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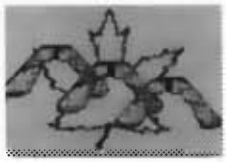

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Editor / Éditeur:
J. F. (Joe) Gerrath
Guelph

ON THE INSIDE
À L'INTÉRIEUR

EDITOR'S COMMENTS
COMMENTAIRE DE LA PART DE L'ÉDITEUR

Guelph '95

The milling crowds have departed and I now have a chance to reflect briefly on the joint Annual Meeting of CBA/ABC and CSPP/SCPV. It is hard to be objective about a meeting which takes place at your own institution. I am certain than many of you had a great time here, judging from the many smiles and animated conversations I encountered. However, I know that, for some of you, a brief sojourn in a residence without air conditioning during one of the hottest heat waves of the year was a visit to hell. I don't have air conditioning in my home, so I know how you felt!

Judging from the sessions I went to, we had an interesting and well presented series of papers, and, again, some of the best were presented by students. The symposia kept everyone's interest even though they were very varied in subject matter (I only nodded off once at the back of the hall). Even the "rubber chicken" at the banquet was a bit better than Unigoo's usual standard.

As is usual for our July issue, you will find several pages containing the various reports presented at the AGM. Details of the awards presented will be in the October Bulletin. However, I extend congratulations to Nagraj Tumkar and Ernie Small (Lawson Medals), to Luc Brouillet (Elliott

Award), and to Barbara Booth (Cinq-Mars Award). Best wishes also to Sethu Raju, who was honoured by Henry Mann at the Banquet on the occasion of his retirement from the University of Regina.

Charlottetown '96

Next year will be our last chance to view "The Island" before it becomes just an appendage of the North American landmass after the completion of "The Bridge". Local organizers promise us a fine time. You will read elsewhere in this issue that a Symposium on Biodiversity is being planned and that another on Entrepreneurship may also be offered.

Congratulations . . .

to our Rédactrice Adjointe, Frédérique Guinel, who has taken up an appointment on the faculty of Wilfred Laurier University. She was very busy completing her move and settling in at the time of the Annual Meeting and, as a result, I have not yet obtained all of the contact information for her. It will be included in the next issue of the Bulletin.

Review Books

The book review mill continues to produce results. There were so many reviews received for this issue that I have had to defer one until the next issue. I have also received some more books for review from the publishers. Anyone who would like to read and review any of the following books should contact me.

Amino Acids and their Derivatives in Higher Plants. Edited by R.M. Wallsgrove. 1995. Cambridge University Press.

Special Features in Vegetation Science. 4. Plant Clonality: Biology and Diversity. 1994. Opulus Press. [Proceedings of a 1992 workshop on clonal growth in plants]

Special Features in Vegetation Science. 5. Vegetation Structure and Species Coexistence. 1994. Opulus Press. [Proceedings of a 1992 Symposium]

Virus Diseases of Trees and Shrubs. 2nd Edition. by J.I. Cooper. 1993. Chapman & Hall.

Plant Responses to the Gaseous Environment. by R.G. Alscher & A.R. Wellburn. 1994. Chapman & Hall.

Photosynthesis. 5th Edition. by D.O. Hall & K.K. Rao. 1994. Cambridge University Press.

History of the Australian Vegetation. Edited by R.S. Hill. 1994. Cambridge University Press.

Saltmarsh Ecology. by P. Adam. 1993. Cambridge University Press.

Perspectives in Plant Cell Recognition. Edited by J.A. Callow & J.R. Green. 1992. Cambridge University Press.

Post-translational Modifications in Plants. Edited by N.H. Battey, et al. 1993. Cambridge University Press.

Plant Adaptation to Environmental Stress. Edited by L. Fowden et al. 1993. Chapman & Hall.

Australian Vegetation. 2nd Edition. Edited by R.H. Groves. 1994. Cambridge University Press.

Joe Gerrath, Editor

Future Annual Meetings
Prochaines Réunions Annuelles

1996
University of Prince Edward Island
Charlottetown, PEI
June 23-27 juin

1997
Université de Montréal (Institut botanique)
(with/avec Botanical Society of America/AIBS)
Early August/au début d'août

1998
Arrangements not yet finalized.

1999
St. Lous, Missouri
(with XVI International Botanical Congress)
August 1-7 août

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REPORTS FROM THE ANNUAL MEETING - GUELPH

PRESIDENT'S REPORT

Our membership level continues to recover, being currently at 290, which is approaching the 319 members that we had in 1990, before the fee increase that resulted from our joining CFBS.

Calgary 1994: Last year's meeting in Calgary was a great success, thanks in large measure to the enthusiasm and hard work of C.C. Chinnappa and Chuck Curry. Letters of thanks have been sent out to all those involved in the organization of the meeting.

Meeting with BSA/AIBS, Montreal, August 1997: In 1993, the new President of AIBS ordered a study of the way in which AIBS annual meetings were organized, and André Fortin, Chairman of the local committee for the 1977 Annual Meeting of CBA/ABC, was left in a difficult situation. Indeed, as recently as April 1994, the current President of BSA, Grady L. Webster, was told by Clifford Gabriel, the Executive Director of AIBS, that AIBS was seriously considering not sponsoring any general meetings after 1996.

However, in November 1994, Donna Haegele of AIBS contacted André Fortin, asking whether CBA/ABC and BSA still planned to meet together, since the involvement of AIBS was to be discussed at a forthcoming meeting. It seems that they decided soon afterwards to participate (but with certain provisos about not losing money on the Montréal meeting). Also in November, the new President of BSA, Harry Horner, wrote to André Fortin, telling him that BSA was still interested in meeting with CBA/ABC, with or without AIBS.

The current situation is that the meeting in Montréal will be under the sponsorship of AIBS after all, and three-way communication is in place between Donna Haegele, André Fortin and Harry Horner. I have requested that I be kept informed on progress and possible problems, but have heard nothing recently.

XVI International Botanical Congress, St. Louis, August 1-7, 1999: I have been in communication with Dr. Peter C. Hoch, Curator of the Missouri Botanical Garden, who indicates that CBA/ABC might be asked at some future time to assist in the selection of the members of the Scientific Program Committee, whose task will be to organize symposia in specific areas of botany. In our discussions, CBA/ABC are asked to identify active, well-connected and enthusiastic botanists who might be possible candidates. Meanwhile, a small Steering Committee has been formed, and Peter Raven has invited John McNeill to "represent" Canadian interests.

Awards: The Awards Committee was responsible for judging the Lawson, Elliott and Macoun awards, while a committee chaired by Randy Currah, handled the Weresub Award. This year's Awards Committee consisted of five members of the Board of Directors [C.C. Chinnappa, Melissa Farquhar, David Garbary, Usher Posluszny and Keith Winterhalder (as chair)] and an additional member from a "related discipline" [Joseph Shorthouse (Entomology)].

Vice-Regal Patronage: Vice-Regal Patronage is granted to an organization for the duration of the term of the Governor-General who is in office at the time. I have therefore written to Rideau Hall, inviting the new Governor-General, the Right Honorable Romeo Leblanc, to honour us by becoming our Patron.

Careers in Botany: Each year we receive requests for literature on Careers in Botany. Our existing pamphlet is considerably out of date, and I am attempting to find a volunteer to take on the task of updating it.

Canada-Wide Science Fair: Once again, CBA/ABC supported youth science by making its Special Award of $200 at the Canada-Wide Science Fair in Whitehorse, Yukon Territory. A letter of congratulations has been sent to the winner, Tammy Rempel, for her project, entitled "Super Spud - Bugs Off". Tammy was also selected as a member of Team Canada for the International Science and Engineering Fair in Tucson, Arizona. Unfortunately, no-one was able to represent CBA/ABC at the fair, and one of our goals for 1995-96 might be "a member in every Province and Territory".

Natural Heritage League: As a result of the increase in NHL fees from $100 to $200, and the fact that the orientation is Ontario-centric rather than national, we have decided not to rejoin the Natural Heritage League. Nevertheless, in November 1994 I was consulted by John Lounds of the League to obtain CAB/ABC's "blessing" on the recommendation of Michael Bradstreet (Executive Director of the Long Point Bird Observatory) as scientific community representative on the Backus Woods Advisory Committee. I can only conclude that CBA/ABC has played an important role in NHL in the past, and that we should look carefully at what we are likely to lose by opting out.

Keith Winterhalder, President

PAST-PRESIDENT'S REPORT (NOMINATING COMMITTEE)

The task of the Past-President in soliciting nominations is never easy. The past year has proven particularly difficult to get nominations to fill executive positions in CBA/ABC. It's hard to know the exact reason for this. I suppose that it's a combination of the membership getting older with very little "new blood" coming in and the atmosphere of crisis at most Canadian universities. New faculty (even old faculty) are too busy worrying about survival to be concerned with looking or standing for nomination.

In any case, we have been successful in filling one of the key positions that was open this year. Christian Lacroix kindly agreed to let his name stand for a second term as Treasurer. That is a great relief because nobody was looking forward to transferring the finances of CBA/ABC to another part of Canada. It should be noted that Christian has done a superb job as Treasurer for the past three years. We were also looking for three new Directors, and I am pleased to announce that all of the outgoing Directors (Melissa Farquhar, David Garbary and Hugues Massicotte) have agreed to serve another term as Director.

All of this points out the weakness in our system of replacing the Executive. I would suggest some changes be considered in the nomination procedure. Perhaps we could make it part of each executive member's job description to ferret out nominations. Although there is a nomination committee, it really has too small a base to keep a steady supply of nominees. Another suggestion is to have nominations called for at the Annual General Meeting. It always helps to have a critical mass when trying to get the ball rolling with nominations. It would be useful to have this matter discussed at this year's Annual Meeting.

Usher Posluszny, Past-President

[Editor's note: The matter was discussed at the AGM and a call for nominations was made during the meeting. Usher tells me that two nominations for Director were received before the end of the meeting. We will need to elect a new Secretary of the Association next year (Jean Gerrath will have completed two terms as CBA/ABC Secretary and cannot continue as Secretary (By-Law 39b)]

TREASURER'S REPORT

The CBA/ABC membership at the time of this annual meeting comprises 190 Regular Members, 34 Retired Members, 63 Student Members and 3 Life Members.

NET WORTH REPORT - May 31, 1995

Bank and Cash Accounts:		
General Account	11,475.58	
Macoun Account	700.28	
Porsild Account	150.80	
Rowe Account	98.58	
Steeves Account	324.53	
Weresub Account	426.85	
Total Bank and Cash Accounts		13,163.73
Other Assets (Investments)		
General Acct. [TD+GIC]	32,974.16	
Macoun [4 GICs]	12,152.43	
Porsild [GIC]	2,500.00	
Rowe [GIC]	1,800.00	
Steeves [GIC]	1,600.00	
Weresub [TD+GIC]	20,468.31	
Total Other Assets		71,494.90
Total Assets [Net Worth]		84,671.52

INCOME & EXPENSE REPORT - GENERAL ACCT.
June 1, 1994 - May 31, 1995

INCOME		
Development Committee Revenue	1,375.25	
Investment Income	963.00	
Membership Income (+ donations)	12,570.39	
Calgary AGM refund	2,804.65	
Bulletin Subscriptions	584.51	
GST Refunds	116.36	
Member list release [U. Chicago Press]	100.00	
Transfer from Macoun Saving Acct.	300.00	
Total Income		18,814.16
EXPENSES		
Awards		
Macoun	1,000.00	
Weresub	1,000.00	
Bulletin		
Printing	2,062.20	
Postage	840.32	
Stationery, etc.	72.59	
Transfers to Award Accounts		
Macoun	4,672.76	
Porsild	683.00	
Rowe	630.00	
Steeves	800.00	
Weresub	120.00	
Treasurer's Expenses	389.58	
Youth Science Foundation Award	650.00	
Guelph AGM Startup Fund	1,200.00	
T-shirt production expenses	977.50	
Bank Charges	124.83	
Total Expenses		14,522.78
Income less Expenses		4,291.38
Balance - June 1, 1994		7,184.20
Closing Balance - May 31, 1995		11, 475.58

Christian Lacroix, Treasurer

SECRETARY'S REPORT

Although it seems odd to be CBA/ABC Secretary while working in the United States, the transition was relatively smooth, and I have received good support from my new institution. We received 15 inquiries on herb use and horticulture this year, but none about CBA/ABC membership. Results of the mail ballot with regard to the CBA/ABC contribution of $1000 towards the publication of **Canadian Biodiversity** were 34 in favour and 5 opposed. No nominations were received for position of Director by the deadline, so positions had to be filled by appointment.

Jean Gerrath, Secretary

CONSERVATION COMMITTEE REPORT

1. *Drosera* in Nova Scotia: In July 1994 the chair received information from Ruth Newell, E.C. Smith Herbarium, concerning the status of ***Drosera filiformis*** in Nova Scotia. The permit to mine peat from the site in question, awarded to the individual involved, had expired, but he is petitioning the new Minister of the Environment for renewal.

2. New Reserves: The chair received a news release from the Nature Conservancy of Canada concerning the creation of two new reserves. The first one is near Napanee, Ontario, and is called the Menzel Nature Reserve. It is the largest example of an open and treed fen in the district. The second is Abraham's Lake Forest Reserve, created in partnership with Scott Maritimes Ltd., Nova Scotia.

3. Carolinian Canada: The chair received the following report from J.K. Morton, CBA/ABC Representative on the Carolinian Canada Steering Committee.

The Carolinian Canada Programme has successfully navigated the transition from depending on Government funds to obtaining support from the private sector. Our success has been largely due to the efforts of our interim chairman, Steven Price, and our secretary, Doug van Hemessen. As a result, in 1995 we are continuing our activities aimed at preserving the Canadian portion of the Carolinian life zone, together with its component biota. This year we are involved in projects for land purchase, stewardship, research and management, with a budget of over one million dollars, a quarter of which will be funded directly from Carolinian Canada sources, while the remainder will come from matching funds provided by other agencies such as the The Nature Conservancy, World Wildlife Fund, Ministry of Natural Resources (Ontario), local conservation agencies, etc.

The chair is happy to report that a candidate has been found to replace Dr. Morton as CBA/ABC representative on the steering committee. The chair wishes to thank Dr. Morton for his hard work on our behalf and for his informative reports concerning this committee.

4. Leitrim Wetlands: Albert Dugal requested that the CBA/ABC write to Ministers Michel Dupuy and Sheila Copps concerning the Tartan Development project at Leitrim Wetlands outside of Ottawa. The chair requested information from the Ministry of Natural Resources (Ont.) on its stand on the issue. There is a large file on this issue and the chair is drafting a response.

5. EPIC: *EPIC News* from the Canadian Nature Federation reported that EPIC is helping to fund two pilot projects, one targeting the **western prairie fringed orchid** and the other targeting the **Karner blue butterfly**.

6. Museum of Nature Update: An audit by Peat, Marwick and Thorne cleared management of wrongdoing but the Museum refused to release the audit to the public. A House of Commons Standing Committee on Canadian Heritage presented three motions concerning the Museum, but a Liberal majority voted them down. A recommendation was presented by the True Friends of Nature that follow-up letters be sent to Michel Dupuy and the Prime Minister concerning the state of the Museum and that CBA/ABC should submit a list of names of botanists who would be suitable candidates for appointment to the Museum Board of Trustees, as there are currently vacancies existing.

7. Miscellaneous Items:
Ontario Ministry of Natural Resources (Midhurst) released the *Vegetation Management Statement* for the Holland Landing Prairie and an invitation to participate in a volunteer weekend.

The chair received a request from the Wingham MNR office (Ont.) for input concerning the Hullet Provincial Wildlife Area. No action was taken.

Timber Management Planning, Bancroft, Ontario: The review of the Draft Plan is expected to be released Aug.-Sept. 1995.

The Muskoka Heritage Foundation is soliciting Natural Heritage League members concerning membership in a Conservation NIRV WEB information network. CBA/ABC is no longer a member in the new NHL because of the increased cost of membership.

The chair recently received a copy of the Larder River Provincial Park (Ont.) Preliminary Report. There is no timetable as to future input.

8. Future Initiatives: The CBA/ABC is a national organization and the "issues/information" in the Conservation Committee annual report should reflect this fact. The chair wishes to expand the incoming information to that of national as well as Ontario issues. To that end it is important to receive correspondence from members in all provinces. I would appreciate some dialogue with members on this point and perhaps some commitment as to assistance from areas outside Ontario.

Heather Stewart, Conservation Committee Chair

EDITOR'S REPORT

There is nothing of significance to report concerning the Bulletin this year. The four issues were produced (more or less) on time and a small-format Membership List was mailed with the October issue. This year I received quite a number of submissions from members and I would like to thank those who send in contributions, since it means that I do not have as many pages to fill up by myself.

I plan to issue an updated Membership List with the October Bulletin. Since I take all information for this list from the Treasurer's database, I would ask that any recent changes in your addresses, telephone numbers, FAX numbers or E-mail addresses be sent A.S.A.P. to the Treasurer (who will inform me) or to me (and I will inform Christian).

Joe Gerrath, Bulletin Editor

DEVELOPMENT COMMITTEE REPORT

The Committee was not active during the year, and had not planned a large fundraising event for the Guelph meeting, other than the sale of existing T-shirts carried over from previous years. Christian Lacroix contacted a tax consultant about possible changes to our tax status if we were to establish a Corporate Membership category. Our status would not change, as long as we apportion part of the amount as a standard membership fee, and the remainder as a tax-deductible donation. In the same manner, donations to our various funds will not alter our tax status. Unfortunately, Tim Dickinson has had to resign from the committee because of other commitments. Any CBA/ABC members who are interested in working toward putting our investments on a firm footing are asked to contact me.

For the Charlottetown meeting, local organizers are planning to produce and sell a recyclable plastic mug. There will be another auction of botanical items (under the able coaxing of auctioneer, Hugues Massicotte). Anyone who wishes to contribute items for sale at the auction should contact me well in advance of the meeting. Proceeds from the auction and the sale of mugs and T-shirts are used to augment the Macoun Travel Bursary fund.

Jean Gerrath, Committee Chair

CANADIAN JOURNAL OF BOTANY EDITOR'S REPORT - June 1995

CJB had another busy year in 1994 during which the Ottawa office achieved publication in the cover month. Acceptance rate was 53%. The positive decision time (review + revision) was 133 days for English papers and 153 days for French papers. There have been major improvements in acceptance time for Cell and Molecular Biology, Structure, and Systematics. Average publication time was below 10 months. The 1995 target is less than 9 months. Time to press (between acceptance and publication) rose from 148 days in 1993 to 161 days in 1994 because of slow production of French language papers (224 days).

Submissions in 1994 were up to 465 from a 1993 low of 413 [1995 prediction = 500+]. Submissions were up in Ecology, Mycology & Plant Pathology, and Structure & Development. Submissions in Systematics were down. The increasingly interdisciplinary nature of Physiology and Biochemistry papers is encouraging, apparently as authors realize that CJB is not appropriate for single specialty papers. The 200+ symposium papers from the 5th International Mycological Congress, in August 1994, were prepared for publication in July 1995.

The feedback at the Mycological Congress and from unsolicited comments continues to be that Can. J. Bot is held in higher esteem abroad than in Canada. The ratio of papers published from USA and Canada is getting closer to 1:1 (70:78 in 1994). You, the Canadian botanical community, may or may not choose to submit your papers to CJB, but your rigor as consultant reviewers is recognized and appreciated internationally. 58% of all consultant reviews come from Canada. The scientific community could not survive withour your free labour. It is a pleasure to thank you all for your efforts. The "blacklist" is very short. Most of you step far beyond the call of duty and you do a fine job.

There have been several changes in the Editorial Board since I last reported to you. Associate Editors have a 3-year term and they work enormously hard, again well beyond the call of duty. Their task is very unpredictable and the Systematics and Ecology editors have had particularly hard years. We said farewell to Judy Canne-Hilliker (Systematics), Tony Glass (Physiology) and Susan Weaver (Ecology), who contributed both wisdom and timeliness during their time on the Board. We welcome Lonnie Aarssen (Ecology), Yolande Dalpé (Mycology), Ellen Macdonald (Forest Ecology), Bill Remphrey (Structure) and Bill Shipley (Ecology), who are already showing us their own special strengths. The challenge for 1995 is to shave a month off both acceptance and production times.

The tight meeting schedule did not allow for a CJB workshop. There will be an offering for the 1996 CBA meeting in PEI. I regret I am unable to be with you in Guelph but I thank you for all your support during the year.

On the down side, there were a few more disquieting cases of "lubricated ethics" in 1995. The Vancouver office dealt with one allegation of data massaging and one allegation by NSERC of cv padding, as well as several cases of "salami" science. There is increasing evidence that senior scientists are encouraging their co-authors to "let the reviewers fix it". Fortunately, more reviewers are refusing to do this and noting the cases of irresponsible behaviour. CJB Editors have felt obliged to send quite scathing remarks from reviewers to more than one big NSERC- and NSF-funded scientist. It is neither the reviewers' nor the editors' jobs to fix this sloppy behaviour. The Vanouver office tries to stop papers that are a waste of consultants' time, but they slip through. There is an also increasing number of inexcusably slow reviewers and, sadly, the "blacklist" is growing.

The issue of authorship is of growing concern. There are increasing attempts to double publish conference materials on the grounds that conference proceedings are not the primary, peer-reviewed literature. Authorship is claimed or given for smaller and smaller contributions, where acknowledgement is more appropriate. The standard excuse is that we (Editors) do not understand the "culture that prevails" in a sub-discipline. The reality is closer to the fact that senior scientists should control their own community by actively discouraging unethical behaviour. The community can rarely do anything about the crooks, but it can and must stop the jerks!

Respectfully submitted,
Iain E.P. Taylor, Editor.

REPORTS FROM SECTIONAL MEETINGS AT GUELPH

ECOLOGY SECTION
D.W. Larson (Secretary) - University of Guelph

1. J.S. Rowe Award: Paul Cavers wrote to J.S. Rowe to seek permission to use Stan's name for the Ecology Section prize for the best student paper published in a year. Stan has permitted this use of his name and was flattered by the request. It has been proposed that the first award be made at the meeting in 1996, based on papers bearing publication dates in 1995. Nominated papers must reach the section's awards committee by May 1, 1996.

Motion (Frego, Winterhalder): That ecologists across Canada be invited to join CBA/ABC and simultaneously be invited to submit candidate papers to the awards committee for consideration for the J.S. Rowe Prize. [Carried]

Motion (Small, Frego): The the nomination be made for a particular paper within one calendar year of the official publication date of the journal article. [Carried]

2. New Officers: Paul Cavers was elected as Section chair and Kate Frego and Isobel Waters were elected as Ecology Section officers.

3. Paul Cavers offered a motion of thanks to Norm Kenkel for three years of devoted service as chair of the Section, and to Ed Reekie and Gord Thomas for their work as Section officers.

4. The 1996 meeting at Charlottetown requires three new Cinq-Mars judges. Doug Larson, Richard Staniforth and Marie Laforest accepted these duties.

5. Various symposium topics were discussed for the 1996 meetings. A symposium on Biodiversity and Conservation seems assured.

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MYCOLOGY SECTION
Melanie Jones - Okanagan University College

1. Melanie Jones reported on a conversation with Mike Castellano of the U.S. Forest Service. Mike is in charge of implementing the President's Report on conservation of organisms associated with old-growth forests in the U.S. Pacific Northwest. Of the 500 species identified for special consideration, more than 200 are macrofungi. There also have been two major initiatives in the Pacific Northwest with respect to fungal surveys as part of biodiversity studies of the U.S. Forest Service. Discussion in the Mycology Section indicated that the low numbers of mycological taxonomists in Canada precluded similar initiatives.

2. Fungal Biodiversity Issues: Progress on the biodiversity issues raised at the 1994 meetings will be limited this next year because a number of the individuals involved will be moving or on sabbatical.

3. Handbook: There was notice of a handbook on sampling protocols for many organisms being prepared in Washington this fall. Dave Malloch and Mike Castellano, among others, will be involved in preparing the chapters on fungi. The book is due to be published by the summer of 1996.

4. Weresub Award and Speakers: There was discussion of the fact that many of the award winners and speakers are not members of CBA/ABC. Canadian mycologists are usually affiliated with MSA or APS, and put their highest priority on those meetings. There is also an annual "Mycology Workshop" in southern Ontario at which regional mycologists and their students meet. Attendance is usually greater than 100 and these people are less likely to subsequently attend CBA meetings.

We discussed whether the Weresub Award should be administered by the Mycology Section chair. Although this may be a reasonable goal in the long term, it was agreed that Randy Currah be asked to continue to handle this job for now. Two possible Weresub speakers were suggested for the Charlottetown meetings.

5. Mycologist at Guelph: Letters were written by Randy Currah, on behalf of the Mycology Section, to the University of Guelph urging the retention of the mycologist position recently vacated by George Barron. This effort appears to have been successful.

6. Section Chair: Melanie Jones will continue as chair for 1995-96, but will be on sabbatical in Sweden for most ot that time.

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STRUCTURE & DEVELOPMENT SECTION
Art Davis (Secretary) - University of Saskatchewan

1. Cinq-Mars Judges: For the Charlottetown meeting Jane Young will serve as judge with Larry Peterson as alternate.

2. **Steeves Award:** It was moved (L. Peterson, U. Posluszny) that the value of this year's inaugural award will be $250. Christian Lacroix reported that, for this award, we currently hold a $1600 GIC which is continually growing in value. The hope is that it will be able to generate $250 from interest alone in the near future.

There were 3 applications for the award this year, and the chair will be writing letters of thanks to the applicants congratulating them on their excellent contributions.

Terms of reference: There was some discussion on possible ways to streamline/improve selection of the successful applicant, on eligibility of papers, etc. It was suggested that it would be better to decide the winner before the CBA/ABC Annual Meeting, so that the winner might be in attendance at that meeting.

Next year's eligible candidates will have papers published by January '95 or later, and must have reprints available for the judges. E-mail will likely be used to advertise the Steeves Award next year (to all Structure & Development people).

3. Symposium Topics for Meeting in Charlottetown, 1996: A symposium related to the theme, **Conservation in Action**, was proposed. It likely will focus on pest plant invasion of sensitive areas and on how the plants' structure and development provides their survival advantages. The symposium could possibly be organized jointly with the Ecology Section. Usher Posluszny has agreed to be involved in organizing speakers for this symposium, with help from Larry Peterson.

4. Joint CBA/BSA Meeting in Montreal, 1997: A possible symposium on Homeosis was suggested. Ron and Nancy Dengler, and Usher Posluszny, will be investigating this possibility further at the BSA meeting in San Diego in August. Also, there will likely be a symposium on roots (Larry Peterson and Bob Seagull).

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SYSTEMATICS & PHYTOGEOGRAPHY SECTION
Ernie Small (Chair) - Agriculture & Agri-Foods Canada
Laurie Consaul (Secretary) - Canadian Museum of Nature

1. Canadian Biodiversity: During the past year a mail vote of the CBA/ABC membership resulted in the Association pledging $1000 towards the publication of **Canadian Biodiversity: A Guide to Current Botanical Specialists and Literature**, under preparation by E. Small, J. Cayouette and their associates. The work is now too large to be published economically as a book, and is expected to be completed and available for distribution as a bilingual "electronic book" (on several diskettes, along with retrieval software for use on computers - Mac and PC) in the late summer of 1995. This approximately 1000-page document provides complete citation details of the botanical publications of about 300 Canadian botanists, including many in the Canadian Botanical Association. CBA/ABC will be offered 150 sets of diskettes (with mailers) for free distribution to interested members (a small charge will be levied to defray mailing costs of each set). At a later date the document will be available on a World Wide Web server.

2. Survey: In association with P. Catling and J. Cayouette, the results of a mail survey to assess the areas of Canadian systematics and phytogeography most in need of new financial support were published and discussed in *CBA/ABC Bulletin* 28(2): 19-22.

3. Symposia: The Section wishes to have a symposium at Charlottetown on Biodiversity (previously proposed for Guelph). The symposium, organized by Ernie Small and Bill Crins, would involve Canadian speakers and issues of current concern. The idea of a symposium on Entrepreneurship in Botany seems attractive and hopefully someone will be found to organize it.

2. Porsild Award: Possible problems with the wording in CBA documents were pointed out and Keith Winnterhalder agreed to look into this issue. The possibility of instituting the award for next year based on a special $100 contribution from a member of this Section should be considered.

3. Cing-Mars Judges: The judge for Charlottetown will be Jerry Chmielewski, with Judy Canne-Hilliker as alternate.

4. Concern was expressed about governmental management of science.

5. New Chair: Bill Crins replaces Ernie Small as Section chair (summer 1995 to summer 1997).

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MEMBERSHIP COMMITTEE
Melissa Farquhar [see Director's contact info on page 52]

SCIENCE POLICY COMMITTEE
Usher Posluszny [see Past President's contact info, page 52]

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OUR MEMBERS WRITE . . .

New Telephone/FAX Numbers at CLBRR

Our thanks to Bill Cody, who sent the Editor the following list of the new telephone and FAX numbers at the Centre for Land and Biological Resources Research at Agriculture Canada in Ottawa. These numbers took effect in mid-May.

Botany (telephone numbers):

Baum, Bernard	613-759-1821
Catling, Paul M.	613-759-1373
Cayouette, Jacques	613-759-1366
Cody, William J.	613-759-1374
Darbyshire, Stephen	613-759-1389
Mitrew, Gisèle	613-759-1363
Mulligan, Gerald A.	613-759-1374
Small, Ernest	613-759-1370
Warwick, Suzanne	613-759-1829

Mycology (telephone numbers):

Barr, Donald J.S.	613-759-1369
Bissett, John D.	613-759-1385
Corlett, Michael P.	613-759-1379
Dalpé, Yolande	613-759-1381
Ginns, James H.	613-759-1382
Hughes, Stanley J.	613-759-1387
Parmelee, Jack A.	613-759-1387
Redhead, Scott A.	613-759-1384
Seifert, Keith	613-759-1378
Shoemaker, Robert A.	613-759-1386

FAX Numbers:

for Barr, Baum, Warwick	613-759-1927
for all the rest	613-759-1599

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E-mail Change at umanitoba.ca

E-mail addresses at the University of Manitoba have been changed so that all will end with **@cc.umanitoba.ca** (rather than having "ccm" or "ccu" after the "@").

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From Gordon Hart, Tarija, Bolivia.

I had a couple of comments about the articles included in the last issue (January) of the Plant Press. I really appreciated the ones about garlic spray use against ***Claviceps*** in sorghum, which crops (garlic and sorghum) are both grown here, and the one about leafcutter ants was good, too, because there are a lot of those around here as well. But I had to remark that the English have no idea how "giant" a "stinging nettle" can be. There are a couple of species here that would dwarf anything in England, and they sting just as well as ***Urtica***:

-***Urera aurantica*** Wedd. - bushes up to 3 m tall
-***Urera baccifera*** (L.) Gaudich. - small trees up to 4 m
-***Urera caracasana*** (Jacq.) Gaudich. ex Griseb. - bushes or trees up to 5 m tall.

Their leaves grow to be too big to fit on a herbarium sheet, but they have a colourful display of fruit around this time of year *(end of March)*.

As for the suggestion that Canada publish a series of orchid stamps, I'd like to add my support for the idea. I think there is an aspect that could also be quite educational for the Canadian (and world) public to be derived from stamps concerning orchids. For example, it is conceivable that a stamp could represent the pollinia from a ***Habenaria*** stuck to the head of a mosquito, and thereby illustrate several characteristics of not only the orchid, but of the mosquito as well (i.e. that they aren't just objectionable bloodsuckers). After all, mosquitoes are more or less the national bird of Canada (they were proposed a few years ago as the national bird of Manitoba ... seriously ... but lost out to the grey owl).

Anyways, to close I'd like to say that I really enjoy the contact with the Canadian Botanical community that the Bulletin provides. Thanks for the good work.

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From Mary Williams, Curator, University College of Cape Breton Herbarium (letter received by CBA President):

It is interesting to note that CBA is lending its support to the publication of *Canadian Biodiversity*. Great News!

Recently we have formed **Biodiversity Research Associates** (Cape Breton Naturalists Society), which consists of scientists representing various areas of biological expertise, with a strong emphasis on botany. Our group also contains personnel from the two National Parks on Cape Breton Island.

A significant number of proposed protected areas exist in Cape Breton. Our little group has already agreed to start with a baseline inventory and installation of the International Biodiversity Monitoring System at the Bornish Hill Nature Reserve near Wycocomagh, Cape Breton. From there, we move on to other sites as they are designated for protection.

This is biodiversity research in action and, provincially, we are a pilot project. The Department of Natural Resources has designated little or no funding; they are stretched to the limit. We fall between stools with environmental funding agencies, since we are not acquiring endangered spaces, nor are we protecting endangered species.

Is any organization of foundation funding this type of biodiversity research in Canada? Any suggestions you have would be appreciated. Please reply to the address below.

Mary Williams
R.R. 1
Port Morien, NS B0A 1T0

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Poorly Known Economic Plants of Canada - 6. Purple coneflower, *Echinacea pallida* Nutt. var. *angustifolia* (DC.) Cronq.

E. Small and P.M. Catling, Biological Resources Division, CLBRR, Agriculture and Agri-food Canada, Saunders Bldg., Central Experimental Farm, Ottawa K1A OC6

Common names: (Narrow-leaved) (purple) coneflower, Echinacea. French: apparently unavailable. [Note that the word "echinacea" may be used as a scientific name (***Echinacea***), a common name (Echinacea), and the name for drug preparations from the plants (echinacea).]

Echinacea is a genus of about nine species of perennial herbs, native to open woods and prairies of central and southeastern U.S., with one species extending into Canada. These members of the Compositae are known as "coneflowers" because of the raised, cone-like capitulum.

Native Canadian plants of ***Echinacea*** occur in southeastern Saskatchewan and southern Manitoba. We follow the taxonomy of A. Cronquist in recognizing the Canadian plants as an element of a polymorphic, widespread species, ***E. pallida*** Nutt. (note map). The Canadian plants belong to var. ***angustifolia*** (DC.) Cronq., (known as the species ***E. angustifolia*** in almost all biological and pharmacological literature). This has yellow pollen, whereas var. ***pallida*** (called ***E. pallida*** in almost all biological and pharmacological literature), has white pollen, and is not native to Canada. The species is native throughout the prairie region as far south as Texas. Introduced populations have become established in eastern North America including parts of Ontario. Both varieties are used medicinally but var. ***pallida***, known as Pale-flowered Echinacea, is considered much less desirable commercially.

The native Canadian plants are usually 15 to 50 cm in height. They have stout, more or less bristly-hairy stems and lance-shaped or linear-lanceolate leaves. Attractive flowering heads appear in late summer and autumn, with "petal" (ray flower) colors varying from whitish rose to pale purple. The phyllaries (subtending bracts) exceed the flowers in length and are spiny. Indeed, the name ***Echinacea*** comes from the Greek *echinos*, referring to the spiny hedgehog. In the fall, brown fruiting heads generally produce abundant seeds. The tap root is thick and blackish. The chewed root causes an unusual, acrid, tingling sensation on the tongue. The root is the predominant part of the plant used medicinally, but flowers and sometimes leaves are also employed.

Coneflowers are commonly grown in wildflower and perennial gardens, and harvested as cut flowers. The related species ***Echinacea purpurea*** is second in importance to ***E. pallida*** var. ***angustifolia*** as a medicinal source of echinacea. It is an especially popular border plant, and there are numerous ornamental cultivars

available. By contrast, there appear to be no cultivars of ***E. pallida***; the so-called horticultural cultivar 'Strigosa' appears to be based on the taxonomic variety ***strigosa*** of the southern U.S.

Long before echinacea was considered useful for reducing the 2.4 colds per person per year over much of North America, North American Indians used medicinal herbs very extensively, and it has been claimed that Echinacea was used by them as a remedy for more ailments than any other plant. Although archeological records show that echinacea is known to have been employed by indigenous North Americans at least since the 1600's, European settlers appear to have taken up such use only 2 centuries ago, with the first patent medicine produced about 1870. This was named "Meyer's Blood Purifier" by the (German) Nebraskan lay physician H.C.F. Meyer, who created an echinacea mystique by widely publicizing his offer to allow a rattlesnake to bite him (which he never did) so that he could demonstrate the curative power of his miraculous medicine.

Echinacea today has become a star of the medicinal plant industry. Hundreds of scientific articles have been published about it, and many more non-scientific articles have extolled its virtues. As with several other herbal drugs that have become popular, there is some exaggeration concerning its benefits. Curiously, in the late 19th and early 20 centuries

there was also a widespread conviction that echinacea was a wonder drug that would cure many illnesses, followed by an interval up to a decade ago during which the drug was thought to be ineffective. The present resurgence of interest is very large, so much so that some consider echinacea to be the most consumed herbal product in the U.S.

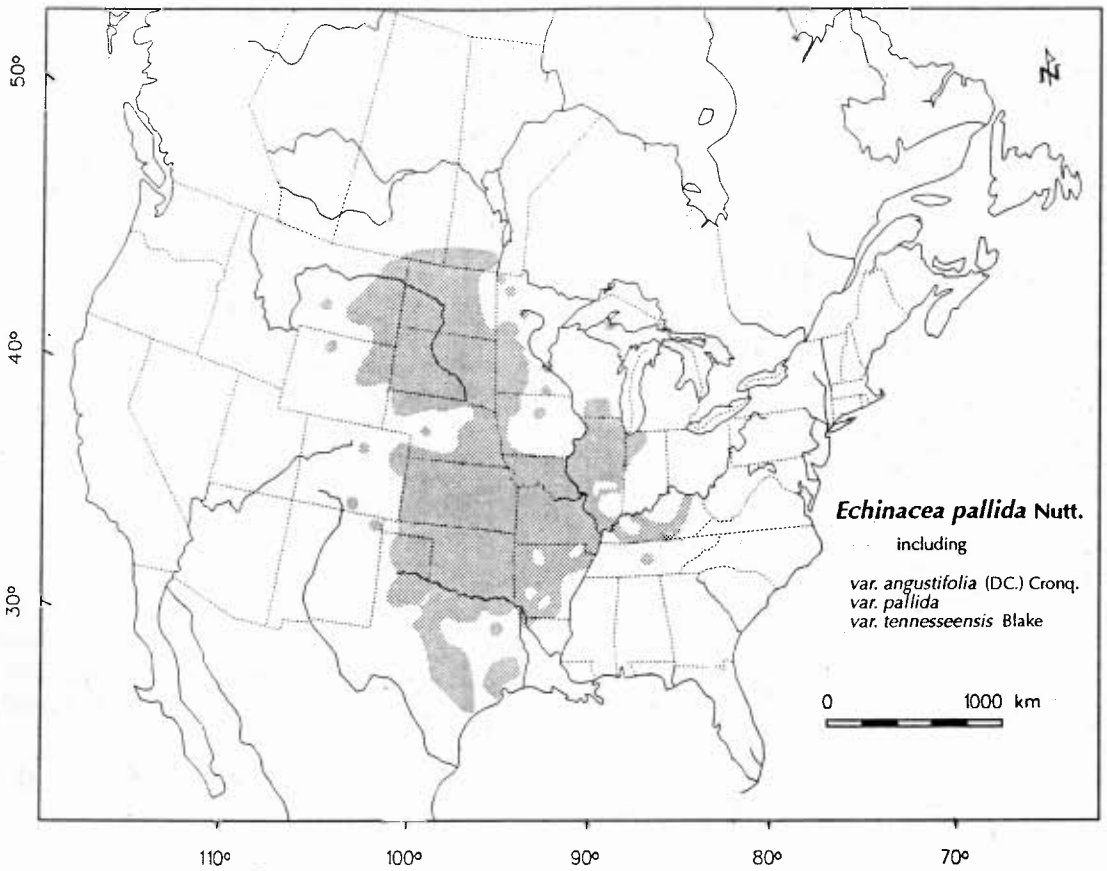
Root extracts of the medicinal species of ***Echinacea*** have been said to have cortisone-like antibiotic effects, antiviral properties, insecticidal capability, and a potential for stimulating the immune system. There is no doubt that echinacea affects white blood cells, apparently beneficially. It has been speculated that echinacea increases the ability of the body to produce white blood cells that destroy bacteria and viruses. Like ginseng, echinacea is often consumed not so much to cure as to prevent illness and promote well-being.

Most scientific studies of echinacea have been carried out in Germany, the Western country which leads the world in phytomedicinal research. In that country, more than 200 echinacea pharmaceutical preparations are marketed, as extracts, salves, and tinctures for use on wounds, herpes sores, canker sores, throat infections, and as a preventative for influenza. There is general agreement that echinacea is useful internally for preventing and treating the common cold and associated conditions such as sore throat, as well as externally for treating superficial wounds. In Canada, five products have been registered for ***E. pallida*** var. ***angustifolium***, and one for ***E. purpurea***.

A wide array of constituents of echinacea may contribute to its medicinal properties. The polysaccharides and the alkylamides are thought to be the most active ingredients. "Echinacosides" have been identified as active ingredients, but there is disagreement about their significance.

Generally, there seem to be few undesirable metabolic effects of consuming echinacea. Since it is a member of the daisy family, those who are allergic to other members of the family need to be aware of the possibility of cross sensitivity. Some have recommended that echinacea should **not** be consumed by pregnant women or those suffering from diabetes. It has been recommended that echinacea **not** be used with such progressive systemic disorders as multiple sclerosis, HIV infections, and AIDS-related illnesses. Reports of hepatitis associated with echinacea have been noted in The Australian Adverse Drug Reactions Advisory Committee August 1993 bulletin.

Echinacea products have commonly been adulterated, and in the last several years some manufacturers have made efforts to ensure that their product is genuine. Much research that has been conducted on echinacea is open to question because the



classification of the group was not understood by the researchers and their identifications of material utilized were incorrect. There is a need to carry out rigorous chemical, clinical and pharmacological studies with the help of taxonomists.

In recent years in the U.S., over 50 tonnes of wild echinacea has been harvested for overseas shipment, at a time when the domestic market has been expanding. Wild ***E. pallida*** var. ***angustifolia*** has become more difficult to find, and cultivation is becoming increasingly necessary to supply the demand so that various species or local races will not be exterminated. In Europe, Echinacea is extensively cultivated. There is scattered cultivation in Canada.

Substrate conditions are particularly important to perennial root crops like Echinacea. It thrives in well drained loams and sandy loam soils with a pH of 6 to 7, and although wild plants seem adapted to dry soils, in cultivation adequate water should be supplied. Roots are harvested at 3 or 4 years of age. Flowers may also be harvested for sale to pharmacological firms, and seeds are still another saleable commodity. The cultivation of Echinacea appears to offer potential as a diversification crop in Canada, but as with other relatively undeveloped medicinal crops, caution, planning, and self-education are necessary to make it successful. In some recent years, the prices paid to farmers for growing Echinacea have been low.

The wild Canadian populations are small and scattered, and doubtfully justify harvesting. Furthermore they could easily become endangered. These northernmost populations of the genus are of particular significance, since they are the ecotypes suited to the Canadian environment, and therefore constitute germplasm useful for improving the Canadian crop.

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Recent Graduates

McMaster University - Department of Biology

Penny Elizabeth Beecroft (M.Sc.) Changes in the element composition of globoids from ***Cucurbita maxima*** and ***Cucurbita andreana*** cotyledons during early seedling growth. Advisor: John N. A. Lott.

Shelly Mercer (M.Sc.) Purification and biochemical characterization of ethanolamine kinase from spinach. Advisor: Elizabeth Weretilnyk.

Lisa Weber (M.Sc.) Drought stress responses in a ***Populus*** hybrid complex in Southern Alberta. Advisors: Darwyn Coxson and John N. A. Lott.

Jennifer Ann Wilson (M.Sc.) Subalpine spruce forest carbon flux: The role of ***Hylocomium splendens***. Advisors: Darwyn Coxson and John N. A. Lott.

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Philatelia Botanica Boliviana

Editor's Note: I welcome this contribution to our continuing stamp collecting series from Gordon Hart, an expatriate Canadian (and CBA/ABC member) working in Bolivia.

The January issue of the Bulletin featured an article listing all of the postage stamps published around the world in 1993 that depicted orchids. The total came to more than 120 different stamps. I imagine that the total number of stamps depicting plants in general might have exceeded 500. But there is another way to discuss plants on stamps that allows us to deal with a reasonable number and not get lost in the mathematics. For example, all of the stamps depicting plants that are issued by a single country might not exceed 40 different stamps, as in the case of Bolivia.

Bolivia has been issuing stamps since 1863. The first stamps put in use had a condor on them, but the first to depict a plant was produced in 1925. This was in a series of stamps commemorating the centennial of the founding of the Republic, and the 10c value showed the national flower, called kantuta and known botanically as ***Cantua longifolia*** Brand of the Polemoniaceae. Since then, beginning in 1962, five series of stamps dedicated to the Bolivian flora, and various single issues, have been printed, showing the plants in their natural colours. The subject matter has been largely oriented towards orchids and cacti, and the cactus series actually showed a number of plants composed of two different genera grafted together. Although cacti and orchids do occur in the flora, their prominence here suggests that their colours and showiness contributed to their selection as subjects. The same could be said for ***Puya raymondii*** Harms (Bromeliaceae), but it has only been featured once so far. Quinoa is an important crop (***Chenopodium quinoa*** Willd.) depicted on one stamp promoting "ecology and environmental conservation". Nevertheless, other important traditional crops such as potatoes, corn and coca haven't appeared on stamps here yet.

Therefore, out of the 40 different stamps on botanical themes produced in Bolivia thus far (one of them an overprint of an earlier stamp), and 16 souvenir sheets that contain one or more of the plant stamps mentioned above, the score is as follows:

Amaryllidaceae	4
Asteraceae	1*
Bromeliaceae	1
Cactaceae	11
Chenopodiaceae	1
Malvaceae	1
Musaceae	1
Orchidaceae	12
Polemoniaceae	8*

[* one stamp featured plants from both these families]

Gordon Hart. CER-DET, Casilla 83, Tarija, Bolivia

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BOOK REVIEWS

Soil Ecology. by Ken Killham. Cambridge Univ. Press, 1994. 242 pp. Prices: US$ 64.95 (hardback), US$ 24.95 (paperback)

As the title suggests, this book describes soil from an ecological perspective. It begins by describing the soil as an environment in which biota live, briefly describes the major groups of biota and their interactions, and finishes by talking about ways in which humans manipulate soil biota through technological means.

Any upper level biology student or anyone who has taken a soils course will find the first two chapters, those on the soil environment and the soil biota, to be quite superficial. Nevertheless, these chapters will be essential reading for students in a non-science environmental program. Words such as prokaryotic and hypha are explained. The groups of soil biota discussed include roots, bacteria, actinomycetes, fungi, algae, protozoa, slime molds, oligochaetes, nematodes, arthropods and molluscs. For each group, their basic function, trophic level and location within the soil are mentioned.

The chapter on interactions includes many of the topics one would expect in an ecology text: population dynamics of the major groups of biota, competition, and predator/prey relationships. The legume/***Rhizobium*** association, mycorrhizae and the rhizosphere are specifically discussed.

The longest, and most detailed, chapter in the book describes the role of soil organisms in the carbon, nitrogen and sulphur cycles. For each cycle, the major inputs of the element to the soil/plant system are listed, and the role of specific groups of organisms and the transformations they perform are fully described. Appropriate methods for measuring the various transformations are briefly mentioned.

Two chapters deal with soils which would be considered as stressful environments: drought-stressed soils and soils polluted by radionuclide enrichment or via acidification. The chapter on water stress deals extensively with the role of mycorrhizae in alleviating water stress. The effect of drought and acidification on soil microbes and animals is also considered. The chapter on radionuclides deals primarily with the role of the soil biota in the cycling of these compounds.

The final chapter encompasses several topics which together are entitled "Soil Biotechnology". These include soil inoculation of ***Rhizobium*** or mycorrhizal fungi, use of pesticides or biological control, and the potential use of genetically engineered plants and microbes.

Killham does an excellent job of providing information and examples from a range of soil types: arable soils, temperate forest soils and heathland soils. Tropical soils are mentioned only occasionally. The chapters are extensively cross-referenced. The early chapters, in particular, have very few references in the text. Although references for each chapter are listed at the end of the book, they are in abbreviated form, so readers will have a great deal of difficulty using the book as a general introduction to more detailed literature. The later chapters are somewhat better in this regard.

This book would be a suitable text for students in the first or second year of a biological, agricultural or forestry program, or for more advanced students in a general environmental program. It will also be a good general reference for anyone interested in soil biology.

Melanie Jones, Okanagan University College

Address of Publisher: Cambridge University Press, 40 West 20th Street, New York, N.Y. 10011-4211, U.S.A.

Sustainable development or the integration of sciences

Who has not heard about sustainable development recently? When I received **Economics and Ecology. New Frontiers and sustainable development, edited by Edward B. Barbier [Chapman & Hall, N.Y. Price: US$ 61.95]**, I assumed that it would be yet another in a series of publications attempting more or less successfully to combine two sciences. Why combining these two sciences? With the theory of sustainable development, this option is more often viewed as the only way to resolve some of the environmental problems such as land degradation and conservation. The authors of these chapters are doing a great job in trying to do so. This book represents an interesting work towards integrating ecology and economics to develop a more sustainable environment. Twelve researchers from Economics, Ecology and Environment contributed to this book, all representing specialists with a strong belief in integrating their sciences to develop new theories.

Barbier does a superb job introducing his book with a short story which clearly illustrates the different views of economists, ecologists and environmentalists. From the first page we gain an understanding of the implications that these opposing views can have on sustainable development, conservation, and other types of environmental research.

The first two chapters introduce the basic theories and models concerning environmental quality, natural and man-made capitals, and ecological versus economic growth in a sustainable environment. Rarely can we obtain equations integrating at once waste production, resource depletion and harvesting rate in both ecological and economic terms. Although these equations are often simplistic since they do not consider factors such as climatic conditions and stochastic events, they represent the first steps towards understanding mechanisms underlying sustainable development. In some circumstances (e.g. marginal lands in Third World), we realize that ecological remediation cannot be useful because of economical considerations and vice versa.

Where humans live, ecological and economic systems are interdependent and they have to be considered together. Barbier and Markandya (chapter 2), Perrings (ch. 5), Scoones (ch. 6), Brown and Henry (ch. 9) and Bass (ch. 10) give interesting examples of this integration and the utility of considering ecology and economics as one system.

In his chapter on sustainable agriculture, Conway (ch. 4) explains the trade-offs with productivity, stability and equitability. While these ideas are important, as the author mentions, agroecosystems (as any other ecosystems influenced by humans in that matter) fall into a hierarchy that can only be studied by the integration of biological, social and economic analyses. Perrings, in chapter 5, shows all the complex interactions between economic and ecological parameters in order to develop a sustainable model. Again, the notion of "interdependence of the ecological and economic parameters means that change in one, changes the response of the system to the others". Put another way, as Perrings points out, "the economic environment sets the limits on the sustainable use of resources in any natural environment". As ecologists, we often forget or get frustrated by these limitations.

The following chapters (6-10) explore different aspects of conservation such as carrying capacity, biodiversity, economic growth and values of ecosystems and species. We examine conservation issues such as those in African reserves, rangelands, and elephant populations. The complexity of sustainable development on small islands is also analyzed. Surprisingly there is little mention of human overpopulation in influencing carrying capacity or habit at conservation. Again, authors underline the dependence on ethical as well as economic and ecological parameters in development and conservation. I would be surprized to find people not convinced by the end of this book of the interdependence of these two sciences in sustainable development!

By the way, I am an ecologist not a specialist in economics but, I still was able to understand most of their theories and models. The book represents an easy to read introduction to these types of work. For the most part, new definitions and theories are explained quite well with the use of footnotes and references. These are probably basic terms for economists but not for ecologists. This is an important point to consider where different sciences are integrated.

Barbier leaves us with a positive note, "what we hope to have demonstrated in this volume is that both economics and ecology can make important contributions ... and more importantly, ... further enhanced if the two disciplines learn from and collaborate with each other. We hope that others agree with us, and perhaps also be inspired to make similar contributions." This book is an excellent resource that I highly recommend for anyone involved in this area of research.

Liette Vasseur, Research Associate, Université de Sherbrooke

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Xanthomonas. By J.G. Swings and E.L. Civerolo. 1993. Chapman & Hall. Price: $140 US, $175 CAN.

Teachers and students in plant pathology, microbiology, molecular biology, genetics and industrial biology should welcome this excellent compendium of information on a acterial pathogen of a wide range of crops throughout the world. The editors have carefully organized a well-rounded and comprehensive overview of xanthomonad bacteria prepared by an impressive list of international experts. Broad topics such as host specificity, morphology, physiology, taxonomy, genetics, ecology, etiology, epidemiology, disease management and industrial uses are reviewed and discussed in detail. Each chapter is built on the foundation of previous reviews and gives a current summary of knowledge for that topic. Research needs are clearly identified in each case.

In chapter one, ***Xanthomonas*** is aptly introduced as a cosmopolitan pathogen of plants in a comprehensive summary of its wide host range. Symptoms include black spot, necrosis and chlorosis of leaves and fruit, wilting, stunting and defoliation of plants, dieback and canker of twigs, and more rarely, hypertrophy and hyperplasia on leaves and stems. Any student of plant pathology will recall with nostalgia, black rot of cabbage (***Xanthomonas campestris*** pv. ***campestris***) reported to be the most destructive disease of crucifers worldwide. It is characterized by yellow, V-shaped lesions on the margins of leaves.Peach and apricot growers will recall the disappointment of finding fruit disfigured by black spot (***X. campestris*** pv. ***pruni***). Some of us recall with horror the destruction of fruit in their favourite English walnut (***X. campestris*** pv. ***juglandis***). Many of us recall the panic by American homeowners and nurserymen in 1984 to destroy citrus canker thought to have been eliminated from USA. This chapter will explain also the cause of the frustrating black spot and defoliation of hanging geranium in humid summers (***X. campestris*** pv. ***pelargonii***). These are just a few of the familiar examples of plant diseases caused by xanthomonads. Proponents of biological control will be excited by the list of weeds (***Capsella***, ***Amaranthus***, ***Xanthium***, ***Barbarea***, ***Convolvulus***, ***Arctium***, ***Plantago*** and ***Taraxacum***) susceptible to this bacterial pathogen only to have their hopes dashed by the realization that many cultivated crops and ornamentals are equally susceptible. Just when we are comfortable in the knowledge that xanthomanads are pathogens of plants, we are shocked to see that ***X. maltophilia*** found in water, milk, frozen foods and the rhizosphere of plants is also an opportunistic pathogen of humans.

The biology of this bacterium is described clearly in chapter two. It is an obligate aerobe generally found on the aerial parts of plants. The morphology and physiology of xanthomonads described in this chapter help to explain the etiology, epidemiology and control of this pathogen described in subsequent chapters. Briefly, ***Xanthomonas*** cells are Gram-negative rods with rounded ends and surrounded by a slimy, extracellular heteropolysaccharide called xanthan gum. Cells are motile, but flagella are reported to be fragile and

difficult to stain. Most xanthomonads are yellow because of characteristic, membrane-bound mono- or dibromo-aryl polyenes (xanthomonadins) which offer protection against light damage.

I was particularly interested in the description of industrial uses for this microorganism. The industrial product called xanthan gum is an exopolysaccharide evident in large mucoid colonies on solid laboratory media or in highly viscous liquid cultures. Xanathan gum will ring a bell for the readers of food labels. Many of the industrial applications of ***Xanthomonas*** were originally in the food industry. Xanthan gum was approved for food use by the Food and Drug Administration of USA in 1969. About 60 % of bacterial xanthan is used currently as a food product. I have no aversion to eating fungal products, so, I don't know why it surprises me to learn that a bacterial product is so widely used in food. It functions as adhesive, binding agent, emulsifier, stabilizer and thickening agent in a wide variety of foods such as icings, salad dressings, ice cream, frozen foods, beer, instant soups, puddings, syrups and pie fillings, to name a few. Xanthan is used also as a stabilizer in paints and laundry starch, a filler for high quality papers and textile dyes and a carrier for herbicides and fertilizers. A more recent application is xanthan as a lubricant in oil drilling. All of these uses are based on the stability and high viscosity of the water soluble xanthan gum. High praise is given to its "rheostatic characteristics". Toothpaste wouldn't flow so nicely from the tube onto your toothbrush if it wasn't for the addition of xanthan gum.

In conclusion, I recommend "***Xanthomonas***" highly for its readability and relevance to a wide spectrum of botanists, biologists, microbiologists and plant pathologists at all levels of understanding of xanthomonad biology. Not being a bacteriologist, I learn something every time I open this book.

James Traquair
Agriculture & Agri-Foods Canada, London

Address of Publisher for the last two reviewed books: Chapman and Hall, One Penn Plaza (41st Floor), New York, NY 10119, U.S.A.

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New Publication

The **Proceedings of the Herbicide Resistance Workshop**, held in Edmonton on 9-10 December, 1993, have been published as a supplement to Volume 75 of *Phytoprotection*. This 108-page supplement includes 11 papers and an exhaustive subject index listing weeds, crops, insects, herbicides, herbicide families, enzymes and broader terms, such as biotype differentiation, cross-resistance and herbicide compartmentation.

The Proceedings are available for CAN$ 15 (US$ 15 outside of Canada) from: ***Phytoprotection*, Agriculture and Agri-Food Canada Research Station, 430 blvd. Gouin, Saint-Jean-sur-Richelieu, Québec J3B 3E6.**

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Canadians get Assistant Curator Positions at The Field Museum

I received the following E-mail letter from Kathleen Pryer, who is completing her Ph.D. at Duke University, about these hirings. Many will remember Kathy as a winner of an Honorable Mention in the Lionel Cinq-Mars competition at Ames. The official announcement by the Field Museum appeared in the ASPT Newsletter (accessible at the Smithsonian Gopher). Congratulations to both Kathleen and François. - Editor.

I recently accepted a curatorial position in Pteridology at The Field Museum in Chicago, IL. Even more exciting is the fact that my husband, François Lutzoni, (also a Canadian) was also offered a curatorial position in Mycology. We competed against angiosperm candidates for the positions and both came out on top!

In addition to the great herbarium and library, they have an excellent molecular lab facility and morphometrics lab. We will also have the opportunity to teach and to take on graduate students at the University of Chicago, where we will be part of the Committee on Evolutionary Biology. Although there were so many systematics jobs advertised this year in the U.S. (>20), it was clear that most of them were for angiosperm systematists, so we were very pleased that The Field Museum opted for cryptogam types.

We will finish our degrees this summer and then we go on to one-year postdoctoral positions at Indiana University in Bloomington. I will work with Jeff Palmer and François will work with Mimi Zolan (Jeff's wife) on molecular evolution/genetics questions. From there we will move to The Field Museum in the fall of 1996.

Chicago is not so far from Canada and so we hope to always stay tuned to the Canadian botanical community! My best regards to all who remember me from my days at Guelph (especially Don Britton and Judy Canne-Hilliker).

Best wishes, Kathleen Pryer
Department of Botany, Duke University
E-mail: kmpryer@acpub.duke.edu

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Canadians Know Their Science

In a recent *New Scientist*, an international survey (in 20 countries) of public understanding of science puts the Canadian public first with a score of 7.58 out of 12. New Zealanders were a close second (7.52), Brits third (7.49), Americans seventh (6.57), Japanese twelfth (6.23) and the Poles (ahem!) last (4.33). The Americans' poor showing is partly explained by one statement used in the survey, which was worded: "*Human beings developed from earlier species*". Worldwide, 70% of respondents agreed with this statement, but only 45% of Americans agreed, reflecting the strength in the U.S.A. of religious fundamentalists and their creationist dogma. The columnist does not mention the presence of any botanical content in the questions asked in this survey.

Nigel Hawkes, The Times of London, May 8, 1995

The Plant Press / La Presse Botanique

These pages are intended as a chronicle of news items about plants (or about CBA/ABC members) appearing in newpapers or in the popular science magazines. Contributions from your local newspapers are invited. Send the editor a clipping, photocopy or simply a note about the item and don't forget to indicate the source and date.

Ces pages sont consacrées aux nouvelles concernant les plantes (ou certains membres de l'ABC/CBA) qui paraissent dans les journaux. Les contributions en français sont également encouragées. Faites parvenir vos soumissions au rédacteur en chef ou au rédacteur adjoint, section francophone, et n'oubliez pas d'indiquer la source de l'article et la date de publication.

Soybeans for Cancer Prevention?

Rates of breast cancer in women and of prostate cancer in men are lower in Japan, China and Korea than in the United States. Researchers also note that Japanese women seldom experience marked menopausal symptoms. These data are thought to be related to the large amount of soybeans and soy products eaten in these countries. Soybeans are expecially rich in isoflavones, a group of phytoestrogens (plant compounds which behave like animal estrogens). Researchers hypothesize that phytoestrogens somehow interfere with the cancer-promoting effects of female estrogens on breast tissue and with the effects of testosterone on prostate tissue in males. However, much more research is necessary before a definite connection can be made between soybeans in the diet and low incidence of certain cancers. At present the scientists do not even know the relative amounts of phytoestrogens in soybean products, such as tofu, compared with raw soybeans.

Simeon Margolis, Baltimore Sun
(Reprinted in Kitchener-Waterloo Record, April 7, 1995)

Anti-AIDS Agent

Thanks to Gordon Hart (our Bolivian member/correspondent) for providing (and translating this item (and the next one) from a local newspaper. Mario José Junges, an organic chemist at the Fundación Universidad de Río Grande (State of Río Grande do Sul, Brazil), has isolated a compound from the leaves of ***Eugenia florida*** which has an effect on the AIDS virus that is "nearly 60,000 times more potent than AZT". The compound in a carbohydrate ($C_{32}H_{50}O_4$) and tests carried out at a French laboratory have shown that it impedes or blocks entry of the AIDS virus into cells. Junges also isolated three more anti-AIDS compounds from the ***Eugenia*** leaves, each having greater activity than AZT.

la Presencia. La Paz, Bolivia, March 21, 1995

Conference on Biosphere Reserves

Thanks to Gordon Hart for this item about a UNESCO conference on biosphere reserves held in Sevilla (Spain) in late March. The conference, opened by the Infanta Christina of the Spanish royal family, will extend the current plan of action on biosphere reserves, which expires this year. The system of biosphere reserves constitutes an international network for the exchange of information from 324 zones in 82 countries. The reserves are "protected areas where conservation of the ecosystem and its biological diversity combines with sustained use of natural resources for the benefit of local communities, and with scientific investigation and exchange of information".

la Presencia. La Paz, Bolivia, March 21, 1995

Rare Cycad gets High-Tech "Bug"

Thanks to Usher Posluszny for this item. A specimen of the rare cycad, ***Encephalartos woodii***, one of only 38 left in the world (none in the wild), was on display at this year's Chelsea Flower Show in May. Rare cycads are much sought by collectors and, in order to foil thieves, this specimen (nearly a meter high and about 100 years old) was fitted with a silicon microchip (in the trunk) similar to those used for pet identification. According to cycad specialist John Donaldson, one fifth of the world's cycads were found in South Africa. He said, "Sadly, South Africa shares with Mexico, and more recently China, a reputation for the destruction of cycad habitat and a massive illegal trade in wild-collected plants that has devastated cycad populations.

Guelph Mercury, May 17, 1995

Nimble Hitchhikers

In research to be published in *Biotropica* Dr. Robert Colwell (University of Connecticut) describes how tiny plant mites utilize humingbirds to get from one flower to another. While teaching a tropical biology course in 1969 in Costa Rica, he noticed that the mites were found only in those red flowers regularly visited by hummingbirds. After several years of study he determined that the mites were hitchhiking on the beaks of the hummingbirds. They jump on the beak of a visiting bird and hide in the nostrils. This is the perfect place for the mite to determine whether the bird subsequently visits the proper host plant (each mite species prefers a very limited range of plant species). In the bird nostril the mite samples the "bouquet" of the flower nectar and, if it is right, the mite "makes a mad dash down the beak" and leaps off. The mites are serious pests, consuming about half of the flower's nectar and about 1/3 of the pollen. Many mite species are now known to use this hitchhiking strategy, from those on Indian paintbrush in California to ones which attack hummingbird flowers in the tropical rainforest.

Carol Yoon, New York Times, May 2, 1995

Was Reagan Right?

Scientists roared with laughter when Ronald Reagan fingered trees as a major source of pollution. Now two botanists from The University of Wisconsin support Reagan's view in an article in *Nature*. They found that plants produce large quantities of isoprene (3-methyl 3-butadiene), a volatile compound which may contribute to the formation of photochemical smog. Much greater amounts of isoprene are produced at higher temperatures and the researchers suggest that isoprene acts as a protectant against heat shock at ambient temperatures above 35 C. This could mean that attempts to control smog by cutting back on hydrocarbon emissions from automobiles are misguided.

Nigel Hawkes, The Times of London, May 1, 1995

Opium Capital of the World

Central Asia, especially Afghanistan, is now considered to be the region where most of the world's opium originates. The breakdown in political and civil authority, and payoffs to low-paid border guards and local police, mean that it is easy to transport and to openly sell the drug in many cities of the former USSR republics of the region. The best place to obtain opium is now considered to be Osh, a city of about 500,000 in Kyrgyzstan. Farmers in large areas of Kazakhstan, Tajikstan and Uzbekistan also grow the opium poppy. It is a valuable crop for them since they can barter an easily transported piece of raw opium about the size of a chocolate bar for 10 kg of flour or for many other goods.

Michael Specter, New York Times, May 2, 1995

Colman's Mustard Sold

This company, which has manufactured mustard in Norwich, U.K., for 183 years, has been sold to Unilever by its owners (Rickett & Colman), who are divesting themselves of all food products in order to concentrate on marketing household cleaners and deodorants. It was often said, jokingly, that "Mr. Colman's profit is in the mustard left on the side of the plate". Last year this amounted to £24 million (on sales of £153 million). Mustard-making will continue in Norwich.

The Times of London, May 2, 1995

More Trees for China

An ambitious program of reforestation is laid out in China's *Agenda 21*, a recently approved environmental development plan. Among the recommendations is a plan to increase the country's forest cover from the current 13.92% to 15-16% by the turn of the century. To accomplish this, the planting of trees for four large shelterbelt projects has been started in areas along the Yellow, Zhujiang, Liaohe and Huaihe Rivers.

Chen Chunmei, China Daily, May 11, 1995

"Weeding the BBC"

In commenting on recently proposed funding cuts (£20 million) for the BBC, James Lovelock (the Gaia man) adopted a botanical metaphore to make his point. "When organizations like the BBC are taken over by their accountants, they become like gardens managed by weeding only. At first it all looks neat and tidy, but soon there is nothing but bare earth. Accountability is needed but so is innovation, the planting of seeds, and the renewal of hardy annuals."

The Times of London, May 3, 1995

Wollemi Pine Cloned

Remember the Wollemi Pine (Araucariaceae) from a previous Plant Press? Researchers at the Annan Botanical Garden (New South Wales) report success in cloning this recently discovered tree. The first cultured plants will be distributed to botanical institutions (under licence). Sales of clones will come later and the profits will be used to support further research and conservation projects.

The Times of London, May 5, 1995

New Record Age for Woven Material

An archaeological site in the Pavlov Hills of the Czech Republic has provided the oldest evidence of woven material (cloth or finely woven basket). Four clay fragments bear the impression of woven material, which researchers have determined was made of twisted plant material. Possible sources of the fibers are yew or alder trees, or herbaceous plants such as milkweed or nettle. The clay fragments were found among ashes dated at about 25,000 years old. The oldest known piece of actual cloth is 9,000 years old, the oldest basketry is 13,000 years old and the oldest twisted fibers (before this discovery) were dated at 19,300 years old.

Brenda Fowler, New York Times, May 9, 1995

Burning Issue for British Power Generation

"Biomass coppicing", using fast-growing hybrid clones of willow or poplar, is being promoted in Britain as a means of supplying renewable fuel for the nation's power stations. Researchers estimate that a tree plantation would store up to 6 kilowatts of solar power per hectare annually. Once plantations are well established, an estimated 20 tonnes per hectare per year could be harvested and supplied as wood chips to the power stations. If one-third of Britain's surplus land (3 million hectares) could be converted to biomass coppicing, it could supply enough wood chips to produce 2000 megawatts of electricity annually.

Oliver Tickell, The Times of London, May 13, 1995

Out of the Mouths of . . . 11-year-olds

In May the annual ritual of the 35-minute National Science Test for Britain's 11-year-olds took place. It is instructive to peruse the syllabus of required knowledge and consider how well Canadian 11-year-olds would do on this test. In the botanical area, these British students are expected to know:

- ❑ Simple food chains [including plants as producers]
- ❑ Major parts of a flowering plant
- ❑ Conditions required for seed germination and plant growth

Greg Jones, The Times of London, May 9, 1995

FROM THE INTERNET

International Conference and Programme for Plant Genetic Resources

The Food and Agriculture Organization of the United Nations (FAO) is organizing the **Fourth International Technical Conference on Plant Genetic Resources** to be held in Leipzig, Germany, **17-23 June 1996**. The FAO Secretariat for the International Conference and Programme for Plant Genetic Resources (ICPPGR) will produce the first FAO Report on the State of the World's Plant Genetic Resources and a Global Plan of Action for the Conservation and Sustainable Utilization of Plant Genetic Resources for Food and Agriculture. Obtain information from: **Food and Agriculture Organization (FAO), viale delle Terme di Caracalla, 00100 Rome, Italy. E-mail: ICPPGR@fao.org**

To promote the broadest participation in this preparatory process, the ICPPGR Secretariat has established a Bulletin Board Network (BBN) to allow interested Organizations (International, National and Non Governmental), Institutes, Universities, Research centers and individuals, at a worldwide level, to contribute actively in this process. This BBN supports the major known communication tools (E-Mail, Modem to TCP-IP) based on a strong link between a conventionnal Listserv, a Bulletin Board System (BBS) and a Web server. The BBN will provide discussion groups, access to news, documents, databases, maps and many other options.

The system will open with discussion groups or Conferences on the following topics (but other conferences will be available later):

In-Situ Conservation/Crop Improvement
Ex-Situ Collections
Genetic Diversity
Plant Breeding/Improvement
Regeneration
Training/Education

A regular NewsLetter will be provided, where you will find all the ICPPGR's informations and activities, and the new options of the BBN. You are invited to join this Bulletin Board Network, without charge with hundreds of researchers, to contribute in many conferences and to have access to information from several sources.

HOW TO PARTICIPATE ?
1) address your E-mail to
MAILSERV@MAILSERV.FAO.ORG
2) leave the subject line in your header blank
3) at the beginning of the first line in the body of your mail, type the following command:
get [icppgr]icppgr-info.txt
You will receive an information notice with all the details you need to be connected to the BBN.

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ACHARIUS MEDAL: ERNIE BRODO

It has come to the Editor's attention (rather belatedly) that one of our stalwart members received a prestigious international award at last year's Mycological Congress in Vancouver (why didn't someone tell me sooner?).

Canada's "Mr. Lichen", Erwin M. (Ernie) Brodo was one of four recipients of the **Eric Acharius Medal** given by the International Association for Lichenology "for outstanding contributions to Lichenology". The other recipients were Elizabeth Tschermak-Woess of Austria, Margalith Galun of Israel and Syo Kurokawa of Japan.

The following is excerpted from the citation for Ernie Brodo read by Ingvar Kärnefelt of the University of Lund (Sweden), President of the International Association for Lichenology.

"Ernie has a very broad knowledge of Lichenology and he has published extensively on various fields such as lichen chemistry, systematics, air pollution and more popular articles on general Lichenology. His main interest, however, falls within the field of floristics and systematics of Canadian lichens, where he has published on many different groups such as ***Coccotrema***, ***Ochrolechia***, ***Rhizocarpon*** and ***Haematomma***. In connection with this interest, he has also distributed his *Lichenes Canadenses Exsiccati* in several fascicles attached by very detailed publications."

"Ernie once told me that he could travel almost anywhere with support of the government, but only in Canada. But Canada is a large country, mainly covered by taiga and arctic tundra rich in lichen communities. His lichenological Shangri La is located here on the Pacific west coast, in the remote archipelago of the Queen Charlotte Islands. There he has found most of his exciting discoveries hidden in dense coniferous forests and soaked by oceanic mists. On every occasion I have met Ernie I have heard about this place, always. In 1972 when I first met him, he proudly showed his Queen Charlotte room all filled with specimens and collections from floor to ceiling. Now, after his recent sabbatical in Finland and Sweden, we all hope to see this work, to which he has devoted so much of his time over more than two decades, completed soon. I know, however, that another more time-consuming project, a field guide of North American lichens, has slipped through his tight agenda. This will of course also be a welcome book. Ernie Brodo is congratulated by the IAL council for what he has achieved on the systematics of lichens on the North American continent."

On behalf of all members of CBA/ABC the editor wishes to congratulate Ernie on being presented this prestigious international award.

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MEETINGS / CONGRÈS

A.B.L.S. Annual Meeting

Thanks to Ernie Brodo for letting us know that the **American Bryological and Lichenological Siciety** is meeting this summer in Canada, at the Palisade Environmentla Centre in Jasper National Park, **July 29 - August 3, 1995**. Several field forays are planned and there is a symposium entitled: *The Application of Modern Molecular Tools to Classic Bryological and Lichenological Questions*. For information, contact **Dale Vitt at the University of Alberta [FAX: 403-492-9457]**.

Linnean Society Conference

Systematics and Biological Collections is the title of a Linnean Society of London conference at the Ulster Museum (Belfast), **August 27-30, 1995**. The conference will discuss all aspects of museum collections, botanical gardens, arboreta, culture collections, seed banks, and collections of photographs and archival materials. For information, contact: **C.R. Tyrie, Dept. of Botany, Ulster Museum, Botanic Gardens, Belfast BT9 5AB, Northern Ireland [E-mail: crt@belumreg.demon.co.uk]**.

I.S.M.E. - 7

The 7th International Symposium on Microbial Ecology will be held in Santos, Brazil, **August 27 - September 1, 1995**. The official language will be English. The Scientific Program will consist of Plenary Lectures, Symposia, Workshop/Round Table Sessions, Oral Communications and Poster Presentations. Information: **Secretariat, ISME-7, Sociedade Brasileira de Microbiologia, Av. Prof. Lineu Prestes 1374, Edificio Biomédicas II, Cidade Universitaria, 05508-900 Sao Paulo-SP, Brasil [E-mail: 7isme@cat.cce.usp.br]**.

T.D.W.G. Annual Meeting

The 1995 Annual Meeting of the Taxonomic Database Working Group, an international association exploring standardization and collaboration on major database projects in plant taxonomy, will be at the Real Jardín Botánico - CSIC, Madrid, Spain, **October 4-6, 1995**. Obtain information from: **Francisco Pando, Vice-Chairman, Real Jardín Botánico - CSIC, Plaza de Murillo 2, Madrid, Spain E-28014 [E-mail: pando@marhb.csic.es]**.

DNA Symposium

An **International Symposium on Plant DNA Preservation** will be held at the Lake San Marcos Resort, San Diego, California, **September 17-20, 1995**. Obtain information from Richard Dana via E-mail **[rcdana@greengene.com]**.

Aquatic Ecosystem Stewardship

This is the theme of the **15th International Symposium of the North American Lake Management Society**, to be held in Toronto, **Nov. 6-11, 1995**. Topics of sessions include: ecology and management of aquatic macrophytes, littoral zones, wetlands, phytoplankton, remediation of damaged aquatic systems. Obtain information from **Dr. Frances Pick, University of Ottawa [Tel. 613-562-5800 ext. 6365; E-mail: frpick@acadvm1.uottawa.ca]**.

Protected Areas

Protected Areas in Resource-based Economies: Sustaining Biodiversity and Ecological Integrity is a conference to be held in Calgary, **November 7-8, 1995**. Information: **Ms. Robyn Usher, Conference Registrar, Suite 200, 1122 - 4th Street, S.W., Calgary, AB T2N 1M1 [FAX: 403-269-1527; E-mail: galaenvr@cadvision.com]**.

Southern Alpines '96

This is the title of an **International Alpine Garden Conference** to be held in Christchurch, New Zealand, **January 5-10, 1996**. Participants will have the opportunity ot go on field trips to see the unique alpine flora of the Southern Alps. For information, contact: **The Secretary, Southern Alpines '96, 1/37 Augusta St., Redcliffs, Christchurch, N.Z.**

Wetlands Symposium

The **Fourth Symposium on Biogeochemistry of Wetlands** will be at the Monteleone Hotel, New Orleans, LA, **March 4-6, 1996**. The symposium will emphasize various biogeochemical processes occurring in freshwater, estuarine amd saline wetlands. Topics include plant-soil interactions in wetlands. Information: **Mrs. Karen Gros [E-mail: cowgro@lsuvm.sncc.lsu.edu or FAX: 504-388-6423]**.

Redwood Forest Conference

The Conference on Coast Redwood Forest Ecology and Management will be held at Humboldt State University, Arcata, California, **June 18-20, 1996**. In the plenary sessions, invited speakers will address the palaeohistory of redwood, dynamic processes that influence redwood forests, the current status of the redwood type, wildlife, the human perspective, and the history of the redwood preservation movement. For information, contact: **John W. LeBlanc, University of California, ESPM - Extension Forestry, 163 Mulford Hall, Berkeley, CA 94720-3114 [FAX: 510-643-5438]**.

Sphagnum and Peatland Conferences

The International Association of Bryologists will hold its **Second International Symposium on the Biology of *Sphagnum*** at Université Laval, Québec City, **July 11-13, 1996**. A week-long pre-conference field trip will cover a transect from the Canadian Shield to the Pine Barrens of New Jersey (over 60 species of ***Sphagnum*** may be seen). This symposium is followed by the **Fourth Annual Canadian Peatland Restoration Conference, July 13-14, 1996**, also at Laval. A field trip (July 15 -17) will visit several undisturbed peatlands and peatland restoration experiments throughout Québec. For information on both meetings: **Dr. Line Rochefort, Département de Phytologie, FSAA, Université Laval, Ste-Foy, Québec G1K 7P4 [FAX: 418-656-7856; E-mail: LROC@vm1.ulaval.ca]**.

Fungal Spore Conference

The 6th International Fungal Spore Conference will be held in Konstanz, Germany, **August 25-29, 1996**. Obtain Information from: **Prof. K. Mendgen, Universität Konstanz, Lehrstuhl Phytopathologie, D-78464 Konstanz, Germany**.

Issued quarterly (January, April, July, October) and sent to all members of CBA/ABC. Non-members and institutions may subscribe at a price of $45.00 per annum post free (Overseas airmail: add $10.00). Cheques and money orders (in Canadian funds ONLY) should be made payable to "**The Canadian Botanical Association**" and addressed to the Editor.

Advertisements for **Positions Available** and **Classified** categories may be placed at a cost of Can$5.00 per published column centimeter. Individual members of the Association may place free advertisements of **Positions Wanted** and **Post-doctoral Opportunities.**

Veuillez aviser le trésorier de tout changement d'adresse pour assurer une livraison ininterrompue du bulletin.
To ensure continuous delivery of the Bulletin please notify the Treasurer promptly of any change of address.

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