diagnostic character of an Archivist. His office was for many years the only repository of CBA's records. Bill Illman undertook the negotiations for permanent holding of the archives in the National Archives of Canada. Even after the transfer was achieved, he remained the primary collector of the Association's memorabilia and continued to pass it on to the Archival staff. Dr. Illman has now retired from both his University and CBA archivist position.

Dr. Illman has served also Canadian Botany in many small ways. Notably, he has conducted innumerable field trips and given lectures to school groups and amateur naturalists.

The Canadian Botanical Association/L'Association Botanique du Canada is proud to honour one of its most humble but dedicated contributors.

CANADIAN BOTANICAL ASSOCIATION
RECOGNIZES YOUNG SCIENTIST AT 26TH
ANNUAL CANADA-WIDE SCIENCE FAIR

Garlic and Onions were the subjects of the project receiving the Canadian Botanical Association award at the recent 26th annual Canada-Wide Science Fair.

Savita Chaudhari, a grade 12 student from Peterborough, Ontario, won a \$150 cash award from the CBA for her project, "Folklore to Reality -- The Antibacterial Activity of Garlic and Onion Extracts".

Inspired by a visit to India, where her relatives use garlic and onions for the treatment of various ailments, Chaudhari decided to study the antibacterial nature of garlic and onions. She discovered that garlic extract has a broad spectrum of antibacterial activity, whereas onion extract has only a limited antibacterial value. Chaudhari also found that garlic and onion extracts have a synergistic / additive effect in combination with some other antibiotics.

The 1987 Canada-Wide Science Fair, held May 10-17 in Mississauga, Ontario, was the final stage of competition for 400 students representing 76 regions across Canada. Having participated in science fairs at the local and regional levels, these aspiring young scientists gathered to compete nationally for over \$60,000 in cash, awards, and scholarships.

Each year, the Canada-Wide Science Fair is sponsored by the Youth Science Foundation -- a national, non-profit organization funded by federal government grants, and individual and corporate donations.

Cynthia Gardiner Evans

OFFICERS OF CBA/ABC 1985-1986

President: Dr. K. E. Denford
Univ. of Alberta

Past-President: Dr. Luc Brouillet
Univ. de Montreal

Vice-President: Dr. Richard Hebda
E.C. Prov. Museum

President-Elect: Dr. B.L. Peterson
Univ. of Guelph

Secretary: Dr. A. G. Thomas
Agric. Canada, Regina

Treasurer: Prof. K. Winterhalder
Laurentian University

Directors: Dr. Barry G. Warner
Univ. Waterloo, Ont.

Dr. Geraldine A. Allen
Univ. Victoria, B. C.

Directors: Dr. W. J. Crins
Univ. British Columbia

Dr. John Bain
McGill University

Dr. Lewis M. Brown
Univ. Western Ontario

Dr. Gregory J. Taylor
Univ. of Alberta

Editor Bulletin: Dr. Luis Oliveira
(ex off.) Univ. Br. Columbia

Archivist: Dr. Eric Haber
Nat. Mus. Nat. Sci.

NEWS FROM THE SECTIONS

Ecology Section

Chairman: Keith Winterhalder
Dept. of Biology
Laurentian Univ., Sudbury,
Ontario P3E 2C6

General Section

Chairman: D. R. Lee, Dept. Biology,
Memorial Univ., St. Johns,
Newfoundland A1B 3X9

Mycology Section

Chairman: James A. Traquair
Agricul. Can., Research Stat.
Harrow, Ontario N0R 1G0

Phycology Section

Chairman: Lewis M. Brown, Dept. Plant
Scis, Univ. Western Ontario,
London, Ontario N6A 5E7

Structure & Development Section

Chairman: R.T. Riding, Dept. of Botany,
Univ. of New Brunswick,
Fredericton, N.B. E3B 6E1

Systematics & Phytogeography Section

Chairman: Paul M. Catling, Agricul. Can.
Biosystematics Res. Centre,
Saunders Bldg. C.E.F.,
Ottawa, Ontario K1A 0C6

Results of the 1987 Annual Meeting of
the Systematics and Phytogeography
section, Montreal, 17 June

The following is based on minutes taken
by Eric Haber, Acting Secretary, with
modifications by Paul Catling, Chairman.

1. In keeping with the change to item 10
in the by-laws (see C.B.A. Bull. 20(1):
3). A new secretary was elected. The new
secretary is Bill Crins.

2. At the meeting in 1988 in Victoria,
the nominating committee (Paul Catling,
Bill Crins and Randy Bayer) will present
the nominations for a new executive,
which will be elected by a vote of
membership present at the meeting.

3. Eric Haber reported that the National

Museum repository for checklists is now computerized and listings are available by province.

4. Paul Catling reported that floristic bibliographies are now available for many provinces, Quebec being a notable exception. The preparation of floristic bibliographies was encouraged by the Systematics and Phytogeography Section at the 1984 meetings in Fredericton, New Brunswick, at which time no current bibliographies were available.

5. It was concluded that timely symposia are very important in attracting people to the C.B.A. annual meetings and in advancing science and communication generally. With the success of the symposium on the genus *Carex*, an idea approved by the Systematics and Phytogeography Section at the 1986 meetings in Sudbury, the membership fully supported the idea of encouraging symposia related to systematics and phytogeography at as many annual meetings as possible. A number of ideas were presented for the 1988 meetings, mostly relating to the botany of the west coast, but no one actually offered to organize a symposium for 1988. Adolf Ceska agreed to assist however, in communicating with British Columbia botanists regarding potential symposia topics.

A symposium concerning "Molecular Biology and Systematics" was proposed for the 1989 meetings in Toronto and Suzanne Warwick indicated a willingness to organize this symposium and co-ordinate the topic with other societies. This was adopted unanimously by the membership.

6. Barry Warner and Bill Crins (as alternate) will be the Lionel Cinq-Mars judges from the Systematics and Phytogeography Section at the 1988 annual meeting.

7. Nancy Morin from the Missouri Botanical Garden, kindly provided a very useful overview of the current status of work on the Flora North America project.

8. Two resolutions were prepared for the annual General Meeting:

(a) Abstracts should be published in the bulletin a minimum of one month prior to the meetings. (This would allow for inexpensive travel arrangements and would encourage attendance because the contents of the talks would be available and serve to attract members)

(b) The Systematics and Phytogeography Section strongly supports the Flora North America Project because of its importance to systematics in Canada.

(We sought endorsement of this statement in order to show the financial supporters in the USA that there is strong support from Canadian botanists in this joint venture.)

(Because of some confusion, these were actually presented and endorsed at

the incoming executive meeting.)

Paul Catling
Agricul. Can., Ottawa, Ontario

CBA/ABC REPRESENTATIVES TO BCC

Executive

Member: L. Brouillet

Council

L. Peterson
I. Brodo

CALL FOR NOMINATIONS OF OFFICERS AND DIRECTORS FOR CBA/ABC 1988-1989

At the Annual Meeting at the Universite de Montreal a call for nomination for the following members of the Board of Directors was made:

1. President-elect (1988-1989)
2. Secretary (1988-1989)
3. 3 Directors (1988-1990)

One of the Directors must reside east of the Ontario-Manitoba Provincial boundary, one west of the boundary, and one at-large.

Nominations must be signed by not less than three (3) members in good standing. All nominations must be accompanied by the consent of the nominee.

Les membres sont invitees retourner chaque mise en nomination au secretaire pour le 31 decembre de cette annee. Toute nomination doit etre accompagnee du consentement ecrit de la personne nommee, laquelle doit etre membre regulier en regle. Chaque mise en nomination doit porter la signature d'au moins trois membres en regle.

All nominations must be delivered in writing no later than December 31, 1986, to the Secretary of the Association:

Dr. A. G. Thomas
Agriculture Canada
Research Station, Box 440
Regina, Saskatchewan S4P 3A2

On behalf of Nominating Committee

Luc Brouillet, Chairman

CALL FOR NOMINATIONS - AWARDS 1987

Each year the CBA/ABC invites its entire membership to make nominations for the George Lawson Medals and for the Mary E. Elliot Service Award. The Awards Committee is now also responsible for forwarding nominations for two awards by other organizations. However, these other nominations have to be forwarded during late Fall, and the call for nominations from the membership was therefore published in the July issue of

the Bulletin. Please refer to that issue for the terms of reference for the BCC Gold Medal and the John and Alice Tyler Ecology/Energy Prize.

George Lawson Medal

The purpose of the award is to provide a collective and formal expression of the admiration and respect for botanists in Canada for the excellence of the contribution of an individual to Canadian botany. Any botanist working permanently in Canada or having spent the greater part of his/her career here is eligible.

In any year, a maximum of two (2) awards may be made, one in each of the two categories outlined below, although a single award, or no award, may be made as the Awards Committee judges appropriate. The two categories are:

- A. Recognition of the cumulative, distinguished contributions of a senior investigator and/or teacher and/or administrator who has worked in Canada for the greater part of his/her career, and whose influence has contributed notably to the advancement of Canadian botany.
- B. A single contribution to botanical knowledge of outstanding distinction. Commonly this would take the form of a published paper, a series of papers, a monograph, or a book by a botanist at any stage of his/her professional career. The contribution should be of singular significance to the discipline at large.

In order that the Awards Committee may learn of botanists who are eligible to these awards, all members of CBA/ABC are invited to submit nominations, and to consult with their colleagues for suggestions. Nominations should be accompanied by a curriculum vitae, a clear statement of the nominee's contribution to botany in Canada, and as much documentation as possible. Letters by others supporting the nomination would also help the Awards Committee in reaching its decision.

Mary E. Elliot Service Award

This award was established in 1978 for meritorious service to the Canadian Botanical Association. The award may be made from time to time as the Awards Committee may recommend at its discretion.

Members of CBA/ABC are invited to submit nominations for this award to the Awards Committee, together with a curriculum vitae. A citation of approximately 100 words should accompany the nomination.

Nominations for the awards are kept on file for three years after submission, but nominators are requested

to provide updated information for the second and third years. Will nominators of candidates for these Awards during the last two years (i.e., 1986 and 1987) please submit a curriculum vitae for their candidate if not included originally and also update the information as necessary.

Nominations for any of the above Awards (including the BCC Gold Medal and the Tyler Prize) should be submitted to the Chairman of the CBA/ABC Awards Committee before December 31, 1987, (October 31, 1987, for the outside awards) with all necessary documentation to:

K.E. Denford
Dept. Botany
Univ. Alberta
Edmonton, Alberta
T6G 2E9

MEMBERSHIP RENEWAL

Membership renewal forms will be sent out to all members in November. The By-laws state that dues for the calendar year are due on or before January 1 each year.

The Treasurer has requested that all members renew as soon as possible, particularly when wishing to subscribe to one of the NRC journals.

If you have not received a renewal form by the beginning of January 1988, please notify the Treasurer immediately: Prof. Keith Winterhalder, Dept. Biology, Laurentian Univ., Sudbury, Ontario P3E 2C6.

FUTURE MEETINGS OF CBA/ABC

- 1988 - Victoria, B. C.
- 1989 - Toronto, Ontario
- 1990 - B.C.C. Second Congress, Laval
- 1991 - Edmonton, Alberta
- 1992 - A volunteer institution is required.

KNOW YOUR OFFICERS

PRESIDENT: Official representative of CBA/ABC; responsible for all official actions of the Association; chairs Awards Committee; represents CBA/ABC on BCC Executive.

K. E. DENFORD

Position: Professor
Where: Department of Botany, Univ. of Alberta, Edmonton

Research Interest(s): Chemical biosystematics. Biochemical adaptation of species in Arctic and Alpine environments, especially the genus Arnica.

Effects of glaciation on the distribution of species in North America.

* * * * *

PAST-PRESIDENT: Chairs Nominating Committee for following year's slate of officers; provides advice and help to President as required.

LUC BROUILLET

Position: Professeur-adjoint; conservateur, Herbarier Marie-Victorin
Where: Institute botanique, Universite de Montreal.

Research Interest(s): Systematics and evolution in genera Aster and Begonia; phytogeography of North America; systematics of Angiosperms.

* * * * *

PRESIDENT-ELECT: Chairs Lionel Cinq-Mars Committee; any other jobs as requested by President; represents CBA/ABC on BCC Council.

LAWRENCE (LARRY) PETERSON

Position: Professor
Where: Department of Botany, University of Guelph

Research Interest(s): Development & structure of roots with emphasis on ectomycorrhizae vesicular arbuscular mycorrhizae and nodule development in actinorhizal plants

* * * * *

VICE-PRESIDENT: Chairman of Local Organizing Committee for next Annual Meeting, responsible for all matters pertaining to that meeting.

RICHARD HEBDA

Position: Head, Environmental Section
Where: Archeology Division, B.C. Provincial Museum, Victoria

Research Interest(s): Vegetation & vegetation listing of B.C.; origin & development of B.C. biogeoclimatic zones; pollen morphology (Apiaceae); relationship of environmental history and evolution of native culture; paleoethnobotany & ethnobotany of B.C.; quaternary paleoecology of coastal Veracruz, Mexico, Belize; paleoethnobotany & environmental history of eastern Crete; sea-level changes & curves for west Vancouver Island; environmental history of glacial refugia of coastal B.C.

SECRETARY: Responsible for day-to-day running of CBA/ABC; takes minutes of all Executive meetings and of Annual General Meeting; maintains membership and address lists.

A. GORDON THOMAS

Position: Research Scientist.
Where: Agriculture Canada, Regina Research Station.

Research Interest(s): Population ecology of weedy species. Weed flora of Canadian crops.

* * * * *

TREASURER: Responsible for all financial operations; co-ordinates membership drives.

E. KEITH WINTERHALDER

Position: Associate Professor & Chairman.

Where: Department of Biology, Laurentian University.

Research Interest(s): Plant ecology, especially plant-soil relationships and specifically pollution and revegetation ecology.

* * * * *

DIRECTORS: Local area representatives. No specific duties but may be assigned jobs by President.

BARRY G. WARNER (86-88)

Position: Assistant-Professor
Where: Dept. of Earth Sciences Univ. of Waterloo

Research Interest(s): Palynology

GERALDINE A. ALLEN (86-88)

Position: Assistant-Professor
Where: Dept. Biology Univ. of Victoria

Research Interest(s): Plant taxonomy. Evolution and Population Biology. Polyploidy of Asters.

WILLIAM J. CRINS (86-88)

Position: Research Associate
Where: Dept. of Botany Univ. of British Columbia

Research Interest(s): Sedge systematics (numerical taxonomy/cytology) Compositae systematics (chemosystematics)

JOHN BAIN (87-89)

Position: Assistant Professor
Where: Dept. Plant Sci., MacDonald Campus, McGill University

Research Interest(s): Systematics of Senecio, biosystematics of

Asteraceae.

LEWIS M. BROWN (87-89)

Position: Assistant Professor
Where: Dept. of Plant Science,
Univ. of Western Ontario
Research Interest(s): Plant and
Microbial Molecular biology,
environmental microbiology.

GREGORY J. TAYLOR (87-89)

Position: Assistant Professor
Where: Department of Botany,
University of Alberta
Research Interest(s): Physiological
mechanisms of Al, Cu, and Ni
tolerance in higher plants
(wheat).

* * * * *

EDITOR OF BULLETIN: Responsible for
production and mailing of CBA/ABC
Bulletin, and that official notes are
published at appropriate time.

LUIS OLIVEIRA

Position: Assistant-professor
Where: Dept. of Botany
Univ. of British Columbia
Research Interest(s): Plant Cell
Biology (marine algae and
higher plants)

* * * * *

ARCHIVIST: Receives originals and/or
copies of all important items, transfers
them to National Archives of Canada.

ERIC HABER

Position: Assistant Curator of Vascular
Plants
Where: Botany Division, National
Museum of Natural Sciences,
Ottawa
Research Interest(s): Systematics of
Pyrrola; floristics of Canada

THE INTERNATIONAL ORGANIZATION OF PLANT
BIOSYSTEMATISTS (IOPB)

An open business meeting of the
International Organization of Plant
Biosystematists was held on July 27
during the XIV International Botanical
Congress in West Berlin, July 24 -
August 1, 1987.

The President (Prof. Krystyna
Urbanska, Geobotanisches Institut,
Zurich, Switzerland) welcomed those
present and told of the continued
interest in the activities of IOPB. The
members stood for a minute in silence in
respect to former President, David
Valentine, who died in April 1987. Dr.

Urbanska reported that a preprint of the
book containing the manuscripts of the
invited speakers from the IOPB Symposium
"Differentiation Patterns in Higher
Plants" which she organized and held at
the Eidgenossische Technische Hochschule
(ETH), Zurich, Switzerland, July 13-18,
1986, was on display for viewing at the
Academic Press book exhibit, and that
she had been informed by Academic Press
that the book (K. Urbanska, ed.) would
be printed and ready for distribution by
the end of August.

Dr. Liv Borgen, Secretary-Treasurer,
reported that membership was steadily
increasing and that a list of the
members would be printed in the next
IOPB Newsletter. Membership fees for the
three years 1987-1989 (between Symposia
and change of Executive) is U.S. \$20.
New members and renewals of membership
may be sent directly to Dr. Liv Borgen
(Botanical Garden and Museum, University
of Oslo, Trondheimsveien 23B, 0562 OSLO
5, NORWAY).

Prof. Krystyna Urbanska, Editor of
the IOPB Newsletter, said that issue No.
8 had just been distributed and that
anyone with contributions for Newsletter
No. 9 should send them to her before
November (Dr. K. Urbanska,
Geobotanisches Institut, Stiftung Rubel,
Zurichbergstrasse 38, CH-8044 Zurich,
Switzerland). Lead articles and
information from individuals on their
research activities (Lab Profiles) would
be welcomed. Members of IOPB
automatically receive the Newsletter.

Marcia Waterway (McGill University
Herbarium), election scrutineer,
reported on the election of members to
the Executive and Council as follows:
Executive, President: Krystyna Urbanska
- Switzerland, Vice-President and
President-Elect: Shoichi Kawano - Japan,
Past President: William F. Grant -
Canada, and Secretary-Treasurer: Liv
Borgen - Norway. For the IOPB 1989 Kyoto
Symposium: Ichiro Fukuda, ex officio. To
the Council: J.F. Bain - Canada, Maria
A. Cardona - Spain, Jiakuan Chen -
China, H.C.M. den Nijs - Netherlands,
W.H. Eshbaugh - U.S.A., J.R. Estes -
U.S.A., B. Jonsell - Sweden, A. Rousi -
Finland, C.J. Webb - New Zealand and
Judy West - Australia.

A report of the Organizing Committee
preparing for the IOPB 1989 Symposium in
Japan was presented by the Chairman, Dr.
Shoichi Kawano. Prof. Kawano listed the
members of the Organizing Committee
and stated that the IOPB 1989 Symposium
would be held in Kyoto, July 10-14, 1989
and that there would be an opportunity
for field collecting. Those interested
in attending or presenting papers at the
IOPB Symposium should write to Prof. S.
Dawano, Department of Botany, Faculty of
Science, Kyoto University, Sakyo-ku,
Kyoto 606, Japan.

Prof. W.F. Grant, Past President,
asked new Council members to help gather
research and other information from
their country and to send reports on
their own laboratory activities
("Profiles") for publishing in the

Newsletter. The question of the location for the 1992 IOBP Symposium was raised. One suggestion was holding the Symposium in the U.S.A. Hardy Eshbaugh stated that he would speak with some American Botanists on this possibility and report to the Executive.

A reminder that Prof. C.A. Stace (Department of Botany, University of Leicester, Leicester LE1 7RH, England) has stated that the IOBP Newsletter would be an excellent place to report genomic and cytogenetic data, such as DNA density measurements, nucleotypic associations, species which have special chromosome markers, species on which chromosome banding are being carried out, species on which restriction mapping are being carried out, etc. in addition to chromosome numbers of species and hybrids. He offered to collect data and compile for the Newsletter. Please send your data to Prof. Stace for inclusion in the next IOBP Newsletter.

Last year Prof. F. Ehrendorfer (Institut für Botanik, Vienna) stated that IOBP might sponsor "Workshops on Techniques", such as advances in cytology, electrophoresis, etc., and that he would be willing to hold a one-week workshop on cytological techniques at his Institute. Anyone interested in participating or holding a workshop is requested to write to Prof. W.F. Grant who will try to coordinate such a workshop.

As there was no further business, the President thanked those attending for their participation and expressed her wish to see everyone at the IOBP 1989 Symposium in Kyoto.

BRIEF SUMMARY OF THE MONTREAL 87 MINUTES

Minutes of the Outgoing Executive Committee

The President's report asked for the CV's of officers to be put on file with the secretary CBA so that these people might be asked to serve on various national committees (i.e. NSERC, BCC Nominating Committee, Gov't Agencies, A.E.C.).

The Treasurer's report emphasizes that the total membership is slightly less than 400, with a marked increase in the number of students from Quebec.

K. Denford moved that membership fees be increased for 1988 as follows:

The present \$20 + \$7 BCC (optional fee) be increased to \$25 for the regular membership.

The present \$10 be increased to \$12 for students and retired members.

Annual General Meeting

The Treasurer's Report:

In the Treasurer's report, an explanation of the problems with the mailing lists for the Bulletin and CJB was given.

With respect to the budget, the report predicted a deficit of \$2,400 for the '87-'88 season. It was pointed out that, to prevent this deficit, the CBA must hold some sort of membership drive to establish new members, and that the membership fees need to be raised. Iain Taylor moved that the membership be polled regarding a dues increase of \$5 (reg.) and \$2 (stud./ret.). Iain Taylor also moved that the Board of Directors attempt to operate within a balanced Budget.

Vice-President's Report:

The Vice-President's report pointed out that the higher registration costs were due to lack of support from the NSERC Plant Biology Committee, and that other meeting costs had been cut to allow a European symposium speaker to come.

Editor's Report:

The Editor's report indicated that a new editor will be needed next year, as Luis Oliveira's term is coming to an end.

Conservation Committee:

The Conservation Committee received requests for action from many regions of the country. These requests dealt with: Rare and Endangered Plants, support for COSEWIC ecosystems and communities - coastal plain vegetation, Carolinian Canada, Canadian Plant Conservation Program, etc. (Eric Haber pointed out that work by this committee led to support by the Ont. Ministry of Natural Resources for ginseng research)

The Conservation Committee represented the CBA at: Canadian Council on Ecological Area, Carolinian Canada, Canadian Plant Conservation Program, etc.

The Conservation Committee also: reviewed management plans for parks, conservation areas, etc.; had an impact on prescribed the burning program at Pinery Provincial Park, Ontario; examined various ONMR biological inventories; and provided information to other agencies, including the Canadian Institute of forestry, etc.

Resolutions:

Iain Taylor moved to thank Luc Brouillet, Denis Barabe, and the organizing team for this year's meeting. This motion was seconded by Taylor Steeves and was carried unanimously.

Bill Illman asked a question

regarding an update on the future of South Moresby Island, which sparked considerable discussion. Iain Taylor suggested that the CBA write to Premier Bill van der Zalm of B.C. officially about this situation, and also suggested that the general membership write letters. Keith Winterhalder then moved that the President of the CBA write to the Premier of B.C. on this matter, expressing extreme concern, and asking him to take appropriate action to alleviate the problem.

Appointment of Auditors:

Keith Winterhalder moved that Gerald Courtin and Peter Beckett serve as auditors for the '87-'88 season. This was seconded by Iain Taylor and was carried.

BCC:

Dr. Tom Moon (U. of Ottawa) presented a report on BCC's activities, and a report will be appearing in the CBA Bulletin.

It was reported that federal and provincial policies have adversely affected activities of Canadian Biologists.

The BCC was represented by John McNeill at the first meeting of the Action Committee of Science and Technology Presidents.

In February, both society and executive members participated in a lobby of parliamentarians (a highly organized lobby in which ca. 120 MP's participated). Some of the major issues which were dealt with include financial support for granting agencies and student support.

The BCC reported that their Education Committee will be reconstituted. The BCC will also reinstitute a Careers brochure for biology, and will investigate possible ways of becoming involved with speaker's panels, etc.

Board of Directors Meeting:

BCC:

Ernie Brodo and Luc will continue to serve as reps. Larry Peterson, the President-Elect, will act as the other rep.

UIBS:

Iain Taylor and John McNeill will be reps.

Other Business:

Systematics and Phytogeography Resolutions:

1) Be it resolved that: abstracts in

the CBA Bulletin be published at least one month prior to the conference (this may generate more interest, increased attendance, and reduced costs due to the advantages of advanced planning [cut rates on flights, etc.]; therefore the Bulletin should be mailed by mid-May, and could replace the July issue).

2) Be it resolved that the "Flora of North America" project be endorsed by the CBA because of its importance to the development of systematic botany in Canada.

SOCIETY SUMMARY -- BCC COUNCIL MEETING OF 23-24 APRIL 1987

The Executive and Council of BCC met at the University of Ottawa under the chairmanship of Dr. John McNeill, President. This one and one-half day meeting examined normal business issues of Council and issues critical to all Canadian biologists. The two major themes discussed were science policy and the 1990 Congress.

Dr. McNeill noted the formation of an Action Committee of Science and Technology Presidents of ACSTP (of 20 Canadian science/technology societies) which occurred in December 1986. ACSTP arose from the concern of the Canadian Institute of Chemistry for the recent cut-backs at NRC and their impact upon science in Canada. This group is presently exploring the feasibility of a lobby effort to bring critical issues of science/technology to the attention of the government. In particular, the new National Science and Technology Policy for Canada (InnovAction) introduced by Oberle is an important document requiring extensive study and significant comment from the Canadian scientific community. As a member of ACSTP, BCC will keep its Member Societies abreast of these efforts. Lobbying was also discussed in connection with the activities of the National Consortium of Scientific and Educational Societies to which BCC contributes on behalf of its Member Societies. The annual February lobby in Ottawa by volunteer scientists working with the help of documents prepared by the Consortium, spoke with about 120 federal parliamentarians of the 3 parties. There was an increase in the level of awareness, sympathy and comprehension by the parliamentarians over the 1986 lobby of issues including the Established Program Financing Act, research and development (including granting council support) and student issues (funding, foreign students). In fact, it became obvious from discussions the Council had with Dr. Clement Gauthier (Science Policy Officer, CFES and Convenor of the Consortium), Dr. Bill Tupper (Chairman of the government Standing Committee on Science and Technology), Dr. Leo Derikx (Director of Targeted Research, NSERC), and Mr.

Vincent Wright (Evert Communications, publisher of Research Money), that each were encouraged by the positive signs coming from the Mulroney government on the issue of science and technology. The evidence includes the National Advisory Board on Science and Technology (NABST) chaired by Mulroney (he personally chairs only 2 other committees), the InnovAction document, the federal-provincial science agreements, and the National Forum on Post-Secondary Education to be held in August. The above individuals all felt that major policy decisions (with attached funding programs) would be announced over the next few months, including possible adjustments to the base-level financing of the granting councils.

The BCC decided at its October 1986 Council Meeting to form a Science Policy Committee. Dr. Gray Meriam (Carlton Un.) agreed to chair this group and he has been very active in an individual effort as well as with the National Consortium in this regard. Activities include numerous letters to Oberle, statements against bill C22 (drug patent legislation), the mandate of the NABST, re-organization of the Bedford Institute in Dartmouth, N.S., and of the Global Change Program (Royal Society). Plans are to investigate the possibility of a BCC-sponsored meeting in the Maritimes, possibly this summer, on science policy and another workshop in Ottawa on Ecosystem Diagnosis with Environment Canada. Keeping abreast on science policy is a full-time job and it is obvious that this is not a one person operation, even when that person is at the centre of the action. To better address these issues, Council gave Meriam the power to co-op a group of people interested in science policy for this committee, and Council also agreed to affiliate with the CFBS Science Policy Secretariat which will supply the Committee with up to date information on a routine basis. It is critical that all scientists become involved in science policy issues, and the BCC will be taking a leadership role in this regard on behalf of its Member Societies.

In addition to these issues, Council has decided to re-institute its education committee, which will investigate productive ways for the BCC and its Member Societies to contribute to public awareness of science. Dr. Brock Fenton (York Un.) will be examining possible options for bringing secondary school students into research labs and Dr. Judy Fregeau and others will look towards the development of career opportunity materials in the biological sciences. Certainly new initiatives are needed in this regard, and if you have some ideas, let your Society Executive know about them!

The other major issue discussed was the 1990 BCC Congress to be held at Laval University. Dr. Joel de la Noue, chairman of the local organizing committee, reported on efforts to date. Planning is still in its infancy, but

the Can. Botanical Assoc., the Can. Soc. of Plant Physiologists, the Entomological Soc. of Can. and the Genetics Soc. of Can. have agreed to at least meet at Laval during this period. Councillors are definite that a repeat of the 1986 London Congress will not occur and are requiring planning, procedure and financial documents be routinely reviewed by the Council. Certainly the local committee has the program logistics well in hand, and it has now been put back to the Societies so a detailed scientific program can be developed. Society Presidents have been requested by McNeill to take this issue to their Program Committee, select an individual for a Congress Program Committee, and begin to meet so that arrangements can be finalized well in advance. The Congress itself was discussed at length, and it was decided that no financial commitments will be made by the BCC until it is certain that the Congress will be a productive and significant event.

The Councillors left the meeting encouraged by the information conveyed and the direction of the initiatives being taken by the BCC. Issues are becoming more clear and patterns are developing as to how these issues should be addressed. And finally, it was announced that a special friend of the Canadian biological community will receive the BCC Gold Medal for 1987 -- we all congratulate Dr. Ken Davey and thank him for his activities on our behalf.

Should you have any questions or are interested in a particular initiative taken by the BCC, please contact your Society Executive or Dr. Tom Moon (Secretary, BCC) (Department of Biology, University of Ottawa, Ottawa K1N 6N5 (613)564-2338).

PROGRESS REPORT -- L'ASSOCIATION BOTANIQUE DU CANADA/CANADIAN BOTANICAL ASSOCIATION -- CONSERVATION COMMITTEE 1986-1987

The following report was presented at the Annual Meeting of the ABC/CBA, at the University of Montreal, June 14-18, 1987:

1. Re-creation of ecosystems - A letter was sent to David Suzuki concerning the difficulties involved in creating an entire natural ecosystem from its component parts.

2. Status reports on rare species - A letter has been sent by the ABC/CBA President to COSEWIC urging further support for the preparation of status reports on rare and endangered species.

3. Carolinian Canada funding - The committee is inquiring into the possibility of contributing to the Carolinian Canada project as matching

funds are desperately needed in order for the program to continue.

4. Convention on International Trade in Endangered Species - The committee indicated support for the work but declined to participate in the Sixth meeting of CITES in Ottawa in July 1987.

5. Natureal Heritage League (NHL) - A committee representative (DF) participated in the NHL Annual Meeting in Burlington, November, 1986.

6. Canadian Plant Conservation Program (CPCP) - A representative of the committee (PFM) attended the November, 1986 meeting of the CPCP in Guelph and advocated in situ conservation.

7. A national statement on conservation matters - The committee received a proposal from V. Geist, University of Calgary.

8. Canadian Institute of Forestry (CIF) A list of the committee's current projects was sent to the Conservation Committee of the CIF to keep them abreast of our current concerns and interests.

9. Botanically significant areas in the grasslands of Saskatchewan - Western members of the committee have been compiling a list of important sites for the Wild West Program of the World Wildlife Fund.

10. Roadside rights-of-way and other natural vegetation in the prairie provinces - The form of a letter which will encourage provincial governments to respect remnants of natural vegetation in agricultural areas in the prairies is under discussion.

11. Rare plants and important sites in Newfoundland - A letter was drafted to the government of Newfoundland recommending provincial support for botanists from the Institut Botanique, Montreal, who are working toward establishment of ecological reserves in the province.

12. Atlantic Coastal Plain flora, Nova Scotia - Letters of support and congratulations for preservation of coastal plain communities in Nova Scotia were sent to the Nature Conservancy of Canada and Bowater Mersey Paper Company. The Nova Scotia Museum was questioned concerning continued protection for sites under the Nova Scotia Special Places Act.

13. Wetlands policy for northern Ontario The CBA President sent a letter recommending to the Interministerial Wetlands Committee that northern Ontario be included in a wetlands policy.

14. Slate Islands Provincial Park, Ontario - The committee submitted comments on the optional management

plans proposed for Slate Island Provincial Park in Lake Superior.

15. Holland Landing, Ontario - The resource management plan of Holland Landing has been received for review.

16. Backus Woods, Ontario - At the December, 1986 meeting of the Backus Group, the group, with CBA representation (DF), agreed to set Backus aside and essentially manage it as a nature reserve.

17. Matchedash Lake, Ontario, Monitoring schedule - The CBA has followed the program which was designed to provide fluctuating water levels to favor elements of the coastal plain flora and recommended continued monitoring.

18. Prescribed burn at Pinery Provincial Park, Ontario - Comments on the proposed fire management strategy have been sent to the Ministry of Natural Resources.

19. Bruce Peninsula National Park proposal, Ontario - For the second time, CBA urged establishment of this park.

20. Huronia District Land Planning Program, Ontario - A response to this proposal was prepared by the committee.

21. Areas of natural and scientific interest (ANSI), Ontario - The committee is formulating comments on the reports of ANSI's a) in site districts 6-9 and 5-7 in southern Ontario and b) in the Moosonee District.

22. Inventory of Port Franks Dunes and Wetlands, Ontario - The inventory was reviewed by the committee and comments pertaining to it were forwarded to the Ministry of Natureal Resources.

23. Spooky Hollow, Ontario - The committee reviewed the life sciences inventory of Spooky Hollow which was submitted to us by the Ministry of Natural Resources.

24. Gypsy moth spraying program, Ontario We provided comments to the Ministry of Natural Resources about the proposed use of the spray, Bt.

25. Comments to the Ontario Ministry of Natural Resources regarding quality control on vegetational studies - The committee apologized for the time taken to do reviews and mentioned to the Ontario Ministry of Natural Resources that a considerable work load is involved in reviewing the many life science inventories and management plans which we are sent.

TEXT OF RESOLUTIONS SUBMITTED TO THE FINAL PLENARY SESSION OF THE XIV INTERNATIONAL BOTANICAL CONGRESS -- BERLIN

Resolution 1

Whereas the whole world has a real stake in the survival of biological diversity;

whereas local expertise, involvement and dedication will be the safeguard for the preservation of the world's biological resources, especially in the tropics, which the population of the countries concerned will inherit;

the XIV international Botanical Congress urges botanical institutions of the world to render assistance to institutions in other countries, where appropriate, to train local experts and so to enable local biologists to take leadership roles in efforts to maintain their biological patrimony, not only for their own benefit, but for that of the whole world.

Resolution 2

Recognizing the severe threat to life on earth through the global degradation and destruction of forests and other ecosystems;

the XIV international Botanical Congress urges the governments of all countries and the appropriate non-governmental organizations to work toward the conservation of natural resources and the diversity of life through the preservation of natural habitats, and to support the maintenance and development of systems of human land use on a sustainable basis.

Resolution 3

Mindful of the world-wide unabated decline in natural vegetation, particularly forests, and of the consequent threat to global resources;

recognizing the need for factual information for the development of meaningful conservation strategies;

the XIV International Botanical Congress urges that universities and other appropriate centres maintain and develop strong teaching and research programmes in systematic and ecological biology.

Resolution 4

Whereas there is an increasing concern among the scientific community and the general public regarding world-wide forest decline;

the XIV International Botanical Congress urges the International Union of Biological Sciences and other appropriate organizations to facilitate international standardization in describing symptoms of the decline and in gathering pertinent biotic and abiotic data, and to promote the

exchange of information between research groups dealing with these problems.

Resolution 5

Noting the great importance of botanical gardens as cultural and scientific centres with great educational value;

recognizing their importance for the conservation of plants through living collections;

the XIV International Botanical Congress urges authorities in all countries to maintain, develop, and, where appropriate, create such gardens, and to ensure their adequate financial support.

Resolution 6

Noting the resolution adopted by the International Union of Biological Sciences General Assembly in support of the International Programme for the Study of Global Change, and the resolution adopted by the XII International Botanical Congress on Global mapping of the vegetation of the earth;

recognizing that advances in space technology and computer sciences open new horizons in the observation of the earth from space;

the XIV International Botanical Congress requests the International Union of Biological Sciences to institute, with the International Council of Scientific Unions, the preparation of a vegetation map of the earth.

Resolution 7

Considering the great importance of a stable system of scientific names of plants for all users in the pure and applied sciences and in many other domains of public life and economy;

recognizing the frequent difficulties arising in the choice of the correct names under the International Code of Botanical Nomenclature;

the XIV International Botanical Congress urges the International Union of Biological Sciences to promote the development of a system for the registration of plant names.

Resolution 8

The XIV International Botanical Congress resolves that the decisions of its Nomenclature Section with respect to the International Code of Botanical Nomenclature, as well as the appointment of officers and members of the nomenclature committees, made by that Section during its meetings, July 20 to

MISSOURI BOTANICAL GARDEN GIVES
PRESENTATION ON MEMBERSHIP GROWTH

A presentation concerning the growth in membership of the Missouri Botanical Garden was given at the recent American Association of Museums (AAM) Conference in San Francisco. Dana Hines, membership coordinator for the Garden, gave the presentation at the conference, held June 8 - 11 at the San Francisco Hilton.

Hines' presentation centered on the use of projections for membership growth strategies and the analysis of direct mail results in membership acquisition efforts. The Garden is known for its sophisticated system of membership projections, and recently topped the 20,000 figure in member households. This is the highest membership total for any St. Louis cultural institution, and the highest for botanical gardens worldwide.

The American Association of Museums is the only organization representing the entire museum community. The AAM's members include museum employees, trustees and volunteers, and museums of all kinds -- from art museums to zoos. The AAM's conference has been held annually for the past 82 years.

NRCC RESEARCH JOURNALS

	1988 Society Subscription Rates: Nonmandatory Subscription with Membership
Journals	
<u>Monthly</u>	
Biochemistry and Cell Biology . .	\$23.00
Can. J. Botany	\$48.00
Can. J. Earth Sciences	\$33.00
Can. J. Microbiology	\$32.00
<u>Bimonthly</u>	
Genome*	\$18.00

* Formerly Canadian Journal of Genetics and Cytology. The 1988 volume includes a Supplement containing the Abstracts of the XVI International Congress of Genetics.

The proceeds from this Annual Christmas Sale and Show have enabled the Auxiliary to fund other significant projects at the Royal Botanical Gardens. In the past, these projects have included helpful funding for the new Mediterranean Greenhouse, the sponsoring of two student horticultural positions, contributions towards the purchase of three new computers for library and plant records, and the planting of the Rose Garden entrance and erection of a pergolas. Furthermore, the sale is important to the Community in that the Royal Botanical Gardens is a scientific, educational and cultural institution dedicated to public service; and is funded by the Ministry of Culture.

This years sale will be held on November 20 (10AM - 9PM) and November 21 (10AM - 4PM), and its theme will be "TIS THE SEASON TO CELEBRATE OUR HERITAGE".

Turning off the beaten shopping track and taking a trip to the Royal Botanical Gardens Centre can bring surprising results. A year's planning has gone into this year's Christmas Sale and Show. Come and enjoy the sights and sounds of Christmas while finding creative ways to decorate your home, and wonderful gifts for giving. Celebrate too, your Heritage along with us and enjoy two days of Holiday Festivities.

The RBG foyer and mezzanine will abound with Christmas Decorations and Displays from Multi-Cultural Groups as well as our own Canadiana. The Auditorium will be aglow with Christmas - beautiful floral arrangements, gifts, decorations, ribbons, bows and mechanics for creating your own designs will make gift finding almost as much fun as gift giving. Dwelling on being creative, you will find the Floral Art Shop stocked and filled like Santa's stocking. The unusual awaits you.

The \$2.00 Admission includes: a visit to the beautiful Mediterranean Greenhouse, door prizes, floral design demonstrations, displays by Multi-Cultural Groups, and a RBG "Garden" slide presentation. A free holding area for your purchases will be provided while you shop. A Tea Room will be provided for your relaxation and for enjoying delicious food.

The Royal Botanical Gardens Centre is located on Plains Road in Hamilton. Please note that the bridge on Plains Road will be closed, but easy access is provided via Highway 403. For further information, please contact:

Hamilton and Area:
527-1158 during office hours.

Toronto & 416 Telephone Area:
1-800-263-8450

NEW TITLES INFORMATION

Computer Graphics in Biology, by R. Ransom and R.J. Matela, 1986, pp. 220. Dioscorides Press, 9999 S.W. Wilshire, Portland, Oregon 97225, USA. \$39.95 + \$3.00 Shipping and Handling (US currency).

The utility derived by biologists from the computers has not been an arguable question for several years. The major problem has rather been that of how the biologist, usually untrained in computer skills, might best use this remarkable tool most effectively. This book will surely prove a boon to botanists and zoologists wishing to use the powerful graphics capabilities now available in not only capturing but displaying biological information in the most efficient and effective manner.

The book opens in a very conventional way with a brief overview of both hardware and software in the context of the needs of the biologist. The authors then make an excursion through the underlying geometry and computer methodology for creating 2-dimensional and 3-dimensional graphics as well as the means of dealing with hidden lines and surfaces.

1. An Introduction to Computer Graphics
2. Graphics Hardware
3. Graphics Software
4. Two-dimensional Graphics
5. Three-dimensional Graphics
6. Hidden Lines and Hidden Surfaces
7. Graphical Representation of Biological Data
8. Reconstruction Methods for Cell Systems
9. Image Capture and Image Analysis
10. Molecular Graphics
11. Simulation and Animation

The authors provide software program code for the examples worked in the book. But in addition, and surely to be warmly welcomed by most biologists, the references at the end of each chapter will lead the reader to other software code useful in a variety of specific applications.

This first book on computer graphics oriented specifically to the needs and uses of the biologist will surely be a must for all life scientists wishing to optimize utility of the computer in their work.

Advances in Botanical Research: Vol. 13, J.A. Callow (editor), 1987, pp. 207. Academic Press, \$81.50 (Can.).

Knowledge of the composition and organisation of the chloroplast thylakoid membrane is now very well advanced. Less clear has been the extent to which interactions between the various photosynthetic complexes can be regulated and what the physiological significance or adaptive value of such

controls is. Increasing emphasis has therefore been recently placed on regulation and in the first article of this volume, Baker and Webber, after reviewing aspects of the molecular organisation of thylakoid and photosystem complexes, proceed to a detailed analysis of the interactions within individual photosystem complexes, and between different photosystems. This is followed by a consideration of the environmental significance of these regulatory influences.

The incidence of "water blooms" in freshwaters has increased over the last few decades through eutrophication, creating serious economic problems. The major bloom formers are species of cyanobacteria and one consequence of the problem has been a stimulation of research on the basic biology of these microorganisms. The biology of blooms has been reviewed many times before, but in this volume, Reynolds considers in some detail, the nature and role of buoyancy as a factor in bloom formation. Such understanding could well lead to more subtle approaches to the control of this problem.

In the earliest years of plant biotechnology, one of the most appealing prospects was the potential use of cultured plant cells in the production of commercially important secondary metabolites. Some 20 or so years on, despite enormous attention, only a handful of processes and applications have been patented, and it may seem that with a few exceptions, the prospects for commercial scale processes have somewhat receded. It is now very apparent that empirical approaches to cell culture technology are always likely to come up against the desperately poor knowledge we have of the metabolic controls surrounding secondary metabolism in relation to the culture environment, and in Collin's article, some of the studies that have been carried out in this subject are reviewed.

Advances in Botanical Research: Vol. 12, J.A. Callow (editor), 1986, pp. 284. Academic Press.

The changes in enzyme activity in green plants caused by the transition from light to dark are now regarded as important regulatory processes directing metabolism towards synthesis of sugars and storage compounds in the light, and their breakdown in the dark. Light affects chloroplast enzyme activity in a number of diverse ways, through alteration of stromal pH, ion and metabolite levels. However, there are also changes in activity in some enzymes that involve post-translation (probably covalent) modification of the enzyme protein, and these are generally referred to as 'light modulation'. In her article, Anderson reviews such plant enzyme systems, the biochemical mechanisms involved (probably by reduction of a disulphide bond), their

potential molecular basis and the function of modulation in photosynthetic carbon metabolism.

One of the most important developments in plant molecular genetics is the rapid improvement of our understanding of the nature and mechanisms of mutation induced by transposable elements. It is interesting to reflect that the origins of this lie in our fascination for variegated plants as horticultural curiosities! Because of our increasing interest in transposable elements for exploring the genetic origins of variation, or as systems for molecular biology and genetic engineering, the review of Plant Transposable Elements by the group at the Max-Planck Institute, Koln (Nevers, Shepherd and Saedler) is particularly welcome. How transposons will be used to isolate genes known only for their phenotypic effects will be seen in the future.

The unicellular dinoflagellates are major components of marine and freshwater ecosystems. Apart from their general ecological importance, there are a number of reasons why they are of interest to biologists. In this volume we consider two such aspects. The article by Sigee discusses the very high level of DNA possessed by these organisms, the particular configuration of their chromatin and their nuclear organisation. These are of phylogenetic significance, and to summarise the position as presented in Sigee's article, it now seems that dinoflagellates are to be regarded as true eukaryotes with some prokaryote features, and that probably they are 'primitive' rather than degenerate forms of more advanced ancestors.

Algae that can produce toxins effective against animals are found in three of the eight algal divisions, including the dinoflagellates. Carmichael reviews various aspects of biology and chemistry of these chemically diverse toxins, some of which can exert potent effects on humans, and considers their potential natural role. Few ideas of such ecological roles appear to have been subject to critical experimentation, and this article should provide a framework for such future work.

BOOK REVIEWS

Victorian Gardens, by Brent Elliott, 1986. Timber Press, Portland, OR, 285 pp.

The author of this new book is Librarian and Archivist of the Royal Horticultural Society and Editor of the Garden History Society's journal, making him well qualified to write on the subject of Victorian gardens. This is not a book for most botanists, but it is one for those interested in landscape

design, garden history, or possibly general English history, or merely for bed-time reading.

The book is illustrated with fifteen colour photographs, mostly of paintings of Victorian gardens, and one hundred black and white illustrations, including photographs, drawings, garden plans, paintings and diagrams. At the end of the book is a lengthy (25 page) section of notes, references and bibliography.

Among the chapters or subjects covered are: the influence of nature and art of the period on gardens, people involved in the changes in garden philosophy, design and implementation in England during the 1800's, and the influence of Italian, Dutch and Japanese gardens. There is a discussion of the development of the conservatory as a means of growing a wider range of plants, the uses of fountains and sculpture, the increased use of tropical foliage plants for summer outdoor displays, and the development or refinement of carpet bedding, topiary, floral monograms and garden mazes.

It is an enjoyable book to thumb through and an educational one if one is interested in the subject.

Gerald B. Straley, University of British Columbia Botanical Garden, Vancouver.

The Garden Art of China, by Chen Lifang and Yu Sianglin, 1986. Timber Press, Portland, OR, 211 pp.

This could well qualify as a coffee table book, from the attractive dust jacket to the colour photographs and numerous intricate line drawings. Although there is a great deal of printed information on the philosophy, development and construction of Chinese gardens, and structure, quality and placement of rocks, buildings and plants, there is never more than a page or two without a photograph, drawing or garden plan.

There are many views of natural mountain and rock formations in China, and their interpretation and application to garden settings. One gets a keen sense of the secondary role of plants in Chinese gardens, so unlike the Western or Japanese gardens of which we are more familiar.

If for no other reason, the book can be enjoyed as a travelogue through China and its gardens.

Gerald B. Straley, University of British Columbia Botanical Garden, Vancouver.

Manual of Cultivated Trees and Shrubs Hardy in North America, by Alfred Rehder, 1986 (reprint of 2nd edition [1940]). Biosystematic, Floristic and Phylogeny Series, Volume 1, T.R. Dudley (general editor). Dioscorides Press, Portland, OR, 996 pp.

This has long been the standard in

North America for cultivated, woody, and temperate plants, but it has been out-of-print since soon after the second edition came out. Alfred Rehder was for over 40 years professor of Dendrology and Curator of the Herbarium of Arnold Arboretum, Harvard University, and a leading authority on woody plants. This, probably his best known work covers 2,535 species and 2,685 varieties in 486 genera of trees, shrubs and woody vines, with easily-workable keys and descriptions. For the taxonomist, the keys are the book's strong point, a feature lacking in so many other similar reference books. Few days go by that I don't use the book to key out something in the Botanical Garden and now I finally have my own copy.

The only unfortunate thing about this reprint is that it is exactly that, a reprint, with no current nomenclatural changes, corrections of errors in the original edition, or additions to, or deletions from it. But, to have made these changes would have been a monumental task. Yet, it is still remarkably complete and accurate, even today and fortunately available again so that the younger set of horticulturists and taxonomists can now obtain it. If used in conjunction with Hortus III, for more current names, Rehder's Manual will remain one of the most valuable reference books on the subject, for many more years.

Gerald B. Straley, University of British Columbia Botanical Garden, Vancouver.

An Introduction to the Cultivated Angraecoid Orchids of Madagascar, by Fred E. Hillerman and Arthur W. Holst, 1986. Timber Press, Portland, OR, 302 pp.

Being a general taxonomist with no particular interest in orchids, I was pleasantly surprised at the contents of the book, for the title doesn't really reflect its full scope. The authors do not claim to be taxonomists and this is not strictly a monographic work, but it is a valuable amateur contribution to an otherwise little-known group of plants. The part that I found to be unexpected was in the first chapter (36 pp.), which gives a general introduction to this fascinating island, general history, its colonization, geography, climate, and the vegetation and botanists of the island.

The Angraecoid orchid group gets its name from the principal genus Angraecum, of which there are about 200 species, with 125 or more in Madagascar, and several other smaller genera, of which the authors discuss twelve. The body of the text covers descriptions, habitat, culture and other information from personal observations of many species in the field by the authors.

There are 40 pages of good to excellent quality colour plates, for the most part of plants obviously in

cultivation, but some in their natural habitats, as well as photographs of general vegetation and of some other kinds of plants of Madagascar. There are also a number of half-page line drawings of flowers and flower parts. These are unfortunately a bit rough and could be much better quality, to keep up to the standards of the rest of the book. Among the appendices are sections on hybridization and a list of chromosome numbers.

The book will be a valuable addition to the library of any orchid enthusiast as well as a good basis for any future monographic studies of these orchids.

Gerald B. Straley, University of British Columbia Botanical Garden, Vancouver.

FIRST INTERNATIONAL SYMPOSIUM ON FRUCTAN

The first International Symposium on Fructan will be held July 26 - 29, 1988, at the Wissenschaftszentrum, Bonn, in the Federal Republic of Germany. For pre-registration or further details, please contact:

Lehrstuhl für
Allgemeinen Pflanzenbau
Fructan-Symposium
Katzenburgweg 5
D-5300 Bonn
Germany F.R.

TREASURER'S REPORT

Because the Treasurer's Financial Statement for the Fiscal Year of 1986/87 was not received prior to this issue of the Bulletin going to press, the 'TREASURER'S REPORT' will appear in the January 1988 issue.

REQUEST FOR ARCHIVAL PHOTOGRAPHS

I would like to compile photographs (black/white and colour) of Canadian botanists who have been or are presently CBA/ABC members. These would be organized and filed at the National Archives in Ottawa. The aim of this undertaking is to have photographs available of members whose names have appeared in the minutes and publications of the Association, thereby complimenting the existing files of archival materials.

A wide range of photographs could be included: present and past officers, living and deceased members, winners of awards (both students and established professionals), field outings, banquet festivities, formal photos as well as those taken in laboratories or under other informal circumstances. Please

don't hesitate to send a photo of yourself.

The names of individuals on a photograph should be given together with any biographical information that is readily available to you. The event or circumstances under which the photos were taken and the date are also important.

Your cooperation in this project and in supplying me with any other items that pertain to the Association that you feel may be of significance or of future historical interest would be much appreciated.

Erich Haber, CBA/ABC Archivist, Botany Division, National Museum of Natural Sciences, Ottawa K1A 0M8.

CAROLINIAN CANADA -- PROGRAM TO CONSERVE VANISHING
CAROLINIAN VEGETATION IN CANADA

Invitation to submit donations via the CBA/ABC

New funding for the Carolinian Canada project is being sought for purposes of land protection. While some has already been obtained it is very small in terms of what has yet to be accomplished. Donations are desperately needed and will be matched many times over by major sponsors.

Contributions received via the CBA/ABC would enhance the standing of our organization in the eyes of national conservation groups but our finances do not permit monetary contributions from our regular funds. However, individual members may especially wish to contribute to this critical project. The same sort of tax deductions are available from the CBA/ABC as from other charitable organizations.

In making your contribution, indicate clearly that it is intended for the Carolinian Canada Project and mail to Dr. Keith Winterhalder, Department of Biology, Laurentian University, Sudbury, Ontario P3E 2C6.

(cut)

To: Dr. K. Winterhalder
Department of Biology
Laurentian University
Sudbury, Ontario P3E 2C6

From: _____

Re: Funding for Carolinian Canada Project

I would like the CBA/ABC to contribute the sum of:

\$10 \$25 \$50 \$100 \$200 \$500 other \$ _____

to the Carolinian Canada project.

Enclosed find a cheque/money order for this sum.

Please remit an official receipt for income tax purposes.

(cut)

The bulletin of the Canadian Botanical Association

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The University of British Columbia
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Issued quarterly in January, April, July and October, and sent to all members of the Association. Non-members may subscribe at a price of \$20.00 p.a. (\$5.00 per issue) post free. Cheques or money orders (in Canadian funds ONLY) should be made payable to "The Canadian Botanical Association" and addressed to the Editor.

Advertisements for Positions Open and Classified categories may be placed at a cost of \$10.00 Can. per published column inch. Advertisements by individual members for post-doctoral opportunities and Positions Wanted are carried free.

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 Treasurer (Prof. Keith Winterhalder, Dept. Biology, Laurentian Univ., Sudbury, Ontario P3E 2C6) of any change of address as soon as possible.

Inquiries about membership of the CBA/ABC should be addressed to the Secretary of the Association: - Dr. A. Gordon Thomas, Regina Research Station, Agriculture Canada, Box 440, Regina, Sask., S4P 3A2, (306) 585-0255.