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Guelph

PATRON
His Excellency the Right Honourable / Son Excellence le Très Honorable
Ramon John Hnatyshyn P.C., C.C., C.M.M., C.D., Q.C.
Governor General of Canada / Gouverneur Général du Canada

ON THE INSIDE
À L'INTÉRIEUR

FUTURE ANNUAL MEETINGS
RÉUNIONS ANNUELLES

1993 - Iowa State University, Ames, IA with AIBS (Aug. 1-5 août)

1994 - University of Calgary, Alberta (June 26-30 juin)

1995 - University of Guelph, Ontario

EDITOR'S COMMENTS
COMMENTAIRE DU RÉDACTEUR

Ahhh... spring is here. This is the season when the leaves come out ... and that lets you have a new one to turn over. My new leaf for turning over is to finally succeed in mailing out the bulletin in the month listed for publication. In all of my previous efforts there has always been something which has caused delays, from problems with late submissions, not enough submissions, problems finishing the layout, printing problems, problems getting labels, etc. However, this time I will make it ... maybe. (I'm writing this in the last week of March.)

Having said all this, I have to prepare you for the next issue, which would normally be mailed in July. However, this year the annual meeting, which always provides much of the copy for the July Bulletin, is at the beginning of August. In order to include items about the annual meeting, I will be delaying the printing of the July Bulletin until mid-August. You can expect to get it, if everything works out, around the end of August. I hope to have the October issue ready at the regular time.

There are certainly a lot of deaf ears out there, on which my pleas for contributions fall. We did manage to move two of the three books that were listed in the last issue into the review process.

You will find one of these reviews on page 25. Our associate editor has had to resort to writing individual members at western universities in an attempt to get lists of recent graduates. The response thus far has been gratifying (see page 23) and we actually have to delay publishing some lists until the next issue. If you are so lucky as to receive one of our requests, please don't consider it just another burden on your busy work schedule. Consider it a chance for fame, but not fortune, since we only promise to list you as a contributor of the information you provide.

In the second column I once again list several books that are looking for reviewers. Some of these were listed in the April issue last year and found no takers. There are a few new ones in the list, also. I have been reviewing some of the backlog of books myself (two are included in this issue), but I am not a speed reader and I prefer to tackle books on subjects of interest to me. I would be most grateful if volunteers could help out in reviewing these books.

See you in August at the AGM in Ames, Iowa.

Joe Gerrath, Editor / Rédacteur

BOOKS AVAILABLE FOR REVIEW

Causton, David R. (1988) **Introduction to Vegetation Analysis.** Unwin Hyman.

Davis, Tim, Bruce E. Haissig & Narendra Sankhla (1988) **Adventitious Root Formation in Cuttings.** Dioscorides Press.

Gutschick, Vincent P. (1987) **A Functional Biology of Crop Plants.** Timber Press.

King, John (1991) **The Genetic Basis of Plant Physiological Processes.** Oxford University Press.

Pollock, C.J., J.F. Farrar & A.J. Gordon (1992) **Carbon Partitioning within and between Organisms.** Bios Scientific Publishers.

Raghavan, V. (1989) **Developmental Biology of Fern Gametophytes.** Cambridge University Press.

Raju, M.V.S. (1990) **The Wild Oat Inflorescence and Seed.** Canadian Plains Studies, No. 22. University of Regina.

Robert, D. & J.-C. Roland (1989) **Biologie végétale. Tome 1. Organisation cellulaire.** Doin Éditeurs.

Sabourin, André (1991) **Guide des crucifères sauvages de l'est du Canada.** Jardin Botanique de Montréal.

Stanwood, Phillip C. & Miller D. McDonald (1989) **Seed Moisture.** Crop Science Society of America, Special Publication No. 14.

Turner, Nancy J. & Adam F. Szczawinski (1991) **Common Poisonous Plants and Mushrooms of North America.** Timber Press.

Waddick, James W. & Zhao Yu-tang (1992) ***Iris* of China.** Timber Press.

Good News --- Bad News

Canada's oldest tree, a 1636-year-old yellow cedar, has been found on Vancouver Island. That's the good news. The bad news is that loggers had already felled it and left it as waste wood on a clearcut.

Thanks to Sylvia Taylor for sending in this item from the Flora of North America Newsletter, vol. 6, no. 4.

The 44th AIBS Annual Meeting Iowa State University, Ames, IA August 1-5 août, 1993 "Grasslands"

The AIBS Annual Meeting this year will have only botanically oriented societies as participants, along with the Council for Agricultural Science and Technology. A list of the symposia or workshops planned by various societies is presented here to whet your appetite for attending our own annual meeting at Ames (there is no information on any symposia planned by the American Fern Society).

American Institute of Biological Sciences

Multimedia for biology teaching: What? How? Why? Organizer: David W. Karmer.

Publishing a textbook. Organizer: Kenneth Curry.

Affirmative action and women in biology departments.

American Bryological and Lichenological Society

Evolutionary potential and the reproductive biology of bryophytes and lichens. Organizer: Karen S. Renzaglia.

The bryophytes of peat-forming ecosystems. Organizer: Dale H. Vitt.

Integration of bryology and lichenology into biodiversity preservation and management plans. Organizers: Roger Rosentreter and Barbara Crandall-Stotler.

American Society of Plant Taxonomists

Alternative genes for phylogenetic reconstruction. Organizers: Douglas Soltis and Pamela Soltis.

Evolution of North American prairies. Organizer: Nancy Morin.

Phylogenetics and the species problem. Organizer: Jerold Davis.

Botanical Society of America

Use of molecular methods in ecology and conservation. Organizer: Kathleen L. Shea.

Plant evolutionary physiology: the integration of ecology, physiology and genetics. Organizers: Keith Garbutt and Ann Evans.

Advances in maize molecular and developmental genetics. Organizer: Peter Bretting.

Charles E. Bessey: his impact on American botany. Organizer: Margaret R. Bolick.

Allelopathy. Organizer: Inderjit.

Angiosperm origin, early evolution, and phylogeny. Organizer: David W. Taylor.

Essential botanical knowledge at the college/ university level. Organizers: Jeannette Mullins and Jan W. Balling.

Canadian Botanical Association

Leaf development: morphology to molecules. Organizer: Christian R. Lacroix.

Mechanisms in male sterility. Organizers: Vipen K. Sawhney and Reid G. Palmer.

An overview of the phytogeography and ecology of rock cliffs, barrens, and glades in eastern North America. Organizers: Paul M. Catling and Jerry M. Baskin.

Phycological Society of America

Protistan cell surfaces. Organizers: R. Wetherbee, R. Andersen and J.D. Pickett-Heaps.

Algal biotechnology. Organizers: B. Parker and R. Radmer.

Control of the nutritional content of algae: ecophysiological implications. Organizer: L. E. Shubert.

Summary of Minutes: CBA/ABC Executive Conference Call Wednesday, January 6, 1993, 1:30 p.m.

Participants: P.M. Catling, N.G. Dengler, J.M. Gerrath, J.F. Gerrath, U. Posluszny, A.A. Reznicek, K. Winterhalder

1. Meeting called to order (Posluszny) - 1:30 p.m. EST.

2. MOTION (Dengler, Catling): To accept the minutes of the July 9, 1992 incoming executive meeting as amended. [Accepted]

3. No business arising out of previous minutes.

4. Reports of Officers:

4a. Past President (Paul Catling)

Nothing new to report for Science Policy Committee. Nominating Committee is at full strength and will seek 3 new Directors and a new Treasurer.

Future Meetings: see item 5.

4b. President (Usher Posluszny)

The main activity has been our withdrawal from CFBS, which will be discussed later [see Item 6].

4c. President-Elect (Keith Winterhalder)

Cinq-Mars Competition has full slate of judges plus 2 alternates from each section. Competing students must indicate on form and send copy of abstract to President-Elect. Info. in Jan. Bulletin.

4d. Vice Presidents (Paul Catling, Tony Reznicek)

CBA/ABC organizing three symposia [*see list on previous page of this bulletin*]. BSA gave $300 for systematics/phytogeography symposium.

MOTION (Catling, Winterhalder): That CBA/ABC match the BSA funding of $300 per symposium for 1993. [Accepted]

The registration fees for the Ames meeting will be (all in U.S. dollars):

Regular fee - $110
Student fee - $55
Accompanying person - $25.

The CBA/ABC Luncheon will be on the Thursday at a price of $15.00.

It is expected that attendance will be relatively small, and that all 4 days will be equally utilized, so that there won't be so many massive concurrent sessions.

There are 14 planned field trips, to run the weekend before the meetings begin.

4e. Secretary (Jean Gerrath)

There is nothing new to report. The transition from previous Secretary not quite complete.

4f. Treasurer (Nancy Dengler)

Membership database and banking have been transferred and membership renewal forms have been sent out. Higher investment returns were investigated but would only be worthwhile if for longer periods. We will continue with short term deposits and GICs.

Participation in this year's Youth Science Foundation (we offer an award for the best botanical science fair display) will cost an estimated $650. K. Winterhalder will investigate whether this can be reduced.

4g. Editor (Joe Gerrath)

Last mailing of Bulletin (October 1992) was 353 copies, 82 of which were IUTS (the Ontario inter-university transport system - free!) and Guelph, and 43 of which were outside the country. There is little revenue from ads this year.

5. Future Meetings

1994 - University of Calgary - Head of organizing group, C.C. Chinnappa, has this meeting well in hand. Dates are June 26-30.

1995 - University of Guelph, jointly with CSPP/SCPV (and possibly also with the Canadian Phytopathological Society). The local CBA/ABC representative will be Doug Larson. The CSPP/SCPV representative will be Peter Pauls.

1996 - University of Prince Edward Island, Charlottetown - Organizing committee is led by Christian Lacroix.

1997 - Botanical Society of America would like to meet with us again in Canada. Vancouver was suggested as a suitable site. It is all very vague at present, and will have to be investigated further.

1998 - Montréal has expressed a wish to host another meeting. This is the first available year.

1999 - The annual meeting will be contingent upon where the Botanical Congress is held (U.S.A.?).

6. CFBS Membership and Levy

The CFBS fiscal year is a calendar year, so they have requested payment of the final instalment of 1992 plus all of the 1993 levy, on the grounds that we were members when the 1993 budget was approved. Our understanding of CFBS bylaws is that we are required to pay the levy for one full year after the receipt by CFBS of our resignation.

MOTION (Dengler, Winterhalder): That CBA/ABC pay the balance of the 1992 CFBS fees, and a prorated portion of the 1993 fees, this portion to cover the period ending July 17, 1993, one year after the receipt by CFBS of the notification by CBA/ABC of our termination of membership in CFBS. [Accepted]

7. Setting Future Dues

It was decided that this would be best left until the AGM at Ames, since we need to know the outcome of the CFBS withdrawal on our budget. There was some discussion on when our membership year begins and ends. Our fiscal year is July 1 to June 30, but it may be that the membership year coincides with the calendar year.

8. Awards

We are in need of more nominations, especially for the Mary Elliott Award.

We will focus on getting more applications for the Macoun Award this year. The number of awards will depend upon our funding.

Members of the Awards Committee are: Usher Posluszny (Chair), Paul Catling, Keith Winterhalder, Jean Gerrath, Nancy Dengler, and one other person (not a member of the Board of Directors) to be selected.

9. Other Business

The membership brochure should be ready soon, now that our status within CFBS has been clarified.

10. Meeting adjourned at 2:58 p.m. EST.

Jean M. Gerrath, CBA/ABC Secretary

Nancy Morin appointed Asst. Director of Missouri Botanical Garden

In a field not densely populated by women leaders, Dr. Nancy Morin has risen to arguably one of the most visible and powerful posts in botany: Assistant Director of the Missouri Botanical Garden. Morin came to the MBG in 1981 and has held several important positions, including head of the botany department and curator of the herbarium. In 1983 she became the convening editor of the Flora of North America project. She is on the editorial board of the Flora of China project, another large international floristic effort. She also is adjunct professor of biology at Washington University and adjunct assistant professor of biology at the University of Missouri - St. Louis.

When announcing Morin's appointment, MBG Director Peter H. Raven said, "Our research efforts have benefitted greatly from Dr. Morin's expertise since she has been a member of our staff. She has provided effective leadership during a time of increased professionalization and extensive growth as the Garden has moved into a position of international prominence. I look forward with great pleasure to working with her as a key member of our management team."

Morin is proud to be a woman in such a prominent position and credits the Garden for giving her the freedom and ability to pursue issues that she sees as important, such as the computerization of botanical information. As Assistant Director, she will be concerned with all aspects of Garden administration and with the development and implementation of strategic planning for the Garden. She will continue to be active scientifically and in the leadership of the Flora of North America program.

The MBG is now rivaled only by the Royal Botanic Gardens at Kew and the New York Botanical Garden for excellence in botanical research. About 50 Ph.D.-level botanists are employed at the MBG to work primarily on plant taxonomy. Tropical floristics is an important facet of the Garden's work.

Morin herself has a historical link to the MBG. Her great-grandfather was on the horticultural staff from 1891 until he retired in 1927, and her grandfather also worked at the Garden. "Walking beneath the trees that forebears helped to plant, I feel a deep affection for this institution," Morin says, "and gratitude that I have been given the opportunity to contribute."

Source: MBG News Release, Feb. 1993

RECENT GRADUATES
GRADUÉ(E)S RÉCEMMENT

University of Toronto
Department of Botany

M.Sc. - 1992

MaryAnne Arnoldo - "Development of an efficient *Agrobacterium*-mediated transformation system in *Brassica napus*." Supervisors: R. Kemble and J. Coleman.

Jacqueline C. Bede - "Enzymatic synthesis of α-3',4'-anhydrovinblastine: Optimization and immobilization." Supervisor: F. DiCosmo.

Lisa Demarco - "The biodegradation of polycyclic aromatic hydrocarbons in the sediments of the Saguenay Fjord." Supervisors: C. Nalewajko and K. Lee.

Angie C. Gelli - "Potassium malate transport into plant cell vacuoles: the characterization of ion channels." Supervisor: E. Blumwald.

Catriona Gordon - "Fog water chemistry and epiphytic lichens as indicators of pollutant input to Venezuelan cloud forests." Supervisor: T. Hutchinson.

Fereshteh Hashemi Hashemi - "Tolerance of *Anabaena variabilis* and other Cyanobacteria to copper and other metals." Supervisor: D. Kushner.

Susanne Holy - "Cloning and sequencing of the Clover Yellow Mosaic Virus genome: Production of infectious transcripts." Supervisor: M.G. AbouHaidar.

Yatika Kohli - "Genetic variability in field populations of *Sclerotinia sclerotiorum*." Supervisor: L. Kohn.

Robert G. Latta - "Inbreeding depression and mixed mating systems in *Mimulus* L. (Scrophulariaceae). Supervisor: K. Ritland.

Huogen Lu - "Characterization of a suppressor of elicitor-induced necrosis from intercellular fluids of tomato leaves infected with *Cladosporium fulvum*." Supervisor: V.J. Higgins.

Georgia Paliouris - "Concentrations of elements in mosses and lichens and the effect of fire in redistributing ^{137}Cs and Cu in the boreal forest at Wood Buffalo National Park, Canada." Supervisor: J. Svoboda.

Thomas J. Parsons - "Phylogenetic implications of small subunit rDNA sequences of two charophyte species." Supervisor: N.A. Straus.

Lynda Christine Taylor - "The response of spring-dwelling Ostracodes to intra-regional differences in groundwater chemistry associated with road salting practices in southern Ontario: A test using an urban-rural transect." Supervisor: J.C. Ritchie.

Yu Zicheng - "Postglacial water-levels at Rice Lake, Ontario: Sediment, pollen, and plant macrofossil evidence." Supervisor: J. McAndrews.

Ph.D. - 1992

Ian D. Campbell - "The little ice age in southern Ontario." Supervisor: J. McAndrews.

Brian Husband - "Stochastic processes and the evolution of self-fertilization in *Eichhornia paniculata* (Spreng.) Solms. (Pontederiaceae)." Supervisor: S.C.H. Barrett.

Irene E. Luinenburg - "Molecular characterization of phosphoenolpyruvate carboxylase in cyanobacteria." Supervisor: J. Coleman.

Martin Raillard - "Influence of Muskox grazing on plant communities of Sverdrup Pass (79°), Ellesmere Island, N.W.T., Canada." Supervisor: J. Svoboda.

Myron Lloyd Smith - "Mitochondrial genetics in *Armillaria* populations." Supervisor: J. Anderson.

Contributed by Nancy G. Dengler

University of Alberta
Department of Botany

Barbara Nicholson (Ph.D. - 1993) "The wetlands of Elk Island National Park: Vegetation, development and peat chemistry."

Zoran Ristic (Ph.D. - 1992) "Leaf structure and physiology in lines of maize that differ in endogenous levels of abscisic acid and drought resistance."

Kymberly Schreiner (M.Sc. - 1992) "Callose deposition and aluminum resistance in wheat."

Kenneth Stadt (M.Sc. - 1992) "A physiological study of the effects of an abiotic stress competition."

Contributed by Randy Bayer

University of Saskatchewan
Department of Biology

M.Sc. (1988-1992)

Sheila Bedi (1990) "Sources of inoculum and management of ***Ascochyta fabae*** f. sp. ***lentis*** on lentil."

Sourindra Nath Maiti (1988) "Biochemical and genetic analyses of sulfometuron methyl (SM) resistant mutant strains of ***Saccharomyces cerevisiae***."

Sheldon Viggo Rude (1989) "Evaluation of fungicide application at late bloom for the control of ***Sclerotinia*** stem rot in rapeseed (canola)."

Thomas K. Turkington (1988) "Using ascospore infestation of petals to forecast ***Sclerotinia*** stem rot of rapeseed."

Ph.D. (1988-1992)

Elizabeth Ellen McIver (1989) "Fossil flora of the Paleocene Ravenscrag Formation, southwestern Saskatchewan, Canada."

Patricia L. Polowick (1989) "A comparative developmental study on a normal and the *Ogu* cytoplasmic male sterile line of ***Brassica napus*** L."

Rajeev Rastogi (1988) "Plant growth substances and floral development in the male sterile stamenless-2 mutant of tomato (***Lycopersicon esculentum*** Mill.)."

B. Rathinasabapathi (1990) "Gene transfer in plants: Evaluation of two selectable markers."

Thomas Edward Tautorus (1990) "Tissue and cell culture studies of black spruce (***Picea mariana*** Miller B.sp.) and jack pine (***Pinus banksiana*** Lambert)."

Thomas K. Turkington (1991) "Factors influencing a petal-based forecasting system for ***Sclerotinia*** stem rot of canola."

Hong Wang (1990) "Structural and immuno-cytochemical studies of cell division and the cell cycle in cultured plant protoplasts."

Xiao Wei (1988) "Genetic regulation of the *ilv2* gene in ***Saccharomyces cerevisiae***."

Kequan Xi (1991) "Epidemiology of blackleg of canola in Saskatchewan and efficacy of flutriafol for control."

Our thanks to Evelyn J. Peters, Departmental Secretary

University of Guelph
Department of Crop Science

Harrison K. Dapaah (M.Sc. - 1992) "Effects of nitrogen fertilization and cover crops on soil substructural stability and subsequent corn performance." Advisor: Tony Vyn.

B. Sue Green (M.Sc. - 1992) "The effects of long term crop rotation and tillage on corn growth and selected soil properties. Advisor: Tony Vyn.

Susan Iler (M.Sc. - 1992) "*In vitro* selection of imazethapyr-tolerant tomato (***Lycopersicon esculentum*** Mill.)." Advisors: Peter Pauls and Clarence Swanton.

Zhang Yanling (M.Sc. - 1992) "Induction and maturation of alfalfa somatic embryos." Advisors: Tissa Senaratna and Bryan McKersie.

Book Reviews / Évaluations

Plant Tropisms and other Growth Movements. by James W. Hart. Unwin Hyman, London. 1990. 208pp. US$55.00.

I well remember my first attempts at growing the sensitive plant (***Mimosa pudica***) and being fascinated by the reaction of the leaves when touched. I was equally fascinated and mystified by certain flowers that were able to follow the sun across the sky. Now, more than a century after Charles Darwin's early studies on such plants, science has come a long way in demystifying the processes of plant movements. However, these plants are still holding back some of their secrets, since we still have not satisfactorily worked out the mechanisms by which they react to a number of environmental stimuli.

This book attempts to review current knowledge about various plant tropic responses ("other growth movements" receive cursory treatment). Since Hart has worked mostly on geotropic and phototropic responses, these topics receive the lion's share (nearly half) of the book. The "also rans" are crowded together at the end of the book.

Hart begins with a survey of the different types of plant movement, spending several pages distinguishing nastic from tropic movements, and turgor movements from growth movements. This part of the book is very well done, and provides an excellent introduction to the subject. The chapters on geotropism and phototropism are fairly balanced, providing a mix of historical and modern ideas and experiments which have tried to work out the mechanisms of these responses. I would have liked to have had more on thigmotropism and the chapter on "other tropisms" is positively skeletal. The "boxes", which are short side-bar discussions on specific topics, interrupt the flow of the text, and I feel that they should have been integrated into the main text itself. A number of tables, photographs and line illustrations from various published papers are sprinkled throughout the book.

The most annoying thing about the book (and this is a fairly minor concern) is the lack of care in proofreading generic names (e.g. ***Amelopsis***, ***Gallium***, ***Lillium***, ***Liquidamber***, ***Sphaerocarpus***, etc.). The author is not a taxonomist, but surely could have found out by talking to colleagues that ***Ampelopsis hederacea*** is a name no longer used, and that this plant is NOT Virginia creeper. Incidentally, ***Parthenocissus*** (the real Virginia creeper), is mentioned on page 157 and not on page 159, where the index says it should be.

These minor quibbles do not detract from my overall favourable impression of the value of this book. In general it provides a useful, if brief, introduction to plant movements, and, in particular, its presentations of the topics of geotropism and phototropism give a fairly broad review of our knowledge on these plant movements, given the constraints imposed by the size of the book itself.

As a postscript, I note that an article in the latest (March-April 1993) issue of the American Scientist will serve as a useful update on action potentials involved in touch responses of plants.

J. F. Gerrath
Dept. of Botany, University of Guelph

Light Emission by Plants and Bacteria. Edited by Govindjee, Jan Amesz and David C. Fork. Academic Press, New York. 1986. 638pp. US$123.25.

This book is one of several inherited from previous Bulletin editors, who have apparently been unable to get any volunteer to review it (neither have I). It is getting a bit out of date but is still useful as an access resource to the older literature. The text is heavy on biophysical theory and practice, and anyone without my background in physics might find it a tough slog to get through.

The book comprises a total of 19 chapters, each written by one or more experts on the topic discussed. Much of the book is concerned with studies on bacteriochlorophyll fluorescence and luminescence (delayed fluorescence), and would not be of particular interest to the general botanist or the usual plant physiologist.

The book begins with several introductory chapters, mainly using bacterial examples, which introduce the study of fluorescence, luminescence and Raman spectra, and discuss methods of recording and analyzing them. Chlorophyll a absorption and

fluorescence emission spectra from intact cells and isolated chloroplasts are discussed in several chapters, and other chapters are devoted to delayed fluorescence and to thermoluminescence from thylakoids. Other non-bacterial chapters, of interest mainly to algal biologists, are those which discuss bioluminescence of dinoflagellates and photosynthetic absorption and fluorescence characteristics of various algal groups. Phycobilin pigments from red algae, cyanobacteria and cryptomonads and their use in elucidating absorption and transfer of energy in these organisms are discussed by Fork and Mohanty. Govindjee and Satoh devote a full chapter to light harvesting systems in chlorophyll b- and c-containing algae (greens, euglenoids, diatoms, browns and dinoflagellates) The second last chapter is the only one which specifically concentrates on chlorophyll a fluorescence in higher plants, although several other chapters briefly mention studies on vascular plants. The last chapter discusses practical uses of fluorometric methods in a variety of plant research scenarios.

Although this book is now 7 years old and the information presented is about a decade old, it still contains a wealth of information on various types of light emission from photosynthetic systems. Any botanical library with pretensions to greatness should have it available as a standard reference.

Anyone wanting to try to obtain this book from the publishers (it was probably listed as out of print and remaindered long ago) should note that Academic Press (H.B.J.) no longer operates their Canadian office in Don Mills, Ontario (I had a previous review report returned with that dreaded Post Office stamp proclaiming, "Moved, address unknown"). You will now have to contact this publisher at their Orlando, Florida, address (Zip code 32887).

J.F. Gerrath, University of Guelph

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Pests and Pathogens. Plant Responses to Foliar Attack. Edited by P.G. Ayres. Bios Scientific Publishers, Oxford. 1992. 216pp. US$80.00.

This book arises from a meeting on Plant Responses to Pests and Pathogens held in the U.K. in 1992 under the auspices of the Society for Experimental Biology, and is published as part of a series on Environmental Plant Biology. To quote the editor, the object of the meeting "was to explore the extent to which responses to pests and pathogens are the same and, thereby, to facilitate more cross-boundary thinking and progress in research". The resulting book includes chapters covering physiological and morphological responses of plants to defoliation; signals in wounded plants; the role of secondary plant substances in defence against insects and micro-organisms; changes in diseased leaves in photosynthesis, translocation and respiration; partitioning of resources to storage, regrowth and reproduction in diseased plants; the influence of herbivory on disease and *vice versa*; modelling the effects of pests and pathogens on photosynthesis and yield of field crops; and constraints on the evolution of resistance to pests and pathogens. In addition, there are more specialist chapters on the hypersensitive response and phytoalexins, and altered patterns of protein synthesis in pathogen-infected plants, as well as a more general overview by the book's editor.

All of the chapters are well written and provide an easily comprehensible overview of their topics. Many of the chapter authors have done an admirable job of integrating information that is otherwise widely scattered in the literature, and there is considerable cross-referencing between many of the chapters. Unfortunately, researchers working with pests often have had rather different interests and goals from those working with pathogens, so that comparable data are not always available. Nevertheless, just having information from disparate studies in one volume helps to provide the reader with a more comprehensive view of how plants respond to biotic environmental stresses, and of the similarities and differences between responses to pathogenic micro-organisms and pests. For plant physiologists and other botanists who are interested in how plants function in, and react to, their environment, this book is an excellent source of information and enlightenment. It should be read by all ecology and plant pathology students, and could be used as a text for an advanced undergraduate, or graduate, course. Unfortunately, however, it's price makes it more likely to end up as a reference text on the library shelves.

Michele C. Heath
Dept. of Botany, University of Toronto

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.

... for all the tea in China

"*I wouldn't do that for all the tea in China.*", goes the old saying. However, if you did "do that", you would have a great deal of choice, because there are more than 500 kinds of tea grown in China, from traditional green teas to the black teas that are more familiar to us. Tea drinking in China dates back 4,000 years, when a legendary person named Shennong is said to have discovered tea during a search for an antidote to herb poisoning. Buddhist monks found tea to be very useful for staying awake during long rituals and Taoist monks believed it to be good for their health. In Chinese culture tea customs are synonymous with sharing, honesty, harmony and respect. In Fujian Province people drink what they call "gongfu tea" (gongfu means "sharing the moment of being together"). In the ritual of preparing gongfu tea, the teapot and the tiny teacups are first heated using boiling water. Then the teapot is filled (more than 2/3 full) with tea leaves and boiling water is poured over the leaves. The teapot lid is put on and more boiling water is poured over the outside of the teapot. After steeping for about 2 minutes a very strong tea is produced. Often the host or hostess will line up the teacups in a circle and pour all the tea, slowly but continuously, into the cups without lifting the teapot or worrying about spillage. This custom ensures that everyone will share tea with the same colour and taste. This tea is bitter at the first sip, but it is said to leave a sweet aftertaste. The most important thing about gongfu tea is the social interaction rather than the actual act of drinking.

Fujian Province is a major producer of tea and the famous Oolong tea is produced there, mainly in the Mount Wuyi area. Oolong means "black dragon" in Chinese, and refers to the fogs which wrap around the mountain "like a black dragon", according to local legend. This kind of tea has wide, dark-brown leaves that are fringed with red. Another region of China, Xinyang, where tea has been grown for 1,200 years, produces 3.85 million kilograms annually, the best of which is the Longtan brand, "Maojian".

China Daily, Jan. 6 and 11, 1993

Potent Plant

Identify this plant, all of you knowledgeable botanists. Do you know a plant that can "knock a horse cold for up to a week"? Central American Indian mothers quiet a crying infant by given it a single seed of this plant. Give up? The plant is ***Stipa robusta***, and you may not have heard of it because it grows in the Rockies of the southwestern U.S.A. and further south. It is also called "sleepy grass", for obvious reasons, and grazers avoid it. The story is a bit more complicated because it is not the plant that knocks grazers out. Sleepy grass is protected by a symbiotic fungus, ***Accremonium***, which is passed on to the next generation of plants through the seeds and which produces a potent alkaloid, recently identified as lysergic acid amide. Pharmaceutical companies in the 1950s had considered marketing sleepy grass ingredients in sedatives, but when they discovered that the active ingredient was related to LSD (D = diethylamide), they dropped the idea quicker than it takes sleepy grass to "knock a horse cold".

Discover, December 1992

New Plant in California

This item proves that you do not have to go to the tropical rainforests to find undescribed plant species. The monotypic genus ***Neviusia*** (Rosaceae) now has two species, thanks to Glenn Clifton, a California environmental consultant, who found it at two sites near Redding, California. The new shrubby plant was given the common name, "Shasta snow wreath", and is described as ***Neviusia cliftonii*** in a recent issue of Novon, a publication of the Missouri Botanical Garden. The other species, not mentioned in this newspaper article, grows in the southeastern states.

New York Times, Feb. 2, 1993

Ancient Camphor Tree

What is believed to be the largest camphor tree (***Cinnamomum camphora***) in China grows in the village of Meihu, Dehua County, Fujian Province. The tree is over 28 metres tall and 16.7 metres wide. The tree is considered locally as sacred, and is regarded as having the ability to tell fortunes. It was planted during the Tang Dynasty (618-907) and is thought to be about 1,300 years old.

China Daily, Jan. 6, 1993

British Bogs Doomed

British scientists have called peat bogs "the Northern Hemisphere's equivalent of tropical rain forest". Researchers at the University of Exeter estimate that "while peat bogs cover only half the area that rain forests do, they hold more than three times the carbon". Continued extraction of peat for horticultural use is destroying not only a valuable scientific resource, but is contributing to global warming by liberating millions of tonnes of stored carbon. A recent survey of bogs in Britain by Richard Lindsay revealed that only about 8,600 acres of raised bogs remain from an estimated original extent of 165,000 acres, and only about 10% of the original 3.5 million acres of blanket bog are left. Lindsay gives the remaining raised bogs only about 40 years before they all will be gone. The worst things about the current destruction are the loss of the stratigraphic record present in the peat and the loss of plants (and animals) which are specialized to grow in the bog environment. The British peat industry, which employs 30,000 persons and has annual sales of nearly US $1 billion, has offered to restore a wetland environment after peat extraction is finished. However, the prospects that such treatment could reestablish a natural bog environment are considered to be very slim.

New York Times, Feb. 9, 1993

Kuwait "Blooms"

Most of us have vivid memories of huge fires and spurting oil, and consider that the Kuwait war was an ecological disaster. However, for Kuwaiti vegetation it may have been a boon in disguise. The huge amount of unexploded ordnance that litters the desert is keeping out hunters, joyriders and sheep herders. As a result recent surveys of the region by nimble-footed researchers from the University of Kuwait have found that the desert vegetation, which was in terrible trouble because of decades of largely man-made desertification, is beginning to return, especially in the western regions of the Kuwait desert. Even around the inland oil lakes left after the oil well fires were put out, the surveyors last spring found that there were young plants pushing through the thinner layers of oil.

China Daily, Jan. 7, 1993

Hot Potatoes

"They cultivate it back in the hills, they stash it in underground crypts deep in the jackpines and they bootleg it through the Cariboo bush-country by horse and sleigh." Is it "pot"? ... no, it's the Cariboo potato. This cultivar was "delisted" by Agriculture Canada about 2 decades ago (its stems are too tough for mechanical harvesting) and, according to Canada's agricultural laws, it is illegal for anyone to grow varieties which are not on the current list of about 80 approved potato cultivars. The outlaw growers around 100 Mile House, however, say that Cariboo is a very fine potato and deserves to be available to anyone who wants to grow and eat it. Several farmers continue to grow it (clandestinely, of course) and to sell it in local farmer's markets. So far the "spud fuzz" have not cracked down, probably because local enforcement officers for Agriculture Canada are more occupied with the "pot crop", which a recent TV program said was being grown "in every other house" in the region around 100 Mile House.

Vancouver Sun, Feb. 17, 1993

Environmental "Grass"

Allen St. Pierre of NORML (National Organization for the Reform of Marijuana Laws) has given high priority to the legalized growing of ***Cannabis rudelis*** (hemp) in the U.S.A. The group is taking an environmental approach by promoting the plant as a way to reduce pollution (no pesticides needed) and to save trees by using it as a substitute for wood fibre. Hemp is grown legally in many countries, but in the U.S. "it runs into the moral quagmire of American intolerance", says St. Pierre. Although related to marijuana it does not have the same effects. According to St. Pierre, "you would have just as much fun smoking a pine cone".

Toronto Star, Feb. 13, 1993

"Top Ten"

The Chinese scientific establishment has copied one of David Letterman's routines by honouring the "top ten" scientific advances by Chinese scientists during 1992. Two of the awards (near the middle of the pack) went to botanical researchers. One is for the development of a new medicine, from a herb called "qinghao", which is

more effective than existing medicines for treating malaria. The other award went to the discovery of "barley mild mosaic virus" in soil fungi, a finding which, it is thought, will speed the development of a treatment for controlling the disease.

China Daily, Jan. 8, 1993

Nosing out Wine Secrets

A wine's characteristic odour or "nose", which wine connoisseurs often describe in terms such as fruity, flowery or peppery, depends on the biochemistry of the grape from which it is made. Biochemists have found that the same mixture of compounds producing the characteristic scent of the fruit or flower is also present in the grape (and the wine made from it). The banana or cherry scent of some Beaujolais is partly caused by the presence of ethyl caprylate and benzaldehyde cyanohydrin, respectively, in the Gamay grape. Methoxy-butyl pyrazine is responsible for the green-pepper-like odour in California Cabernets. The similarity of wines made from Muscat, Riesling and Gewürztraminer grapes is because they all contain terpineol, linalool and geraniol, but in varying proportions. So the next time you have guests for dinner, you can dumbfound them by asking, "Will you have a little geraniol with your turkey?".

Jane MacQuitty, The Times of London, Jan. 16, 1993

Another Environmental Grass

Vetiver, believed to be native to India, is a tall, tropical grass whose long (2-4 m), fragrant roots (commonly used in perfumes and soaps) could become an inexpensive and effective means of controlling soil erosion, according to a report by the National Research Council (U.S.A.). Vetiver can grow in a variety of environments, tolerating a wide range of soil pH and moisture conditions. Experts recommend using it in the drier parts of the tropics to combat erosion from sudden downpours and from wind.

New York Times, Feb. 16, 1993

Heritage Fruit Trees

The Canadian Heritage Seed Project, a non-profit, 1,700-member organization which is trying to preserve agricultural plant diversity, has purchased an orchard containing 2,000 fruit trees comprising 350 varieties. The orchard was developed over 8 years by sculptor, Renée Poisson, near Courtney, B.C., but she had to get rid of it because "it was taking over more and more of my life". The fruit trees have since been dug up and replanted ("barely a twig was damaged") on Saltspring Island, but the new orchard will retain the original name, Tsolum River Fruit Trees. Some of the famous old varieties in the orchard are: the Jeanne d'Arc pear, the Zuccalmaggios Reinette apple, the Kaninsky Rubin cherry, and the Early Crimea plum. Poisson was one of the few Canadian growers to grow her own rootstock from cuttings obtained from England, France, Germany, Romania, Turkey and Russia. Many of the varieties are grown nowhere else in North America. If you would like to obtain more information on the Canadian Heritage Seed Project and its aims, their address is: R.R. 3, Uxbridge, Ontario L9P 1R3. By the way, and no joke ... honestly ... the Seed Project president is ... wait for it ... Heather Apple!

Toronto Star, Jan. 31 & KW Record, Feb. 13, 1993

Chinese Herbal Remedies

Modern studies using biochemical and pharmaceutical methods have shown that some Chinese herbal medicines have the effect attributed to them, some are not as effective as they are claimed to be, and some can have unexpected results in a few patients. For example, mahuang, also called "Herba Ephedrae", is traditionally used to treat coughs and lung diseases. Clinical trials, however, have shown that it helps to lower blood pressure, and would be useful in treating patients with hypertension. On the other hand, there are reports of deaths from overdoses of mahuang. Chinese researchers are currently focussing their efforts on 120 traditional medicines which have occasionally caused problems. They hope to distinguish the genuine medicines from the fakes, to properly identify traditional medicines (some called by the same name have different source plants), and to formulate more rigorous production methods.

Dr. Wang Huaiyan has developed a herbal medicine that has been shown in clinical trials to be effective in treating lung, lymph, esophageal and thyroid cancers. Each year in China about 1 million people develop cancer and 700,000 to 800,000 die of cancer, giving researchers a great incentive to develop treatments. The main ingredient in Dr. Wang's concoction is called "maqianzi" and it comes from a nut which is used to induce vomiting. This herbal ingredient must be very powerful, since Dr. Wang, using himself as an experimental animal, experienced paralysis of one leg for 18 months after taking an overdose.

Meigu (fairy ring) liquid is a new "joy juice" which is brewed directly from various edible fungi (mainly ***Dictyophora***, but also from various other genera: ***Hydnum***, ***Tremella***, ***Pleurotus***, ***Lentinus***). The liquid

has constituents with claimed anti-cancer and anti-cholesterol effects and is rich in amino acids, vitamins and trace elements. The inventor, Xiao Helong, describes the liquid as being "like traditional melody, slow and mild, which fine-tunes the human physical mechanism".

China Daily, Jan. 28 and Feb. 12, 1993

Herbal Dangers

"Natural is not necessarily safe.", said Dr. Virginia Murray, a toxicologist at the National Poisons Unit, Guy's Hospital, London. She was being interviewed concerning a recent Lancet article which reported that 33 Belgian women had suffered kidney failure after taking capsules containing two Chinese herbal ingredients (***Stephania tetrandra*** and ***Magnolia officinalis***). Public interest in Chinese medicines has increased greatly in Britain following research at Great Ormond Street Hospital, which showed that a Chinese herbal tea was effective in treating patients with severe eczema. However, a 28-year-old woman died of acute kidney failure after taking a similar herbal mixture for her eczema. The proliferation of small herbal clinics recently in Britain has produced a call by medical workers for the establishment of controls on the sale of these potentially dangerous medicines.

The Times of London, Feb. 12, 1993

Potent pits

Eating 13-15 raw peach pit kernels would probably kill you, according to Dr. Margaret Dietert, who teaches a course on medicinal botany at Wells College, Aurora, N.Y. This is because the kernels contain compounds which can produce cyanide. Cyanogenic compounds are also present in seeds of pears, apricots and apples, but the levels vary widely. For example, you would have to eat a whole cup of apple seeds to get a lethal dose of the cyanogenic compounds.

New York Times, Feb. 16, 1993

Luoyang Flower

The "Luoyang flower", or peony, is the main reason tourists go to Luoyang in the spring. The Peony Festival is held there April 15-25 each year. Luoyang is one of China's ancient capital cities on the famous "silk road", with a history of over 5,000 years. The city first began growing peonies in the Sui Dynasty (581-618), and the beginnings of peony culture in the city are associated with legendary events. According to this legend, one snowy winter day in the capital, Chang'an, the Empress Wuzetian wrote an edict that ordered all flowers to bloom overnight. All but the peony complied and produced blossoms. The Empress flew into a rage and banished the peony to Luoyang. The peony burst into bloom as soon as it arrived. Since then Luoyang has been the centre of peony cultivation and breeding in China, producing such rare and beautiful cultivars as the "Yellow Yao", with flowers up to 30 cm across, and the "Wei purple", which has blossoms with 600-700 petals.

China Daily, Jan. 30, 1993

Another Chinese Legend

Caiban, one of 7 villages around Yuanshan Mountain in Fujian Province, is called the "village of ***Narcissus***". Last year 460 family growers sold over 3 million bulbs. ***Narcissus*** has been grown in China for more than 1,500 years, and naturally there is a local legend in Caiban about its origins. A beggar once came to a poor woman living at the foot of the Yuanshan Mountain. The woman gave him her last bowl of rice, even as her son was crying for food. The beggar was so moved that he threw the rice into the water of her farm pond, jumped into the water, and disappeared. The people of the village tried to pull the beggar out, but failed. The next day the woman was shocked to see that there were so many white flowers blooming in the water. The villagers concluded that the beggar must have been a water fairy, and that is why the ***Narcissus*** is called "shui xian", which means "water fairy" in Chinese.

China Daily, Jan. 20, 1993

Get Cracking

First it was oat bran ... now it's the "walnut diet". A study by researchers at Loma Linda University in California fed men a diet in which 20% of the calories came from walnuts (about 3 ounces of nuts per day). This would be equivalent to eating 68 pounds of walnuts each year. It's little wonder that the study was financed by the California Walnut Commission (but perhaps I am being too cruel). The study claims a 16% reduction in LDL cholesterol (that's the bad kind) and, although the"good" (HDL) cholesterol dropped by 5%, the ratio of LDL to HDL decreased by 12%. This is considered to be great for protecting against heart disease. However, Harvard professor Walter Willet thinks the diet is a bit extreme. He is afraid of men gorging themselves on filet mignon and a hot fudge sundae, and then ordering walnuts, figuring they are the magic bullet that will keep their cholesterol down. It doesn't work that way; you have to substitute walnuts for part of your original diet.

Kitchener-Waterloo Record, March 4, 1993

MEETINGS / CONGRÈS

Nature et jardins botaniques

Dans le cadre du 175^{e} anniversaire de la Conservatoire et Jardin botanique de la ville de Genève (Suisse), une colloque, **«Nature et jardins botaniques au XXI^{e} siècle»**, aura lieu au centre international de conférences de Genève, **du 2 au 4 juin, 1993.** Renseignements: **Intercongress, rue Marziano 17, C.P. 208, CH-1211 Genève 26, Suisse. FAX 41 22 343 00 86.**

Preservation of Collections

The **Society for the Preservation of Natural History Collections** will hold its annual meeting at the Royal British Columbia Museum, Victoria, **June 7-12, 1993.** For information, contact: **Grant Hughes, Royal B.C. Museum, 675 Belleville St., Victoria, BC V8V 1X4.**

Neotropical Forests

A symposium on **Neotropical Montane Forests, Biodiversity and Conservation** will be held at the New York Botanical Garden, **June 21-26, 1993.** Information: **Dr. James L. Luteyn, Institute of Systematic Botany, N.Y. Botanical Garden, Bronx, NY 10458-5126. FAX: (718) 220-6504.**

Taxonomy / Classification

The **Classification Society of North America** will meet at the same time as the **25th International Numerical Taxonomy Conference** in Pittsburg, PA, **June 24-27, 1993.** A symposium on Morphometrics is one of the featured sessions. Information: **Richard J. Jensen, Department of Biology, Saint Mary's College, Notre Dame, IN 46556. FAX: (219) 284-4716.**

Secondary Metabolites

Genetic Engineering of Plant Secondary Metabolism is the title of a meeting to be held in California from **June 27 to July 1, 1993.** For information, contact: **Dr. Gary Kuroki, DNA Plant Technology Corp., 6701 San Pablo Avenue, Oakland CA 94608. FAX: (510) 547-2817.**

Iron and Plants

The **Seventh International Symposium on Iron Nutrition and Interactions in Plants** will be in Zaragoza, Spain, from **June 27 to July 2, 1993.** Information from: **Javier Aradia, Aula Dei Experimental Station, C.S.I.C., Apartado 202, 50080 Zaragoza, Spain. FAX: (+34)-76-575620.**

Arabidopsis Course

A workshop (course) on *Arabidopsis* **Molecular Genetics** will be held at the Cold Spring Harbor Laboratory, **July 5-25, 1993.** For information, contact: **Barbara Ward, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY 11725. Telephone: (516) 367-8345. FAX: (516) 367-8845.**

ASV Annual Meeting

The **American Society for Virology** will hold its 12th Annual Scientific Meeting at the University of California, Davis, **July 10-14, 1993.** Information: **Dr. George Bruening, Department of Plant Pathology, University of California, Davis, CA 95616. FAX: (916) 752-5674.**

Plant Peroxidases

The **Third International Symposium on Plant Peroxidases: Biochemistry and Physiology** will be in Hamlet's hometown, Elsinore, Denmark, **July 10-14, 1993.** Information from: **K.G. Welinder, Institute of Biochemical Genetics, University of Copenhagen, Øster Farimagsgade 2A, DK-1353 Copenhagen K, Denmark. Telephone: 45 3315 8481. Email: soren.rasmussen@risoe.dk**

Barley Workshop

The University of Guelph is the site for the **15th North American Barley Researchers Workshop, July 11-15, 1993.** For information, contact: **Duane Falk, Department of Crop Science, University of Guelph, Guelph, ON N1G 2W1. FAX: (519) 763-8933.**

Turfgrass Conference

The **International Turfgrass Research Conference** will be in Palm Beach, Florida, **July 18-24, 1993.** For information, telephone **Dr. Robert Carrow** at **(404) 228-7277.**

Crucifer Genetics

The **Eighth Crucifer Genetics Workshop** will be in Saskatoon, Sask., **July 22-24, 1993.** Information from: **Dr. Wilf A. Keller, PBI/NRC, 110 Gymnasium Place, Saskatoon, Sask. S7N 0W9. FAX: (306) 975-4839.**

Potato Symposium

The **Third International Symposium on the Molecular Biology of the Potato** will be in Santa Cruz, California, **July 25-30, 1993.** Information: **William Belknap, USDA-ARS, 800 Buchanan Street, Albany, CA 94710. FAX: (510) 559-5575.**

Plant Pathology Congress

A reminder about the **Sixth International Congress of Plant Pathology** (listed previously in the July 1992 Bulletin), which will be held in Montréal, Québec, from **July 28 to August 6, 1993.** Anyone still wanting information may contact either: **Mrs. D. Ruest, National Research Council of Canada, Ottawa, ON K1A 0R6**, or the Program Committee Chair, **Dr. Michele C. Heath, Botany Department, University of Toronto, ON M5S 1A1.**

CSM / SIM Joint Meeting

The **Canadian Society of Microbiologists** will meet with the **Society for Industrial Microbiology** in Toronto, **August 1-6, 1993.** Information: **S.I.M. Business Office, P.O. Box 329, Annandale, VA 22003-0229. FAX: (703) 941-8790.**

ASPP and CSPP / SCPV

A joint meeting of **Canadian and American Societies of Plant Physiology** will be in Minneapolis, Minnesota, **August 1-5, 1993.** For information, contact: **Dr. Martin Canny, Biology Dept., Carleton University, Ottawa, ON K1S 5B6; FAX: (613) 788-4497**, or **ASPP, 15501 Monona Drive, Rockville, MD 20855. FAX: (301) 279-2996.**

Plant Growth Regulators

The Annual Meeting of the **Plant Growth Regulator Society of America** will be held at the Clarion Hotel in St. Louis, MO, **August 6-9, 1993.** Information may be obtained by telephoning **Dr. Louise Ferguson** at **(209) 891-2500.**

Virology Congress

The **9th International Congress of Virology** will be in Glasgow, Scotland, **August 8-13, 1993.** Information: **Prof. W.C. Russell, School of Biological and Medical Sciences, Irvine Building, University of St. Andrews, St. Andrews, Fife, Scotland KY16 9AL.**

Grassland Symposium

Huhehot, China, is the site for an **International Symposium on Grassland Resources, August 16-20, 1993.** Information: **Executive Secretary of I.S.G.R., Grassland Research Institute, Chinese Academy of Agricultural Sciences, Wulanchabu East St. 010010, Huhehot, Peoples Republic of China.**

Arabidopsis Conference

The **Fifth International Conference on *Arabidopsis* Research** will be at Ohio State University, Columbus, OH, **August 19-22, 1993.** Information from: **Roger P. Hangarter, Conference Unit, Ohio State University, Columbus, OH 43210-1002.**

Mushroom Conference

The **First International Conference on Mushroom Biology and Mushroom Products** will be in Hong Kong, **August 23-26, 1993.** Information: **Drs. John Boswell or Paul But, Department of Biology, Chinese University of Hong Kong, Shatin New Territories, Hong Kong.**

Algal Biotechnology Conference

The **6th International Conference of Applied Algology,** subtitled **"Progress in Biotechnology of Photoautotrophic Microorganisms"**, will be held in Trebon, Czech Republic, **September 6-11, 1993.** For information, contact: **SPA Trebon, CS-37913 Trebon, Czech Republic. FAX: 42 333 2381.**

Seeds and Low Temperatures

The Society for Low Temperature Biology is holding a conference entitled **Low Temperature Aspects of Seed Conservation** at the Isle of Thorns Training Centre in Sussex, U.K., **September 14-16, 1993.** Participation is limited to 60 persons. The following topics will be emphasized: *Low temperature limits to seed germination*; *Chilling responses in tropical and temperate seeds*; *Freezing avoidance/tolerance mechanisms in seeds*; *Cryopreservation of seeds and embryos*; *Conventional seed banking.* For information, contact: **Dr. H.W. Pritchard or S.H. Linington, Royal Botanic Gardens, Kew, Richmond, Surrey, U.K. TW9 3AE. FAX: 0444-892814.**

Invasive Plant Workshop

The **Second International Workshop on the Ecology and Management of Invasive Riparian and Aquatic Plants** will be in Kostelec, Czech Republic, **Sept. 16-19, 1993.** For information, contact: **Lois Child, ICOLE, Loughborough University, Loughborough, UK LE11 3TU.**

Rights-of-Way Management

The **5th International Symposium on Environmental Concerns in Rights-of-Way Management**, will be held in Montréal, Québec, **September 19-22, 1993.** Information from: **Anne-Marie Braconnier, Hydro-Québec, 680 rue Sherbrooke ouest, 4th floor, Montréal, Québec H3A 2M7.**

Linnean Society Conference

The Linnean Society of London is organizing a commemorative conference with the title, **Richard Spruce (1817-1893) - Botanist and Explorer**, to be held in York, U.K., **September 20-22, 1993.** Further information from: **The Linnean Society of London, Burlington House, Piccadilly, London W1V 0LQ.**

Zinc in Soils and Plants

An **International Symposium on Zinc in Soils and Plants** will be held at the University of Western Australia, **September 27-18, 1993**, immediately following the XII Plant Nutrition Colloquium (see Bulletin, July 1992). Information: **Conference Management, UWA Extension, University of Western Australia, Nedlands, Western Australia 6009.**

XII Congreso Mexicano de Botánica

Anyone fluent in Spanish might be interested in this meeting of the Botanical Society of Mexico, in Mérida, Yucatán, **October 3-8, 1993.** The Congress theme is **«La Botánica Mexicana hacia el siglo XXI».** Información: **Roger Orellana, Coordinador General, XII Congreso Mexicano de Botánica, CICY, Apartado Postal 87, Cordemex 97310, Mérida, Yucatán, Mexico.**

Phytotherapy Congress

The **Second International Congress of Phytotherapy** will be in the Dallas-Fort Worth region of Texas, **October 31 to November 4, 1993.** Information: **J.P. Heggers, Shriners Burns Institute, 815 Market St., Galveston, TX 77550.**

APS Annual Meeting

The Opryland Hotel in Nashville, Tennessee, will be the site for this year's annual meeting of the **American Phytopathological Society, November 7-11, 1993** (*Please ... no jokes about "country roots"*). For information, contact: **APS Headquarters, 3340 Pilot Knob Road, St. Paul, MN 55121-2097.**

NOTICE TO MEMBERS

Please check the number on your address label. If it is "91", your last paid membership year was 1990-91.
This is your last issue of the Bulletin.
Please contact the Treasurer if you wish to continue your membership in the Canadian Botanical Association.

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