

THE CANADIAN BOTANICAL ASSOCIATION

BULLETIN

L'ASSOCIATION BOTANIQUE DU CANADA



ISSN 0008-3046

January 1982

Volume 15 Number 1

Vancouver

PATRON

HIS EXCELLENCY THE RIGHT HONOURABLE EDWARD SCHREYER, C.C., C.M.M., C.D., GOVERNOR GENERAL OF CANADA

PATRON D'HONNEUR

SON EXCELLENCE LE TRÈS HONORABLE EDWARD SCHREYER, C.C., C.M.M., C.D., GOUVERNEUR GÉNÉRALE DU CANADA

CBA - CSPP JOINT MEETING 1982 - REUNION COMMUNE ABC - SCPV 1982
UNIVERSITY OF REGINA - JUNE 20-24 UNIVERSITE DE REGINA - 20-24 JUIN

You are cordially invited to the University of Regina for the CBA - CSPP Joint Meeting. To the best of our knowledge, this is the first time the organizations have met jointly in Saskatchewan, and we hope to make it a memorable occasion.

Vous êtes cordialement invités à la reunion commune ABC - SCPV à l'Université de Regina. A notre connaissance, c'est la première fois que ces organisations se réunissent ensemble en Saskatchewan, et nous espérons rendre cette occasion mémorable.

SCHEDULE

June 20 (Sunday)

- 14:00-23:00 Arrival and Registration
14:00 Outgoing Executive Meetings
- CBA & CSPP
19:00-23:00 Réception (informal) - Wine and Cheese

June 21 (Monday)

- 8:00-12:00 Arrival and Registration
9:00- 9:30 Opening Ceremonies
10:00-12:00 Main Symposium - SEED BIOLOGY I
1. Dr. Taylor A. Steeves (Can)
- "Evolution and Biological Significance of Seeds"
2. Dr. Ian M. Sussex (USA)
- "The Regulation of Synthesis of Embryo-Specific Proteins in Plants"
12:00-13:30 CBA Sectional Business Meetings
- General, Mycology, and Systematics & Phytogeography
13:30-16:50 Contributed paper sessions
17:00-18:00 CBA Sectional Business Meetings
- Ecology, Phycology, and Structure & Development

L'HORAIRE

dimanche, 20 juin

- 14:00-23:00 Arrivée et inscription
14:00 Réunion des comités exécutifs sortants - ABC et SCPV
19:00-23:00 Réception (sans cérémonie)
- Vin et fromage

lundi, 21 juin

- 8:00-12:00 Arrivée et inscription
9:00- 9:30 Cérémonies d'ouverture
10:00-12:00 Symposium principale - BIOLOGIE DES GRAINES I
1. Dr. Taylor A. Steeves (Can)
- "Evolution et signification biologique des graines"
2. Dr. Ian M. Sussex (Etats-Unis) - "Régulation de la synthèse des protéines spécifiques à l'embryon chez plantes"
12:00-13:30 Réunion des différentes sections de l'ABC - Section générale, mycologie, systématique et phytogéographie
13:30-16:50 Communications

20:00 Public Lecture:
Dr. Daphne J. Osborne (GB)
"Plant Growth in the Absence
of Gravity"

June 22 (Tuesday)

8:00-10:00 Contributed paper sessions
10:30-11:30 CSPP Gold Medal Address:
Dr. D.T. Canvin (Can)
12:00 Local trips, including a visit
to Agric. Canada Weed Research
Station
Half-day Field Trips

June 23 (Wednesday)

8:30-12:00 Main Symposium (cont.) —
SEED BIOLOGY II
3. Dr. James M. Naylor (Can)
- "Genetic Studies on the
Control of Some Physiological
Processes in Seeds"
4. Dr. Daphne J. Osborne (GB)
- "Control Systems Operating
in the Early Hours of
Germination. A Biochemical
Study in Monocotyledons"
5. Dr. Paul B. Cavers (Can)
- "Seed Ecology — Dispersal,
Dormancy, and Germination"
13:30-14:30 Luella K. Weresub Memorial Lecture:
Dr. Hans E. Gruen
- "Fungus Tinder: History and
Ethnomycology of Ancient Fire-
making Techniques and Other
Uses"
15:00-17:00 Poster Sessions
17:00-18:00 Annual Business Meetings
— CBA and CSPP
19:00-19:30 Cocktails
19:30-21:30 CBA — CSPP Banquet
Presentation of Awards
Speaker — Dr. J.S. Rowe

June 24 (Thursday)

8:30-12:00 Contributed paper sessions (if
necessary)
14:00-15:00 Incoming Executive Meetings
— CBA and CSPP
14:00-16:00 Contributed paper sessions (if
necessary)

FIELD TRIPS

Advance information has been announced (see
Bulletin, October 1981). More details, however,
will be mailed to all members in the near future.

CALL FOR PAPERS

This announcement constitutes the first call
for papers. Appropriate forms with details will
be mailed to members separately. Deadline date
for submitting abstracts is March 20, 1982

OTHER DETAILS

Details concerning accommodation, meals, Ban-
quet, etc., will be mailed separately to all
members.

17:00-18:00 Réunion des différentes sections
de l'ABC — écologie, phyco-
logie, structure & développement
20:00 Conférence publique:
Dr. Daphne J. Osborne (GB)
"Croissance des plantes en
l'absence de pesanteur"

mardi, 22 juin

8:00-10:00 Communications
10:30-11:30 Discours du récipiendaire de la
médaille d'or de la SCPV:
Dr. D.T. Canvin (Can)
12:00 Excursions locales comprenant
une visite au Centre des re-
cherches sur les mauvaises
herbes d'Agric. Canada
Excursions d'une demi-journée

mercredi, 23 juin

8:30-12:00 Symposium principale (suite)
BIOLOGIE DES GRAINES II
3. Dr. James M. Naylor (Can)
- "Etudes génétiques sur le
contrôle de certains pro-
cessus physiologiques chez
les graines"
4. Dr. Daphne J. Osborne (GB)
- "Systèmes de contrôle
durant les premières heures
de la germination — Etude
biochimique des monocotyle-
dons"
5. Dr. Paul B. Cavers (Can)
- "Ecologie des graines:
dispersion, dormance, et
germination"
13:30-14:30 Conférence commémorative Luella
K. Weresub: Dr. Hans E. Gruen
- "L'amadou: histoire et ethno-
mycologie des techniques an-
ciennes du feu. Autres applica-
tions"
15:00-17:00 Présentation des affiches
17:00-18:00 Assemblées générales de l'ABC et
de la SCPV
19:00-19:30 Cocktails
19:30-21:30 Banquet de l'ABC et de la SCPV
Présentation des prix
Orateur — Dr. J.S. Rowe

jeudi, 24 juin

8:30-12:00 Communications (si nécessaire)
14:00-15:00 Réunion des nouveaux comité
exécutifs (ABC et SCPV)
14:00-16:00 Communications (si nécessaire)

EXCURSIONS

Certains détails ont déjà été donnés (*Bulle-
tin*, octobre 1981). Chaque membre recevra pro-
chainement par courrier de plus amples renseigne-
ments.

COMMUNICATIONS

Cet avis constitue la première invitation à
soumettre des communications. Les formulaires
appropriés donnant les détails nécessaires seront
envoyés à chaque membre. Date limite de sou-
mission des comptes rendus: 20 mars 1982.

AUTRES DETAILS

Des détails concernant chambres, repas, ban-
quets, etc., seront envoyés à chaque membre
séparément.

OFFICERS OF CBA/ABC 1981-1982

President: Dr. J.B. Phipps
Univ. of Western Ontario

Past-President: Dr. Michael Shaw
Univ. of British Columbia

Vice-President: Dr. M.V.S. Raju
Univ. of Regina

President-Elect: Dr. James H. Soper
Nat. Mus. of Natural Sciences

Secretary: Dr. Iain E.P. Taylor
Univ. of British Columbia

Treasurer: Dr. Guy R. Brassard
Memorial Univ.

Directors: Dr. W.G. Barker
Univ. of Guelph

Dr. D.T. Canvin
Queen's Univ.

Dr. P.G. Harrison
Univ. of British Columbia

Dr. K.I. MacInnes
Yellowknife

Dr. M.V.S. Raju
Univ. of Regina

Dr. B.A. Roberts
Can. Forestry Serv., Nfld

Editor *Bulletin*: Mrs. Sylvia Taylor
(*ex off.*) UBC Botanical Garden

Archivist: Dr. W.I. Illman
Carleton Univ.

NEWS FROM THE SECTIONS

Ecology Section

Chairman: Dr. P.B. Cavers, Dept. of Plant
Sciences, Univ. of Western Ontario,
London, Ont N6A 5B7

General Section

Chairman: Dr. I.E.P. Taylor, Dept. of Botany,
Univ. of British Columbia, Vancouver,
B.C. V6T 2B1

The General Section has recovered from the birthing pains of the Structure and Development Section. Those members with interests in Teaching, Plant Physiology, Plant Biochemistry, Plant Cell Biology, Palaeobotany, indeed any aspects of Botany not catered to by the other Sections, are:

1. urged to join the General Section; and,
2. urged to attend the General Section meeting at Regina to plan future activities.

The meeting with A.I.B.S. in 1983 will be an excellent opportunity to expand CBA/ABC's horizons of general Botany.

All comments and suggestions — especially volunteers to organize the Section — welcome.

Iain Taylor
Chairman

Mycology Section

Chairman: Dr. J.A. Traquair, Plant Pathology
Sect., Research Station, Research Br.,
Agric. Canada, Harrow, Ont NOR 1G0

Phycology Section

Chairman: Dr. H.C. Duthie, Dept. of Biology,
Univ. of Waterloo, Waterloo, Ont
N2L 3G1

Structure & Development Section

Chairman: Dr. R.I. Greyson, Dept. of Plant
Sciences, Univ. of Western Ontario,
London, Ont N6A 5B7

Systematics & Phytogeography Section

Chairman: Dr. J. McNeill, Dept. of Botany, Univ.
of Ottawa, Ottawa, Ont K1N 6N5

CALL FOR RESOLUTIONS OF POLICY TO BE PRESENTED TO THE ANNUAL MEETING

Resolutions for presentation to the Annual Meeting of CBA/ABC to be held at Regina, Saskatchewan in June 1982, MUST BE DELIVERED TO THE SECRETARY NO LATER THAN THURSDAY APRIL 1, 1982.

Members are referred to the Association's By-laws 68-77 for details of the nature and preparation of such resolutions.

All resolutions for presentation:-

- a) should declare the policy of the Association on matter(s) that shall be forwarded outside the Association,
- b) shall be carefully worded,
- c) require a mover and 4 seconders, all of whom must be members in good standing,
- d) must be accompanied by a supporting brief,
- e) must be accepted by the Board of Directors before presentation to the Annual Meeting,
- f) must be presented in person by one of its sponsors,
- g) require the approval of two-thirds of the members present and voting at the Annual Meeting.

Send resolutions and accompanying material to: Dr. Iain E.P. Taylor, Secretary, CBA/ABC, Dept. of Botany, Univ. of British Columbia, Vancouver, B.C. V6T 2B1

Iain E.P. Taylor

CBA/ABC ARCHIVES

Dr. W.I. Illman, the Archivist, has arranged that the Public Archives of Canada in Ottawa will take responsibility for the care of our important archival items. The Public Archives have much better facilities for taking care of such items than we could hope to obtain by ourselves.

Dr. Illman will still be responsible for receiving items for the CBA/ABC Archives and then for transferring them to the Public Archives.

MYSTERY MEMBER

Will the retired CBA/ABC member from Quebec who paid his/her 1982 dues with a \$5.00 bill sent in a recycled envelope with "Save the Nfld pulp & paper" written on the outside, please identify him/herself to the Treasurer. There was no name on the outside of the envelope nor on the membership renewal form!

FALL EXECUTIVE MEETING NOTES

For the second year in succession, the CBA/ABC Executive replaced the Fall Executive Meeting with a Conference Telephone Call — almost literally coast-to-coast, from St. John's, Nfld, to Vancouver, B.C.

The President reported that he had written to the organizers of the International Botanical Congress and to the Governor-General of Australia, expressing the Association's thanks for the meeting.

The Executive decided that a liaison person from CBA/ABC to I.U.B.S. should be appointed. The Canadian delegate to I.U.B.S. is apparently appointed by NSERC. Contrary to information received in previous years, I.U.B.S. is closely involved with Botany, and is one of the sponsors of the International Botanical Congresses.

The Editor of the *Bulletin* reported that mailing costs for the journal are expected to increase by about \$400 per year if the new postal rates are accepted on Jan. 1 as proposed.

Other matters arising from the Conference Call are reported elsewhere in this issue of the *Bulletin*.

WHITEHORSE CANCELLED

The Executive had the unfortunate choice of cancelling the CBA/ABC's intended Annual Meeting in the North. It was impossible to obtain hotel reservations for mid-July in Whitehorse, because that is the height of the tourist season and the hotels were unwilling to commit themselves. The alternative Northern location was Inuvik, where there is a hostel that was willing to tentatively reserve space for us. However, the Executive felt that both accommodation and transportation costs for Inuvik were prohibitive. It was therefore decided that we should abandon the idea of a Northern meeting in 1983, but to keep the idea in mind for a future time, when the financial situation might be brighter.

In the light of the above decision, the Executive decided to accept an invitation from A.I.B.S. to meet with them in Grand Forks, N.D., from August 7-12, 1983. Despite some concern about the size of the A.I.B.S. meetings, it was considered an honor to receive the invitation as it is the A.I.B.S. centenary in 1983. A local organizing chairman will be appointed later.

FUTURE MEETINGS OF CBA/ABC

- 1982 — Regina, June 20-24
Joint Meeting with Canadian Society of Plant Physiologists.
- 1983 — Grand Forks, N.D., August 7-12
Meeting with A.I.B.S.
- 1984 — Fredericton, June
- 1985 — Biological Council of Canada Sponsored Meeting. Site and date not yet determined.
- 1986 — Open

LIONEL CINQ-MARS AWARD

The following regulations apply to the judging of the Award:

1. The Lionel Cinq-Mars Award shall be given for the best student paper presented at the Annual Meeting of the CBA/ABC.
2. Any *bona fide* student enrolled at any Canadian institution of higher learning is eligible.
3. Guidelines to competitors:—
 - a) The paper will be presented during the appropriate session as determined by the program committee.
 - b) Adjudication will be on the basis of: Content, 60% (originality, technical expertise, and associated subject knowledge), and Presentation, 40% (lucidity and logical flow, value of visual aids if appropriate, audibility and 'presence').

The Lionel Cinq-Mars Award is presented at the Annual Meeting of the CBA/ABC, based on a decision made by a judging panel chaired by the President-Elect. The panel is composed of one member from each of the Sections of the Association, with the addition of a francophone member if the preceding are all English-speaking.

A student member wishing to compete and be considered for the Award *must so indicate* on the Abstract form when submitting it to the organizing committee for inclusion in the program of contributed papers. Failure to indicate the decision to enter the competition, by checking the appropriate box on the Abstract form, even though unintentional, cannot be corrected later.

James H. Soper, Chairman
Judging Panel
Lionel Cinq-Mars Award

MEMBERSHIP RENEWAL

Membership renewal forms were sent out by the Treasurer on November 20, 1981. All fees were due on January 1, 1982. The Secretary will be amending the address list at the end of February to include only those members who are up to date.

If you have not yet paid your membership fee, or did not receive a renewal form, please contact the Treasurer, Dr. Guy R. Brassard, Dept. of Biology, Memorial University, St. John's, Nfld A1B 3X9.

PERSONALIA

Congratulations to Dr. Vladimir J. Krajina, Emeritus Professor of Botany at the University of British Columbia, who was made a Member of the Order of Canada in December.

Dr. George F. Ledingham of the University of Regina has been awarded the J.B. Hankin Conservation Award. He has been deeply involved in the affairs of the Saskatchewan Natural History Society and its publication 'Blue Jay' for many decades. Dr. Ledingham's efforts, with those of others, have made possible the National Grasslands Park in southern Saskatchewan (the agreement for this new park was signed in the fall of 1981).

IMPRESSIONS OF THE XIII BOTANICAL CONGRESS

The following comments have been gathered from several CBA/ABC members who went to Australia in August, 1981. The contributors have been cloaked in anonymity — you may enjoy trying to identify them!

The Congress

Extremely well-organized, I was impressed with the way in which Australian botanists used it to great advantage in the instigation of many new projects, e.g., the new 50-volume work on the "Flora of Australia", and the development of the excellent new film "A Curious and Diverse Flora". I wonder if we in Canada could entice the government to support the initiation and development of botanical programs under similar circumstances?

A massive meeting, scientifically not outstanding — although that may be an accident of the sessions that I attended.

So many sessions each day that all botanists had to make difficult choices as to the one to attend.

More than 2,000 papers were presented in 13 sections, and films, book presentations, public lectures, pre- and post-conference tours were also included.

We all felt more than the average amount of frustration of wanting to be in 3 places at once.

The ecological program was well-organized with an acceptable level of overlap of sessions in what turned out to be a packed 5-day program. A star-studded international cast of ecologists provided all sorts of opportunities for the interchange and discussion of ideas. The standard of both invited and contributed papers was mainly quite good — but there was wide variance!

No aspect of plant physiology was omitted — but there was little time for participants to attend and improve their knowledge of areas outside their own. This is not a criticism of the program committee — but a sad recognition of the fact that it is no longer possible to sample in this way, even at the one international meeting that all botanists attend.

Few sessions in my area were allowed to go overtime, or with papers out of sequence. Surprisingly few symposia presentations contained work done and published 5 years ago.

One major problem was that too many speakers ignored their time limits — thus losing the question period. There were some obvious communication breakdowns between some coordinators and their invited speakers, which resulted in a number of rather general overview-type presentations.

It was heartening to note that Canada was well represented in the area of plant physiology — at least 13 Canadians participated in lecture and/or poster sessions.

One noteworthy point made by the local organizers was that the best attended sessions of the whole Congress, and those with the youngest speakers, were those with a population biology or an applied basis — perhaps a reflection of where the "young blood" of botanical research is directing us.

Non-stop talking!

Good contacts, research techniques and new

ideas gained.

Plenty of opportunity to track down other delegates.

The general lectures held at lunch time were a focal point of the Congress. A series of talented and knowledgeable lecturers dealt with topics of current concern and interest to both botanists and the layman.

A feeling of having been a welcome participant at the meetings, and a sense of satisfaction with them.

A firm reminder that Australian botany is alive and thriving.

The impressive Opening Ceremony in the Concert Hall of the magnificent Sydney Opera House is not likely to be surpassed by a botanical meeting for a long time.

The 3-day pre-Congress Workshop on Leaf Growth and Functioning contained almost too much information on leaves! Fortunately, Academic Press is to publish the proceedings.

Field Trips

A great variety of field trips to all parts of Australia provided a much sought-after opportunity for participants to gain a glimpse of, and some understanding of, the fascinating diversity of flora in this remnant of Gondwanaland.

"A curious and diverse flora" sums up to a large degree the impressions that one had during the Congress. One can certainly become fascinated by both the flora and fauna, particularly the bird life. It is a remarkable flora, one that can only be experienced by actually walking through it.

The late winter flora of the heath and eucalypt woodland around Sydney with the diversity of flowering Proteaceae, Rutaceae, Fabaceae, Epacridaceae and Myrtaceae — and strange legumes that looked vegetatively like cacti (*Bossiaea ensata*) and umbels that looked like composites (*Actinotus*).

The Giant Eucalypt 'rain forests' (really only winter rainfall), with Karri (*E. diversicolor*), Mountain Ash (*E. regnans*) or Tasmanian Blue Gum (*E. obliqua*) reaching 75 m, locally 99.5 m, are staggering.

In the Blue Mountains west of Sydney was the most spectacular effect of soil type on vegetation that I have ever seen — scrubby eucalypt woodland changing to montane rainforest in a matter of metres as one moved from sandstone to basalt derived soils.

Heron Island on the Great Barrier Reef with a coral cay vegetation reminiscent of Hawaii, or even the Bahamas — I was surprised to find *Suriana maritima* native to both.

The pre-Congress field trip to northern Queensland was 10 wonderful days. I was impressed with the organization, and the willingness of our two leaders to share a lifetime experience with us.

A pre-Congress field trip to the North Island of New Zealand was a highlight for me. We saw some of the giant Kauri trees in their natural state at the Waipoua Forest and Sanctuary — massive trees reaching over 30 m tall and 4 m or more in diameter.

The colors — variously dominated by blue and

gray sky (it was late winter), blue-gray Eucalypts, green grass, and deep red soil and rock, especially in central Australia.

The southwestern sclerophyll areas north of Perth and north of Albany — among the richest of the world's temperate flora, containing some 3000 species.

Australia in General

A biological clock on night when it is day, and the sun moving across the north.

Sydney — huge, vibrant city, stupendous views — harbour, bridge, Opera House (one of the world's great buildings). Apparently unplanned and chaotic road system, causing enormous problems. Multi-cultural cuisine. Double-decker trains. Ferries across the harbour. A hotel 3 blocks from the beach.

Outgoing Australian hospitality and concern, and a friendliness that would be hard to duplicate anywhere else.

Australian wines — many superb, far better than their overseas reputation — and the prices!

Australian cities — many similarities in all large coastal cities — lack of industrial pollution, similar foundation dates, old historic buildings with a tradition of stone for public buildings until the last few decades. All seem to have botanic gardens and a 'domain', which seems to be like the old common, both generally in or near the older central areas. Many small towns also have 'botanic gardens' — these, however, are more reminiscent of the English park.

Climate — exciting and invigorating, alternating between sun, great gales, heavy rain. Gusts of wind to 150 km/hr in Sydney. Tasmania had extensive snow cover over about 300 m altitude. Fantastic sunrises and sunsets.

Skiing — tens of thousands of ski enthusiasts in the Snowy Mountains, where snow conditions were the best since the 1960's.

Wildlife — marsupials, an abundance of macropods (kangaroos, etc.), the huge parrot family — flocks of budgerigars, gallahs, rosellas, sulphur-crested cockatoos, etc. The brilliant black-yellow-green of the Port Lincoln Parrot. Camels in the centre of the continent.

Transportation — and the cowboy pilots! Smokers all on one side of the plane. On-plane disinfection when arriving in Sydney. Bomb threat at Auckland airport during our return.

Visits with friends and even relations; watching Australian Rules Football in Melbourne (Collingwood beating Richmond); the Canberra Botanic Garden — magnificent even from the shade of an umbrella; a beachcomber with a metal detector; the milk bar; a Moreton Bay Fig split down the middle by the September winds that came in August; a poie and sauce; Fosters ale; National Trust houses in Victoria; opal, sapphire and gold jewelry; washing one's "face in the bison".

Overhearing a European botanist wondering why there were so few people from his country in view of the "easy money" for travel!

All fortunate enough to have attended the Congress are left with a feeling of admiration and gratitude to our Australian hosts for a well-organized and very successful meeting.

THIRD MARY E. ELLIOTT MYCOLOGICAL FORAY

The 3rd annual Mary E. Elliott Foray took place on August 14-15, 1981, in conjunction with the 5th North American Conference on Mycorrhizae held at Université Laval, Québec. The foray group were housed overnight at the forestry research station at Forêt Montmorency in Parc Laurentide, with cocktails provided compliments of Prof. André Fortin. Three different sites were visited on the following morning. Site 1 was a boreal spruce forest with thick moss carpets and *Sphagnum* filled depressions. Site 2 was a subarctic reindeer-lichen-spruce-dwarf birch parkland with *Sphagnum*-choked streams bordered by larch and spruce. Site 3, outside the park, was a stand of poplars mixed with some jackpine. Collecting was moderately good for August, and numerous unidentified fungi were found. The following lists represent only those species for which collections were preserved (DAOM) and are identified to species.

The cast of participants is the most international to date. Although open to any interested parties, the postal strike prevented details from being distributed to most Canadians, but the conference delegates had been forewarned well in advance. Even though the exact details were unknown to them, many opted to take a chance and sign up.

Dr. O.K. Miller, Jr. helped to identify specimens that evening, and Dr. René Pomerleau gave assistance the following morning. We thank both for their help.

Lists of Fungi Collected

Site 1. Parc Laurentide, Rte. principal, nr. L. Grandpré and L. Nadreau, 47°27'20"N 71°14'45"W

<i>Cantharellula umbonata</i>	<i>Hypholoma dispersum</i>
<i>Collybia cirrhata</i>	<i>Laccaria laccata</i>
<i>C. maculata</i>	<i>Lactarius atroviridus</i>
<i>Cordyceps militaris</i>	<i>Mycena sanguinolenta</i>
<i>Cortinarius salor</i>	<i>Paxillus involutus</i>
<i>Cystoderma amianthinum</i>	<i>Pholiota scamba</i>
<i>Entoloma griseum</i>	<i>Russula decolorans</i>
<i>Galerina paludosa</i>	<i>Valdensia heterodoxa</i>
<i>Hohenbuehelia petaloides</i>	<i>Xeromphalina</i>
<i>Hygrocybe miniata</i>	<i>cauticinalis</i>

Site 2. Parc Laurentide, Rte. principal, Grand Jardin, 47°38'N 70°52'W

<i>Boletinus cavipes</i>	<i>L.? insolens</i>
<i>Collybia putilla</i>	<i>L. rotundifolia</i>
<i>Fuscoboletinus viscidus</i>	<i>Omphalina gerardiana</i>
(<i>Suillus aeruginascens</i>)	(<i>O. sphagnicola</i> sensu auct non Berk.)
<i>Gerronema ericetorum</i>	<i>O. icmadophila</i>
<i>Gyroporus cyaneus</i>	(<i>O. onisca</i> sensu auct non Fr.)
<i>Lactarius aquifluus</i>	<i>Phaeocollybia</i>
(<i>L. helvus</i> sensu auct non Fr.)	<i>laterarius</i>
<i>L. fuscus</i> (<i>L. hibbardiae</i>)	<i>Rozites caperata</i>
<i>L. mucidus</i>	<i>Russula silvicola</i>
<i>L. oculatus</i>	<i>Suillus grevillei</i>
<i>Leccinum? cinnamomeum</i>	

Site 3. Rte. 381 just N. of St. Urbain

<i>Auriscalpium vulgare</i>	<i>Phaeomarasmius</i>
<i>Cheimonophyllum</i>	<i>erinaceus</i>
<i>candidissimus</i>	<i>Russula chamaeleontina</i>
<i>Collybia confluens</i>	<i>R. fragilis</i>
<i>Crepidotus mollis</i>	<i>Tectella patellaris</i>
<i>Lentinellus omphalodes</i>	

In addition, *Endogone pisiformis* was collected at the first two sites and *E. incrassata* at the second. These were retained at Laval. Dr.

Trappe also collected a few hypogeous fungi, including an *Elaphomyces* and another *Endogone*.

The participants included: I. Alexander (Univ. of Aberdeen, Scotland), S.M. Berch (Univ. Laval, Canada), H. Blaschke (Lehrstuhl Anat. Physiol., W. Germany), G. Bruchet (Univ. Claude Bernard - Lyon 1, France), M. Castellano (For. Sci. Lab., U.S.A.), J.-C. Debaud (Univ. Claude Bernard - Lyon), J.-A. Fortin (Univ. Laval), F. and J. Garbaye (Centre Nat. de Rech. Forestieres, France), G. Gay (Univ. Claude Bernard - Lyon), C. and R. Gessner (Western Illinois Univ. U.S.A.), I. Girard (Univ. Laval), C. Godbout (Univ. Laval), G. Hunt (For. Sci. Lab., U.S.A.), C. Hutchinson (Univ. of Aberdeen), M. Ivory (Univ. of Oxford, U.K.), D. Lahaie (Univ. Laval), J.A. Menge (Univ. of California, U.S.A.), O.K. Miller, Jr. (Virginia Polytech. Inst., U.S.A.), P. Nadarajah (Univ. of Malaya, Malaysia), Z. Nesme (Univ. Laval), R. Pomerleau (Québec), S. Redhead (Bio. Res. Inst., Canada), D.C. and J.A. Robertson (Grinnell College, U.S.A.), E. and R.A. Shoemaker (Bio. Res. Inst.), and G. Thorn (Univ. of Guelph, Canada).

Shannon M. Berch
& Scott Redhead

PRESERVATION BY TRANSPLANTATION

There are times when botanists, usually those working for consulting firms, feel that one kind of commercial development or another is justifiable in certain botanically interesting areas. Of late there has been a growing tendency (e.g., White Rose Bog, Oriskany Sandstone Outcrop) for botanical experts and others to testify that the conservation of rare plants in these circumstances can well be accomplished by transplanting them elsewhere. Another idea that has been advanced is that an ecosystem can be duplicated or recreated by moving plants and propagules to a new location. Some proponents of such solutions seem unable to state publicly that the natural habitat is botanically preferable to artificial plantings.

A good many native plants can be undoubtedly be grown under cultivation, as they are in any number of front yards and botanical gardens. But do plants in a horticultural setting have the same scientific and educational value as vegetation in its natural habitat? And can one assume that any rare plant, even one from a specialized habitat, can be relocated without detriment?

Is there a body of literature concerning ecosystems successfully duplicated and specialized rarities (e.g., bog plants) safeguarded for the future via transplantation? In many cases nothing appreciable is known about the autecology of threatened plants. Can one automatically assume that transplantation is a reliable technique for preservation?

An open discussion of the "transplant solution" might be in order.

Dianne Fahselt
Chairman
Conservation Committee
CBA/ABC

NRC JOURNALS

Dr. Michael Shaw, our Past-President, has received the following letter about publication of journals by NRC. We ask you to note the suggestion in the second paragraph.

"It is a great pleasure to inform you that we have received a Treasury Board decision that publication of the research journals, on the same basis as presently done, will remain as a continuing program within NRC. In writing *finis* to this episode we would like you to know how very much we appreciate the vigorous support for our position that came from societies and individuals in the Canadian scientific community. There can be no doubt that your representations to Cabinet Ministers were important to the eventual outcome.

"We all know how easy it is to be critical and how often the acknowledgement of good things is neglected. With that in mind could we suggest that you might want to write to the Ministers concerned, Mr. Johnston, President of the Treasury Board, and Mr. Roberts, Minister of State for Science and Technology, expressing appreciation for their help in making this decision. They would certainly enjoy knowing that their response to your protestations was recognized and appreciated.

Yours sincerely,

B.A. Gingras
Vice-President (External Relations)

C.T. Bishop
Editor-in-Chief

National Research Council
Canada
Research Journals
Publishing Department"

MYCOLOGY WORKSHOP

The third annual workshop for all interested in fungi will be held February 20 and 21, 1982, at Carleton University, Ottawa. The meetings will give an opportunity for presentation of papers in an afternoon session beginning at 2 pm on Saturday, followed by an informal evening session at which Ralph Estey will set the tone with a brief anecdotal account of the history of Vanadian Mycology. The Sunday morning session, convened by André Fortin, will focus on the mycorrhizal association, of vital interest to all mycologists.

For further information and registration, contact: Dr. W.I. Illman, E.L.B.A., Carleton Univ., Ottawa, Ont K1S 5B6

BANKS' FLORIGEUM

Banks' Florigium, published in Australia as a centennial project, is available for a cost of £45,000. It is the most expensive book ever published!

CBA/ABC has been informed that one copy, at least, will be available in Canada — at the Royal Botanical Gardens in Hamilton, Ontario.

WHAT'S ON IN SYSTEMATICS AND PHYTOGEOGRAPHY IN CANADA

The Executive of the Systematics & Phytogeography Section of CBA/ABC has decided to revive the feature "What's on in systematics" previously published in the *Bulletin* in 1978. The aim is to provide information on current research in systematics and phytogeography in the various regions of Canada. In preparing these accounts, the members of the Executive are indebted to correspondents in Universities and research establishments. These correspondents will be acknowledged in the accounts.

Although we have tried to be thorough, there are certain to be important omissions, and I would be grateful if these could be drawn to my attention or, better still, a note sent to the Secretary of the Section, Dr. J.M. Canne, Dept. of Botany & Genetics, Univ. of Guelph, Guelph, Ont N1G 2W1.

The first of the series, covering the Prairie Provinces, was scheduled for the October 1981 *Bulletin*, but the mail strike intervened. It appears below. Later issues will cover British Columbia and the North, Atlantic Canada, Quebec, and Ontario.

Volunteered information for any of the future issues would be most welcome. For BC and the North contact: Dr. R.T. Ogilvie, Botany Division, B.C. Provincial Museum, Parliament Buildings, Victoria, B.C. V8V 1X4. For Atlantic Canada contact: Dr. D.M. Fahselt, Dept. of Plant Sciences, Univ. of Western Ontario, London, Ont N6A 5B7. For Quebec contact: Dr. A.B. Bouchard, Jardin Botanique de Montréal, 4101 est rue Sherbrooke, Montréal, PQ H1X 2B2. For Ontario contact: Dr. J.M. Canne (address above).

J. McNeill
Chairman, S & P Sect.
Dept. of Biology
Univ. of Ottawa
Ottawa, Ont
K1N 6N5

I. THE PRAIRIE PROVINCES

UNIVERSITY OF ALBERTA (Contact: Dr. D. Horton)

Vascular Plants

John Bain has been working on his Ph.D. thesis since 1979 with Keith Denford. The subject of his research is a revision of the *Senecio streptanthifolius* complex in North America.

Keith Denford is currently involved in studies of phytochemical aspects of speciation and refugia in *Arnica*.

Helen Dudynsky has been working on a Master's thesis with K.D. and Jim Mayo. Her study of ecotypic differentiation in *Arctostaphylos uva-ursi* will be completed in 1982.

Dorothy Fabijan began work on a Master's thesis in January 1981 under the direction of John Packer and K.D. She is revising the *Viola nuttallii* complex in the Pacific Northwest.

Jim Harris arrived in 1980 to work on a Ph.D. with J.P. His thesis topic is a revision of the genus *Braya* in North America and Greenland.

John Packer's revision of Moss's *Flora of Alberta* went to University of Toronto Press this fall (the first edition was

published in 1959 by U. of T. Press). John and K.D. are presently collaborating on a taxonomic study of *Mertensia* in North America.

Steve Wolf completed a Ph.D in spring 1981 under the direction of K.D. The title of his thesis is "Biosystematics of *Arnica* Subgenus *Austromontana*". He is currently working as a PDF with John McNeill at the Univ. of Ottawa.

Fungi

Randy Currah is a Research Associate at the Devonian Botanic Garden and is involved in directing research activities at the Garden. He began work on a Ph.D. in fall 1980 with Bill Carmichael. The topic of his research is the taxonomy of *Arachniotis* and related genera in Gymnoascaceae.

Bryophytes

Diana Horton completed her Ph.D. in December 1980 with Dale Vitt. The title of her thesis is "A Revision of the Encalyptaceae (Musci), With Particular Reference to the North American Taxa". She is presently a NSERC Fellow, and is working on a moss flora of the Canadian Rockies.

Jan Janssens completed his Ph.D. in summer 1981 under D.V. His thesis title is "Subfossil Bryophytes in Eastern Beringia: Their Paleoenvironmental and Phytogeographical Significance". Jan is now doing postdoctoral research with Herb Wright at the Limnological Research Center in Minnesota.

Barbara Murray began work on a Ph.D. with D.V. in September 1980. She has undertaken a taxonomic evaluation of the ecostate species of *Andreaea*. At present, Barbara is continuing her research at the Univ. of Alaska Herbarium in Fairbanks, where she is Curator of the Bryophyte and Lichen collections.

Noris Salazar arrived in the fall to begin work on a Ph.D. with D.V. She is planning to do systematic and ecological studies of either *Ptychomnium* or the Hedwigiaceae.

Dale Vitt has just completed a revised classification of the Musci to be published in Rudy Schuster's new *Manual of Bryology*. Dale is in Australia until January 1982. He is collaborating with Helen Ramsay (Univ. of N.S.W.) on a systematic treatment of *Macromitrium* in Australia.

UNIVERSITY OF CALGARY (Dr. C.C. Chinnappa)

Dr. C.C. Chinnappa and his co-workers are continuing studies on the evolutionary strategies and patterns of variation in the *Stellaria longipes* complex, cytogeography of *Antennaria microphylla*, and biosystematics of long-leaved *Antennaria* species.

Kathleen Wilkinson is completing her studies on the natural prairie grass-land areas in the Peace River - Grand Prairie area, as part of her M.Sc. studies.

UNIVERSITY OF LETHBRIDGE (Dr. J. Kuijt)

John Kuijt is having an illustrated flora of Waterton Lakes National Park published by the University of Alberta Press sometime this winter or early spring. He is also continuing various systematic studies on

the mistletoes of tropical America, with emphasis on Ecuador, Nicaragua, and the rest of Central America.

E.C. Pielou, a visiting research professor from Dalhousie Univ., is doing comparative studies on the ecological amplitudes of prairie Leguminosae and Compositae.

UNIVERSITY OF SASKATCHEWAN (Dr. V.L. Harms)

V.L. Harms is engaged in a number of projects both alone and in collaboration with other systematists. He is preparing a Manual of the Vascular Flora of Saskatchewan with J.H. Hudson and G.F. Ledingham (Univ. of Regina). A floristic inventory of the general area of sand dunes on Lake Athabasca south shore, nw Sask., is being completed with J.H. Hudson and R.A. Wright. Harms and R.A. Wright have been conducting an inventory of the vascular flora of the Clearwater River, nw Sask. He is also continuing taxonomic studies on North American *Sparganium* and *Heterotheca*, and is involved in floristic studies in the Porcupine, Pasquia, and Wapawekka Hills of east-central Sask.

J.H. Hudson is continuing studies on Cyperaceae in Saskatchewan.

N.A. Skoglund and V.L. Harms have been completing a Manual of the Grasses of Saskatchewan.

J.W. Sheard is spending his sabbatical leave completing a monographic revision of the lichenized ascomycete genus *Rinodina* in North America.

UNIVERSITY OF MANITOBA (Dr. J.M. Shay)

Helen Kennedy is revising *Calathea* Section *Macropus* (Marantaceae) and studying the inheritance of leaf pattern and color. She is continuing her work on the Marantaceae for the Flora of Veracruz, Mexico; Costa Rica and Ecuador.

Jennifer M. Shay is examining the plant remains from the ancient site of Kommos on the south coast of Crete.

MANITOBA MUSEUM OF MAN AND NATURE, BOTANY DEPT. (Dr. K. Johnson)

Karen Johnson is continuing her distributional studies on all vascular plants in Manitoba, with particular emphasis on rare species and the flora of the Churchill region.

CBA/ABC CONSERVATION COMMITTEE

In past months, the committee has assembled a list of member experts who have indicated their willingness to participate in resolution of local or regional conservation problems. These persons may be asked by the Conservation Committee to express their views or to participate in the study of local issues.

We are pleased with the response to date (about 95 persons), but we notice that the names of a number of experienced people, particularly in the Ecology and the Systematics & Phytogeographic Sections, are missing. Might we request that anyone else who would like to participate forward his/her name to the chairman of the

committee? Please indicate your area of expertise or specialty in terms of geographical areas within Canada and/or plant taxa, and provide your telephone number.

Modus operandi

The procedure that we propose to follow in the short term for dealing with conservation issues is the following:-

- a case is brought to the attention of the Conservation Committee either directly, which will be faster, or through the President of CBA/ABC
- the case is referred to a regional expert (regional co-ordinator) who will look into it and, if necessary, oversee a study
- the findings of the study will be transmitted to the Conservation Committee
- the Conservation Committee will make a recommendation, which will be conveyed to the appropriate authorities via the President of CBA/ABC.

This procedure can operate at any time during the calendar year. It is not necessary to wait for an Annual Meeting to present a resolution to the CBA/ABC membership. By the time this issue of the *Bulletin* is printed the committee should be ready to handle some conservation issues.

We hope that the opinions of professional botanists will have more impact, especially in the legal and political spheres, when transmitted via official CBA/ABC channels.

The Committee may be contacted through the chairman: Dr. Dianne Fahselt, Dept. of Plant Sciences, Univ. of Western Ontario, London, Ont N6A 5B7

Dianne Fahselt
Chairman
Conservation Committee
CBA/ABC

BOTANICAL SOCIETY OF AMERICA — ANNOUNCEMENT OF DARBAKER PRIZE IN PHYCOLOGY FOR 1982

The Committee on the Darbaker Prize of the Botanical Society of America will accept nominations for an award to be announced at the Annual Meeting of the Society with A.I.B.S. at Pennsylvania State University in August, 1982. Under the terms of the bequest, the Award is to be made for meritorious work in the *study of microscopical algae in all its facets*. At present, the Award is limited to residents of North America, and only papers published in the English language will be considered. The value of the prize for 1982 is expected to be approximately \$500. The Committee will base its judgement primarily on the papers published by the nominee during the last two full calendar years, i.e., papers dated 1980 and 1981.

Nominations for the 1982 Award, accompanied by a thorough statement of the merits of the case and by reprints of the publications for 1980 and 1981 supporting the candidate, must be received by April 1, 1982 by the Chairman of the Committee, Dr. G. Benjamin Bouck, Department of Biological Sciences, University of Illinois, Chicago, IL 60680.

For further information write the Chairman or call him at (312) 996-5458.

POSITIONS AVAILABLE

Whiteshell Nuclear Research Establishment, Pinawa, Manitoba — Two positions for Research Officers in the Environmental Research Branch are available:

Geneticist — To develop and conduct basic research on the genetic effects on populations of chronic exposure to ionizing radiation in natural ecosystems. This research will be integrated into the current program on low level chronic radiation effects on animal and plant populations in grassland and boreal forest communities. The successful candidate will also play an active role in a team of environmental scientists studying the effects of peaceful applications of nuclear technology on the environment, and will have the opportunity to participate in other related research projects that may arise from time to time.

A Ph.D. degree in Genetics, Zoology, Biology, Botany or other pertinent discipline is required, as is a demonstrated ability to conduct original research. Experience in applied genetics research and training in radiobiology or isotope techniques would be assets.

Plant Ecologist/Biometeorologist — To develop and conduct basic research on the effects of chronic exposure to ionizing radiation on populations and communities. This person will carry out research investigating the interaction between the effects of physical factors such as temperature, moisture, etc., and chronic radiation on boreal forest plant populations and communities. This research will be integrated into the current program on radiation effects on plant and animal populations and communities and will have available a boreal forest area that has been exposed to ionizing radiation since 1973. The successful candidate will also play an active role in a team of environmental scientists studying the effects of peaceful applications of nuclear technology on the environment, and will have the opportunity to participate in other related research projects that may arise from time to time.

A Ph.D. degree in Biometeorology, Plant Ecology, Meteorology, Biology or other pertinent discipline is required, as is a strong grounding in mathematical analysis and statistics and a demonstrated ability to conduct original research. Experience in research and training in radioecology or radiobiology would be assets.

Both positions require good ability to communicate both verbally and in writing and to work effectively with others.

Current salaries start at \$25,400 for a newly graduated Ph.D.

If interested in either position, write to: Personnel Officer, Whiteshell Nuclear Research Establishment, Atomic Energy of Canada Ltd., Pinawa, Man ROE 1L0, Attention: S.L. Iverson.

Queen's University, Kingston, Ontario — The Department of Biology invites applications for three positions. Successful applicants will be expected to teach in the undergraduate program and develop vigorous research and graduate education programs. Appointments will be effective September 1, 1982, and are expected to be at, but are not restricted to, the rank of Assistant Professor, with salary commensurate with qualifications (floor - \$20,800). Equal opportunities exist for qualified male or female applicants.

First consideration will be given to Canadian citizens or landed immigrants. All positions require a Ph.D. degree and published evidence of excellent research ability.

Plant Ecologist — Tenure track position. Preference will be given to persons with active interests in population or community ecology of land plants. Research program will be expected to emphasize a quantitative experimental approach and the application of ecological and evolutionary theory to problems of plant ecology. It is expected that the successful applicant will interact closely with the present faculty in population biology.

Plant Development — Tenure track position. Applicants must have expertise in plant cell and tissue culture, including plant regeneration and are expected to be able to interact closely with the present faculty in plant physiology/development and recombinant DNA technology.

Cell Biologist — One year term appointment with the possibility of renewal. Applicants are expected to have research interests in animal cell biology, possibly including fine structure, and be able to interact closely with present faculty in cell biology. Successful applicant must be able to teach in a first-year cell structure and function course.

Application deadline for all positions is April 1, 1982, or until a suitable candidate is selected. Applications should include curriculum vitae, statement of future research interests, and names and addresses of three (3) referees, and should be sent to: Professor D.T. Canvin, Head, Department of Biology, Queen's University, Kingston, Ont K7L 3N6 Canada.

Royal Ontario Museum, Toronto, Ontario

Vascular Plant Systematist — For the position of Assistant or Associate Curator. To assume responsibility for the Museum's obligations in vascular plants. This involves: 1) curatorial responsibility, including maintenance and development of the research collections and provision of information about the groups and species represented; 2) conduct of specialized research in systematic botany; 3) participation in the Museum's educational program, including gallery exhibition, interpretive writing, and lecturing; and, 4) administration of a small staff. The scope of the Museum is world-wide, but it is expected that work on the Canadian and North American flora will be kept in balance with work involving the flora of other continents. The opportunity exists for a cross-appointment to the professorial staff of the University of Toronto.

The Royal Ontario Museum comprises 9 departments in science, 9 in art and archaeology, and 15 service departments. Currently, the Botany Department has a staff of four (curator, curatorial assistant, technician and secretary). The new curator will be responsible for a 250,000 sheet vascular plant herbarium (TRT). Other collections include modern and fossil pollen and seeds. Available are a scanning electron microscope, electronic data-processing facilities, a biochemical and histological laboratory, and radiographic equipment. Some facilities are operated by full-time technicians.

A Ph.D. in hand or imminent, with specialization in the systematics of one of the vascular plant groups involved in the duties of this position, and professional experience in collec-

tion development is required. Demonstrated ability and enthusiasm to undertake independent research and publication, along with the curatorial and educational functions of this position are important.

Effective date of appointment is July 1, 1982, or shortly afterward. Applications, including curriculum vitae, statement of professional goals, and names of three references, should be sent before February 15, 1982, to: Search Committee, c/o Dr. J.H. McAndrews, Department of Botany, Royal Ontario Museum, Toronto, Ontario M5S 2C6 Canada.

University of British Columbia, Vancouver, B.C.

Algal Physiology — Postdoctoral Fellowship. Applicants should be experienced in light and electron microscopy and preferably also in EM cytochemistry on Rhodophyta and Phaeophyta. The fellowship initially pays \$15,000 per annum, and may start any time after January, 1982.

Interested candidates are invited to send a curriculum vitae, with names, addresses and telephone numbers of 3 referees, to: Dr. K. Cole, Department of Botany, University of British Columbia, #3529-6270 University Blvd., Vancouver, B.C. V6T 2B1 Canada.

Royal Botanical Gardens, Hamilton, Ontario

Breeder of Ornamental Plants — To maintain existing and initiate new programs in the breeding of hardy ornamental plants, oversee the evaluation of new ornamental introductions, and participate in the Gardens' educational program.

The R.B.G. has extensive collections of hardy ornamentals in many genera, with propagation facilities, library, herbarium, and classrooms available to its scientific and technical staff. Co-operative arrangements exist with several Ontario universities.

Applicants should preferably have a doctorate in the plant sciences, with a strong background in ornamental horticulture and genetics, and should be experienced with hardy plants.

Send a curriculum vitae and names of referees to: The Director, Royal Botanical Gardens, Hamilton, Ont L8N 3H8 Canada.

PLANT ECOLOGISTS, WHERE ARE YOU?

This year the Ontario Ecology and Ethology Colloquium will be held at the University of Guelph from April 26-28, 1982. The object of the colloquium is to bring together individuals interested in ecological research, with a particular emphasis on participation by graduate students. This year marks the anniversary of Darwin's death, and, to commemorate this event, the first morning of the colloquium will be devoted to invited lectures on the impact of Darwin on ecology and ethology.

Judging from attendance at previous colloquia, very little ecological work in Ontario is being carried out with plants. Plant ecologists are encouraged to dispel this impression by participating in this year's colloquium.

For further details, and to be added to the mailing list, write to: Dr. D.M. Lavigne, Dept. of Zoology, Univ. of Guelph, Guelph, Ont N1G 2W1

Paul A. Keddy
Secretary, Ecol. Sect.

BOOK REVIEW

Aspects of Photosynthesis by Gaurangakumar Das. 1981. Mitra Das, 121/A Bipin Behari Ganguly Street, Calcutta 700012, India. 1 + 176 + xxvii pp. \$28.00 U.S. (Available in Canada and the U.S. from Dr. G.K. Das, P.O. Box 718, Station B, Ottawa, Ont K1P 5P8)

This book is a well-written introduction to photosynthesis, directed by the author to university teachers and students and to research scientists who wish to grasp quickly an understanding of this vital process. It is divided into three parts. Part I, "Fundamentals of photosynthesis", consists of 9 short chapters, and is a concise presentation of the basic facts of photosynthesis, including the chloroplast and its pigments, the two photosystems, electron transport, photophosphorylation and CO₂ fixation. Part II, "Controlling factors, genetic role, and bacterial photosynthesis", consists of 3 chapters. The first (Chapter 10) is concerned with the factors affecting higher plant photosynthesis, and to this point the book differs from equivalent chapters in textbooks on plant physiology mainly in added details — for example, four pages are devoted to the Mitchell hypothesis of ATP synthesis, and the significance of C₄ metabolism, photorespiration, and glycolate metabolism occupies 12 pages. The author uses extensive cross-referencing as a teaching device. Chapter 11, on genetic control of chloroplast assembly and chlorophyll biosynthesis, introduces a current emphasis of research, and Chapter 12 adds bacterial photosynthesis, which is usually omitted from plant physiology texts.

Part III, "Applied aspects of photosynthesis", is a departure from tradition for books of this sort. The discussions of photosynthesis in relation to nitrogen metabolism (Chapter 13) and fruit development (Chapter 14) are of especial interest to students of crop science, and are not included in either of the two short books on photosynthesis by Devlin and Barker and by Fogg with which this book is otherwise more or less comparable.

In summary, this book is a recommended addition to the library shelf, where it can serve as a convenient and attractive up-to-date summary of photosynthesis, and, through the 22-page bibliography conveniently separated into books, reviews and journal references, also as a means of initiation to the extensive literature. The book itself is attractively assembled, although somewhat marred by the inevitable printer's errors, most of which the author has painstakingly corrected by hand. The text is liberally endowed with diagrams of pathways and chemical structures, and 13 plates of EM pictures, many of them the author's own, are a useful addition at the end. Numerous footnotes serve as crosslinks to related chapters and supplement the 2-page glossary of terms. The book is indexed.

C. Nozzolillo
Dept. of Biology
Univ. of Ottawa

XIVTH INTERNATIONAL BOTANICAL CONGRESS

The XIVth International Botanical Congress will be held in West Berlin in 1987.

COURSES

Biotechnology: Principles and Practices - A short summer course will be held at the University of Waterloo from July 5-9, 1982. The course is intended for scientists, engineers and others interested in learning or reviewing the basics of biotechnology and in discussing current developments. Fundamental principles and practical applications will be treated. Course coverage in future years will vary between general and specialized topics according to demand.

There will be 8 half-days of lectures, one evening of panel discussions, and one-half day of tutorials and laboratory visits. There will be no examinations and no academic credit given.

The tuition fee is \$475 before May 1 or \$500 after (students - \$275 or \$300). This fee covers academic program, set of notes, attendance certificate, cocktails, and banquet. On- or off-campus accommodation is available.

For further information and registration forms please contact: The Biotechnology Secretariat, The Waterloo Centre for Process Development, Univ. of Waterloo, Waterloo, Ont N2L 3G1. Telephone inquiries: (519) 885-1211, ext. 2404/3300.

AMERICAN MEN AND WOMEN OF SCIENCE

American Men and Women of Science is about to undergo a major revision. The 15th edition of this respected biographical reference will be published in August 1982. The 7-volume directory contains approximately 130,000 brief biographical entries of men and women who have education and training equivalent to the doctorate and who have attained a position of responsibility in the physical, biological, mathematical or engineering sciences. Coverage includes researchers, educators and administrators who are citizens of the Americas and non-citizens working in the Americas on a permanent basis. Prospective entrants may request a questionnaire on which to submit information from the editors through April 1982.

Current entrants will be sent copies of their existing data for review and updating during the fall and winter of 1981-1982. All address changes occurring since 1978 should be reported to the editors promptly.

Information or requests should be addressed to: The Editors, *American Men and Women of Science*, P.O. Box 25001, Tempe, AZ 85282, U.S.A.

BOOKS RECEIVED FOR REVIEW

Plant Tissue Culture. Methods and Applications in Agriculture edited by Trevor A. Thorpe. 1981. Academic Press, Inc., New York. x + 379 pp. \$23.50 U.S. (Proceedings of a symposium based on the UNESCO Training Course on Plant Tissue Culture: Methods and Applications in Agriculture, sponsored by UNESCO and held in Campinas, Sao Paulo, Brazil, November 8-22, 1978.)

Introduction to In Vitro Propagation by D.F. Wetherell. 1982. Avery's Plant Tissue Culture Series, No. 1. Avery Publishing Group Inc., Wayne, N.J. vii + 87 pp. (softcover). \$7.95 US.

"A complete, practical, and easy-to-understand guide to the basic techniques of plant tissue culture" (from the publisher's letter).

B.C.C. FEES

The Biological Council of Canada (B.C.C.) policy is to charge each Society for each of its members, regardless of whether an individual belongs to more than one Canadian Society.

CBA/ABC accepts that this policy is unfair to people who are members of more than one society, and has attempted to persuade B.C.C. to change its policy. So far, this has been to no avail. Therefore, the CBA/ABC membership dues of \$22.00 includes the B.C.C. fee, which should be paid by every member. Officially, the failure to remit to B.C.C. the full amount for every member could lead to a Society's dismissal from the Council.

WAS YOUR LAST ISSUE OF THE BULLETIN COMPLETE?

The Editor has received notice that at least one member received an incorrect October issue. Pages 34 and 43 were replaced with duplicate pages 36 and 41.

Would anyone else who received an incomplete issue, please notify the Editor, who will replace it with (hopefully) a complete one.

The Bulletin of the Canadian Botanical Assoc.
Editor:- Mrs. Sylvia Taylor

Office of The Botanical Garden
University of British Columbia
6501 N.W. Marine Drive
VANCOUVER, B.C. V6T 1W5

Issued quarterly in January, April, July and October, and sent to all members of the Association. Non-members may receive it at a price of \$10.00 p.a. (\$2.50 per issue) post free. Cheques and money orders (in Canadian funds) should be 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. I.E.P. Taylor, Department of Botany, University of British Columbia, VANCOUVER, B.C. V6T 2B1