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J. F. (Joe) Gerrath,
Guelph



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## EDITOR'S COMMENTS
## COMMENTAIRE DE LA PART DU RÉDACTEUR

I'm late again getting the Bulletin off to the printer, but I hope that you think that this issue is worth waiting for. The autumn is the busiest time of year for me, and it is difficult to find a large block of time to complete the October issue in a reasonable time.

### New Associate Editor

Permit me to officially welcome our new Associate Editor, Frédérique Guinel, who volunteered to be responsible for the French copy which we try to include for all CBA/ABC announcements. In this issue she has provided the *version française* of the Taylor Steeves Award announcement. Thanks go to Christian Lacroix, who has done double duty as Treasurer and Associate Editor for past year and more.

### Other Bulletin Items

This issue has quite a varied group of news and views. In fact, there have been so many that I have had to reduce The Plant Press to only two pages. I apologize to those who eagerly await the quirky stories I often include for cutting back on your favourite pages. I have a nice backlog of stories for the January issue, however.

The Guelph meeting is being finalized and this issue has a brief outline of events. We have several items relating to awards, etc., at the Calgary meeting. There is the text of a speech by Taylor Steeves, an obituary for Áskell Löve,

and a letter which is a "call to arms". Our continuing series on economic plants deals with ginseng, an appropriate choice since I was able to see so many fields of ginseng this summer while driving through the Thompson River valley of B.C. ... Enjoy!

For the remainder of my space in this issue I am listing a number of books which have been sent recently by publishers wishing to have them reviewed for the Bulletin. There is a good selection of them and anyone who wishes to volunteer as a reviewer may contact me [probably best to do it via FAX or E-mail].

## Books Available for Review

**Australian Vegetation (Second Edition).** Edited by R.H. Groves. 1994. Cambridge University Press.

**Diversity and Evolutionary Biology of Tropical Flowers.** by Peter K. Endress. 1994. Cambridge University Press.

**Economics and Ecology. New Frontiers and Sustainable Development.** Edited by Edward B. Barbier. 1993. Chapman & Hall.

**General Microbiology (7th Edition).** by Hans G. Schlegel (English translation by Margot Kogut). 1994. Cambridge University Press.

**History of the Australian Vegetation: Cretaceous to Recent.** by Robert S. Hill. 1994. Cambridge University Press.

**Introduction to Plant Population Biology.** by J.W. Silvertown & J. Lovett Doust. 1993. Blackwell Scientific Publications.

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

**Photosynthesis (5th edition).** by D.O. Hall and K.K. Rao. 1994. Cambridge University Press.

**Plant Adaptation to Environmental Stress.** Edited by Leslie Fowden, Terry Mansfield & John Stoddart. 1993. Chapman & Hall.

**Plant Responses to the Gaseous environment.** by Ruth G. Alscher & Alan R. Wellburn. 1994. Chapman & Hall.

**Post-translational Modifications in Plants.** Edited by N.H. Battey, H.G. Dickinson & A.M. Hetherington. 1993. Cambridge University Press.

**Saltmarsh Ecology.** by Paul Adam. 1990. Cambridge University Press.

**Soil Ecology.** by Ken Killham. 1994. Cambridge University Press.

**The Birch. Bright Tree of Life and Legend.** by John L. Peyton. 1994. McDonald & Woodward Publishing Co., Blacksburg, VA.

**Virus Diseases of Trees and Shrubs (Second Edition).** by J.I. Cooper. 1993. Chapman & Hall.

**Westcott's Plant Disease Handbook (Fifth Edition).** by R. Kenneth Horst. 1990. Chapman & Hall.

**Xanthomonas.** Edited by J.G. Swings & E.L. Civerolo. 1993. Chapman & Hall.


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## SPEECH BY TAYLOR STEEVES AT THE BANQUET IN CALGARY

*Editor's Note: Immediately after Taylor Steeve's speech at the annual banquet of CBA/ABC in Calgary I accosted him and asked if he would be kind enough to allow me to print the text of his speech in the Bulletin. Fortunately he was in such a euphoric state at the time that he readily agreed to send me a "version" of the speech for publication. Thank you, Taylor, for allowing members who could not attend the Annual Meeting to read the thoughts which you expressed following the special presentations in your honour and the "roasting" speeches of several colleagues.*

It is useless for me to feign surprise at this event honouring me because it was announced in the Bulletin several months ago and, in spite of advancing age, I can still read. However, I can assure you that I am as astonished now as I was when I first read that notice that the Canadian Botanical Association would consider me worthy of such a special recognition. I am certain that I do not deserve it but equally certain that I am enjoying it immensely and am profoundly grateful to all of you.

I was given to understand that on this occasion I would be invited to offer a few well chosen words and, since it was recognized that, although I might be overwhelmed, I probably would not be speechless, the emphasis was placed on few. This 30th Annual Meeting of our Association will undoubtedly be for me the most memorable of the many I have attended because of this evening's events. I do remember some others, however, and the events surrounding them and I would like to share a few of my recollections of two of them with you and some thoughts derived from them.

The first and founding meeting of CBA/ABC was held in May of 1965 at Carleton University and centred around a major symposium later published under the title ***The Evolution of Canada's Flora***. There had been one or two organizational meetings previously, but the Ottawa gathering is regarded as our first annual scientific congress, and the number 30 for this year's meeting agrees with that designation. I remember well the excitement and confidence of those times. Botany, indeed all the sciences, were expanding rapidly in Canada and the future seemed one of limitless opportunities. Universities and research institutions were growing, new botanists were turning up on all sides, research funding was generous by the standards of those days, and indeed the only problem seemed to be that the previously small and close-knit tribe of indigenous plant scientists was being submerged in a sea of newcomers with a wide range of affiliations and loyalties. In short, the perennial Canadian identity crisis!! The Royal Society of Canada concluded that this country needed a national botanical society and Dr. (R.A.) Tony Ludwig, who became the first President of CBA/ABC, crisscrossed the country preaching the need for the botanical community to be organized so that we could get to know one another, recognize our strengths, identify our opportunities, offer one another support and generally establish our identity and proclaim our importance in the Canadian context. Our Association which resulted from this initiative was an immediate success and in the years that followed it grew in membership, organized sections reflecting particular interersts in botany and began a series of annual meetings of which this is the 30th. Unfortunately it did not, as some had hoped, become an organization for all Canadian botanists, including those belonging to more specialized societies, although some of their members have always been part of our organization. One might say, then, that our organization was born in a time of affluence and our original purpose was to learn how to make the best use of our resources.

I want now to jump ahead a few years to 1973 and the 9th meeting of our Association in London, which I remember very well indeed. I remember it because it came at the end of my rather lacklustre term as President and, since I had not done much else in that office, the Executive Committee decided that I should give a Presidential address at the annual banquet. Looking over some notes I still have from that address, I was startled by the gloomy tone of my remarks -- startled because I do not recall that the botanical scene was particularly depressing at that time, but also startled because my forecast of rough weather ahead has been realized with such force. I know at the time the audience dismissed me as one of those Saskatchewan types who just naturally assumes that any prosperity is transitory. Certainly bad things did not happen as quickly as I seem to have expected in 1973, but when they did happen they were in many ways even worse that I had foreseen.

There are certainly today many reasons for botanists in Canada to feel discouraged and more than a little dispirited. The relatively generous flow of funding for research of all types, restricted only by quality and evidence of productive activity, has been replaced in large part by direction of support to efforts designed to increase national wealth and, above all, competitiveness. So we have strategic projects, targeted research, centres of excellence and cooperative industrial projects and so on, all it seems taking an ever larger share of the limited budget allotted to research support. We cannot escape the fact that our country has serious financial problems and that in times of high taxes and diminishing services the taxpayers are placated when told (rightly or wrongly) that their research dollars are being spent on projects likely to produce immediate results. This seems to be a world wide phenomenon but the special problem in Canada is that most of us have few other sources to turn to if public, *i.e.* government, funding is not available. A further depressing fact for many botanists is that, when funds do go to basic research, often they go in large quantity to areas that are viewed as being modern and on the cutting edge, again leaving many looking on from the sidelines.

Let me at this point set the record straight as to where I stand on all of this. Research of the kinds that I have just mentioned -- targeted, cutting edge, modern -- is highly desirable and should be encouraged. Some of our botanical colleagues, because of their particular fields or their talents that can be turned in appropriate directions, are able to flourish in this system and I cheer them on. I fear, however, that many members of our community are and will continue to be left on the sidelines and, perhaps even more important, that areas which do not attract funding, and consequently are not training students, will disappear, indeed may already be disappearing. Problems of this sort, of course, cut across all of the sciences, but I sense that botany in many of its diverse expressions is particularly vulnerable.

On the other hand, botanists have some real advantages when faced with a situation of this sort and it is important to recognize this. Recently I read an article in the Saskatoon Star Phoenix entitled ***Budgets replacing genius in scientific research***, the theme of which was that, whereas in the old days the brilliance of an investigator, usually working by him- or herself in relative obscurity, was the key element in important discoveries, today's sophisticated research requires such elaborate equipment that success, or even the very undertaking, depends on a stupendous budget. The writer was clearly overawed by such fields as nuclear physics, space exploration and some of the "hot" molecular areas of biology and medicine, to mention a few. He certainly did not understand botany in its broad and inclusive sense. Of course there is big budget botany and some kinds of plant research do require generous support if they are to be successful, but there is a lot yet to be learned about plants that does not carry such a requirement. Every time I venture afield, even if only to weed my garden, I am struck by just how little we do know about the plants around us. Most of our well established concepts have been based upon intensive study of a relatively few species, largely cultivated, which are easily reared in greenhouse, garden or growth chamber, and which yield reliable and repeatable results. There are good reasons for this, of course, but it does leave a broad field for exploration which has scarcely been touched.

Faced with the charge that I know will be laid against me, that I am both old fashioned and totally out of touch, let me call upon an up-to-date witness who can hardly be accused of either failing. In a book which I am sure that many of you have read, ***The Diversity of Life***, a passionate plea for the preservation of biodiversity, the author, E.O. Wilson, stresses the desperate need for detailed knowledge of the biology of large numbers of individual species. In this context he asserts that "biologists are returning to natural history with a new sense of mission". Certainly, then, we botanists, if we cannot get our hands on generous grants, need not sit idly by as our science moves on without us, for there is much we can do on a shoestring budget. And, what is more, we can be assured that whether or not our efforts are given a high profile, they are important, indeed they are essential.

Reflections in 1973 upon the prospect of the kind of situation in which we now find ourselves led me to certain conclusions which today, with the situation upon us, I restate with enhanced conviction. Our Association was founded in a time of affluence and, indeed, arose from the need to deal with the vigorous growth nourished by that abundance. Does this mean that in a time of scarcity, when botanists have many other things to worry about, the organization has ceased to be important. Quite the contrary, I believe that it has never been more important than it is today for Canadian botanists to be bound together in a strong, organized and effective community. Of course our organization must speak out, as it is doing, on behalf of our discipline and those who practice it, and exert the kind of pressure upon decision makers that we as individuals alone cannot bring to bear. We may reasonably question just how much influence such pressure is likely to have but there is no doubt that the effort must be made.

I believe, however, that there is another role for our organization which is even more important, and that is the building up and sustaining within our community of the recognition of the true worth of our science in all of its diverse aspects and thus of ourselves as botanists. In our national meetings and perhaps in smaller regional gatherings, and through the pages of the Bulletin, let us constantly encourage and support one another, recognize significant contributions that night otherwise receive little notice and remind ourselves that we are part of a noble tradition that is far indeed from having run its course. In other words, let our Association be the beacon around which we rally to carry on our unfinished work with enthusiasm, determination and, above all, with pride. Let our Association by its vigorous presence proclaim that we are enthusiastic botanists and proud of it.

Again I thank you for honouring me this evening and I pledge my continuing support to the tremendously important work of our Association.

*Taylor A. Steeves*
*University of Saskatchewan*

## PROPOSITION DE CANDIDATURES

## BUREAU DE DIRECTION DE L'ABC

Les membres de l'ABC sont invités à proposer des candidatures pour les postes de directeurs de l'ABC.

trésorier [de 1995 à 1997]
3 directeurs [de 1995 à 1997]

Un des directeurs doit habiter à l'ouest de la frontière provinciale du Manitoba et de l'Ontario et les autres n'importent où.

Chaque nomination doit porter la signature d'au moins trois membres de l'association et doit être accompagnée du consentement de la personne nominée. **Les nominations doivent être reçues avant le 31 janvier 1995, par la secrétaire de l'association.**

Dr. Jean M. Gerrath
Department of Biology
University of Northern Iowa
Cedar Falls, IA 50614-0421, USA

## CALL FOR NOMINATIONS

## CBA BOARD OF DIRECTORS

Members of CBA are invited to submit nominations for the following positions on the Board of Directors of the Association.

Treasurer [term - 1995-1997]
3 Directors [term - 1995-1997]

One of the Directors must reside west of the Manitoba-Ontario boundary. The others may reside anywhere.

Nominations must be signed by at least three members of the Association and must be accompanied by the consent of the nominee. **All nominations must be received before January 31, 1995, by the secretary of the Association.**

Dr. Jean M. Gerrath
Department of Biology
University of Northern Iowa
Cedar Falls, IA 50614-0421, USA

## LA MÉDAILLE GEORGE LAWSON

Les membres de l'ABC sont invités à proposer des candidatures pour ce prix, qui sera presenté à la prochaine réunion annuelle de l'association à l'Université de Guelph. Il y a deux catégories d'éligibilité.

Catégorie A: Pour reconnaître une contribution unique et exceptionnelle à la botanique canadienne par un botaniste canadien. En pratique, ceci prendra la forme d'un livre, d'une monographie ou d'un article apportant une contribution significative ou exceptionnelle à la botanique.

Catégorie B: Pour reconnaître l'ensemble des contributions distiguées d'un chercheur, professeur ou administrateur senior qui a fait carrière au Canada la plus grande partie de sa carrière, et qui a fait des contributions importantes à la développement de la botanique canadienne.

Toute nomination doit être accompagnée d'un *curriculum vitae*, d'un exposé concis faisant état de la contribution du candidat à la botanique canadienne, et d'autres documents comme des lettres d'appui d'autres personnes. **Chaque nomination doit être reçue, avant le 31 janvier 1995, par le président du comité de sélection.**

Dr. Keith Winterhalder
Département de Biologie
Université Laurentienne
Sudbury, ON P3E 2C6

## GEORGE LAWSON MEDAL

Members of CBA are invited to submit nominations for this prestigious award, to be presented at the next annual meeting at the University of Guelph. A maximum of two awards may be given, one in each of the following categories of eligibility.

A. Recognition of the cumulative, distinguished contributions of a senior researcher, teacher or administrator who has worked in Canada for most of his/her career and who has contributed notably to the advancement of Canadian botany.

B. Recognition of a single outstanding contribution to botanical knowledge, which may be a published paper of exceptional significance, a series of published papers, a monograph, or a book. Canadian botanists at any stage of their career are eligible in this award category.

Nominations should be accompanied by a *curriculum vitae*, a clear statement of the nominee's contribution to Canadian botany, and as much documentation as possible (including letters by others supporting the nomination.). **Nominations should be sent to the President of CBA, who chairs the awards committee, before January 31, 1995.**

Dr. Keith Winterhalder
Department of Biology
Laurentian University
Sudbury, ON P3E 2C6

## PROPOSITION DE CANDIDATURES

## LE PRIX MARY E. ELLIOTT

Les membres de l'ABC sont invités à proposer des candidatures pour ce prix, qui est donné à une membre pour service de mérite exceptionelle à l'Association. La présentation de ce prix aura lieu à la prochaine réunion annuelle de l'ABC à Guelph.

Toute nomination doit incluire les détails des contributions méritoires à l'ABC de la personne nommé. **Veuillez envoyer vox nominations, au plus tard le 31 janvier 1995, au président du comité de sélection:**

Dr. Keith Winterhalder
Département of Biologie
Université Laurentienne
Sudbury, ON P3E 2C6

Chaque nomination, soit pour la médaille Lawson, soit pour le prix Elliott, restera éligible pendant trois années avec le comité de sélection. Le comité demandera aux proposeurs de fournir de nouveaux détails ou des modifications pour le deuxième et le troisième année d'éligibilité.

## CALL FOR NOMINATIONS

## MARY E. ELLIOTT SERVICE AWARD

Members of CBA are invited to submit nominations for this award, which recognizes meritorious service to the Association by an individual member. If a suitable candidate is proposed, the award will be made at the next Annual Meeting in Guelph.

Nominations must include a citation of approximately 100 words and a statement detailing the service contributions of the nominee to CBA. **Nominations should be sent to the President of CBA, who chairs the awards committee, before January 31, 1995.**

Dr. Keith Winterhalder
Department of Biology
Laurentian University
Sudbury, ON P3E 2C6

Nominations for both the Lawson Medal and the Elliott Award are kept on file for three years after submission, but nominators are requested to provide updated information for the second and third years.

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## FUTURE MEETINGS - GUELPH 1995

The 1995 annual meeting of the CBA/ABC will be held jointly with CSPP/SCPV at the University of Guelph, June 24-27, 1995. The organizing committee is expecting a full house for this late June meeting, and we hope that people from all across the country start soon to make their plans to visit Guelph.

CBA/ABC members will be surprised to see that things start off on Saturday June 24 rather than our customary Sunday start day. We hope that this change reduces air fares for those coming long distances. For those who plan to go on the full day pre-conference field trip to the Niagara Escarpment at Mono Cliffs Provincial Park, and who had planned to stay in residence, overnight accommodation on Friday night June 23 can be ordered at the time of early registration. Departure on this field trip will be early Saturday morning, June 24. Return will be in time for the mixer and registration.

There will be a second half-day field trip to the Royal Botanical Gardens. This trip will leave for Burlington midmorning and also return in time for the mixer and registration. For those not attending field trips, arrival and registration will take place from all day Saturday June 24. The all-participant mixer and cash bar will be in the University Club and will start around 7:00 p.m.

The scientific program will begin Sunday morning with the Symposium entitled "Plants in Nasty Places". This symposium will include four speakers who have worked in a variety of hostile habitats and whose approach to research is multidisciplinary. A luncheon to be held at the Arboretum will follow this symposium. The contributed paper sessions will begin after lunch on Sunday, and will end at 5:00 p.m. Section meetings will follow and end by 6:30 p.m., followed by the dinner break and the Weresub lecture at 8:00 p.m.

Monday morning, and Monday afternoon until 4:00 p.m., will be devoted entirely to contributed paper presentations. The annual general meetings of the two societies will be held 5:15-6:15 p.m., followed by the dinner break. Poster presentations in Peter Clark Hall will follow this, and all participants should enjoy the opportunity to drink and munch while discussing science.

The last day of the conference will start with contributed papers in the morning, and will finish off with the second all-participant symposium entitled "Plants on the Up". This symposium will run the clock to 4:00 p.m. and will be followed by an all-participant banquet and awards night. The registration package will be mailed to you in the new year, and the deadline for registration will be about May 20.

For more information about the meeting, contact either:

**For CSPP/SCPV:** Dr. Peter Pauls, Department of Crop Science. Telephone: (519) 824-4120 Ext. 2460

**For CBA/ABC:** Dr. D.W. Larson, Department of Botany. Telephone : (519) 824-4120 Ext. 6008

## Taylor A. Steeves Student Award in Plant Structure and Development

Applications for the 1994 Taylor A. Steeves Award are now being accepted. If you are a graduate student involved in research on Plant Structure and Development, or if you supervise or know someone who may be eligible for the award, please read this announcement carefully. This annual award was established to honour the many-faceted contributions of Professor Taylor A. Steeves to the advancement of Botany in Canada. Professor Steeves has made significant contributions to our current understanding of plant morphology and development through research papers and textbooks. He was the editor of both the **Canadian Journal of Botany** and the **Botanical Gazette**. As a teacher and researcher, he displays an enthusiasm for plants and an ability to make even the most complex concepts seem understandable. The award is intended to symbolize these attributes so aptly displayed by Professor Steeves.

**Eligibility**: All graduate students now working in Plant Structure and Development areas at Canadian Universities are eligible, as are Canadian students at universities abroad.

**Conditions**: The award will be given for the best Plant Structure and Development paper published in 1993/1994 (in French or English). The judging committee will take into account originality, scientific significance, presentation and the use of language, and its decision will be final. Although it may be preferable that the student be the sole author of the paper, joint papers will be considered if they are accompanied by a statement on university letterhead, signed by the authors, estimating the percentage responsibility of each author for: (1) the ideas that led to the initiation of the project; (2) the actual research skills demonstrated; and (3) the writing of the manuscript. **All applications should be submitted by the student's supervisor**, and should include **FIVE (5) copies** of each of the following: (a) the actual publication (only one submission per applicant); (b) the candidates curriculum vitae; (c) a statement indicating that the student is currently enrolled in a degree program, or has completed such a program during the calendar year for which the award is to be made; and (d) a statement from the supervisor, the student, and any co-authors, establishing responsibility for the paper as outlined above.

**Address and Deadline for Submission**: Applications and supporting documents should be sent to **Dr. Bill Remphrey, Department of Plant Science, University of Manitoba, Winnipeg, Manitoba, Canada R3T 2N2** before April 30,1995.

**Judging Committee**: The Committee will consist of Bill Remphrey (University of Manitoba), Art Davis (University of Saskatchewan), Larry Peterson (University of Guelph) and Denis Barabé (Jardin botanique de Montréal). The winner will be notified by the end of May 1995, and the award will be presented at the Annual Meeting of the CBA.

The Treasurer of the CBA, Dr. Christian Lacroix (address on back page of Bulletin) will be pleased to accept donations (which are tax-deductible) to the fund which finances this award. **Please publicize the award as widely as possible, and please contribute to the capital fund if you can afford to do so.**

## Prix Taylor A. Steeves pour étudiants en structure et développement des plantes

Les candidatures pour le Prix 1994 Taylor A. Steeves sont maintenant acceptées. Si vous êtes un étudiant gradué en recherche végétale (Structure et Développement), ou si vous supervisez ou connaissez quelqu'un qui pourrait être éligible pour ce prix, lisez attentivement cette annonce. Ce prix annuel a été établi afin d'honorer les contributions multiples du Professeur Taylor A. Steeves pour l'avancement de la Botanique au Canada. Professeur Steeves a contribué largement à notre compréhension actuelle de la morphologie et du développement des plantes en écrivant de nombreux articles et manuels scientifiques. Il a été l'éditeur du **Journal Canadien de Botanique** et de **Botanical Gazette**. Dans son enseignement et sa recherche, il a demontré un grand enthousiasme pour les plantes et une capacité de rendre compréhensible les concepts les plus obscurs. L'intention de ce prix est de symboliser ces qualités.

**Éligibilité:** Tous les étudiants gradués travaillant maintenant en recherche végétale (domaine Structure et Développement) dans une université canadienne sont éligibles, ainsi que les étudiants canadiens travaillant dans une université à l'étranger.

**Conditions:** Le prix sera decerné à l'étudiant qui présentera en 1993/94 le meilleur article en Structure et Développement des plantes (écrit soit en français, soit en anglais). Les juges tiendront compte de l'originalité, de la signification scientifique, de la présentation et de l'usage de la langue, et leur décision sera finale. Bien qu'il soit préférable que l'auteur soit l'étudiant seul, les articles écrits en collaboration seront considérés s'ils sont accompagnés d'une déclaration sur papier à en-tête de l'université, signée par les auteurs, donnant le pourcentage estimé de la responsabilité de chaque auteur pour: (1) les idées qui ont conduit à l'initiation du projet; (2) les talents demontrés lors de la recherche; (3) la preparation du manuscript. **Toutes les candidatures doivent être soumises par le superviseur de l'étudiant** et doivent incluire **CINQ (5) copies** du dossier. Celui-ci consistera: (a) de la publication *per se* (une seule par applicant); (b) du *curriculum vitae* du candidat; (c) d'une déclaration indiquant que l'étudiant est présentement enrôlé dans un programme gradué, ou a complété un tel programme pendant l'année universitaire pendant laquelle le prix est offert; (d) d'une déclaration du superviseur, du candidat, et des eventuels co-auteurs, établissant la responsabilité pour le manuscript.

**Adresse et date-limite pour la soumission des candidatures:** Les candidatures devront être envoyées à **Dr. Bill Remphrey, Department of Plant Sciences, University of Manitoba, Winnipeg, Manitoba, Canada R3T 2N2** avant le 30 avril 1995.

**Comité des juges:** Le comité consistera de Bill Remphrey (University of Manitoba), Art Davis (University of Saskatchewan), Larry Peterson (University of Guelph) et Denis Barabé (Jardin Botanique de Montréal). Le gagnant sera notifié à la fin mai 1995, et le prix delivré pendant la réunion annuelle de l'ABC.

Le trésorier de l'ABC, Dr. Christian Lacroix (dont l'adresse se trouve au dos du Bulletin), accepte avec plaisir des donations (il est possible de déduire celles-ci de vos revenus taxés) pour le fonds qui finance ce prix. **Parler de ce prix le plus possible et contribuer à son capital si vous le pouver.**

# AWARDS AT CALGARY - MÉDAILLE GEORGE LAWSON MEDAL

## RICHARD I GREYSON
## University of Western Ontario

***Citation read by CBA/ABC President Usher Posluszny at the Awards presentation in Calgary.***

This year the award for recognition of a single outstanding contribution to botanical knowledge (Category A) is being presented to: **Dr. Richard I. Greyson** of the Department of Plant Sciences, University of Western Ontario, for his book, ***The Development of Flowers***, published this year by Oxford University Press.

Richard Greyson is without doubt one of Canada's most noted experimental floral morphologists and exponent of morphogenesis and plant tissue culture. His influence through his publications, his students and his unbridled enthusiasm at numerous meetings and symposia is without precedent in the field of experimental and developmental morphology. He was a driving force in the creation of the Plant Development Workshop series in Ontario and the Structure and Development Section of CBA/ABC. He was an inspiration to many who followed in this field and it was therefore with great expectations that we all awaited Dick's Book, ***The Development of Flowers***. We have not been disappointed. This is truly a landmark book that will quickly gain international reputation as an essential text for students of floral morphogenesis and development.

May I quote from a colleague and eminent morphologist:
*"I believe that this book is an outstanding contribution, indeed quite possibly a landmark contribution to the field of plant development. Drawing upon his wide experience during a lifetime devoted to research in this field, Dick has brought together the essential information so that the researcher, teacher or student can readily understand the present state of our knowledge of flower development. In short, this book will be an absolute requirement for all who are working in the field and a valuable resource for all who are interested in floral development."*

From another letter I note that:
*"**The Development of Flowers** is the single most comprehensive account on the subject which encompasses structural, physiological, genetic and molecular aspects. The book elegantly integrates information from various areas and does a critical analysis of each aspect. The outcome is a masterpiece of work that is unrivaled by other review or compilation on the subject."*

This book is really the culmination of a lifetime's work by Dick Greyson and is an accurate reflection of his comprehensive knowledge of floral development and of his desire to merge all aspects, techniques and approaches to focus on the question on hand. There is a lot of Dick Greyson in this book. It is indeed a most fitting legacy for the students now and in the future who will be able to share Dick's excitement and curiosity of what makes things tick.

It is an honour to present the 1994 Lawson Medal for a single outstanding contribution to botanical knowledge to Dr. Richard I. Greyson.

## GEORGE L. BARRON
## University of Guelph

***Citation read by CBA/ABC President Usher Posluszny at the Awards presentation in Calgary.***

This year the award for lifetime contribution to Canadian botany is being presented to **Dr. George L. Barron** of the Department of Environmental Biology, University of Guelph.

Dr. George Barron, who has recently retired from the Department of Environmental Biology at the University of Guelph, is certainly one of Canada's foremost mycologists and is considered an international authority on soil fungi, nematode-trapping fungi and fungi that parasitize various other life forms.

George, as you will quickly realize when he begins to talk, came from Scotland where he received his B.Sc. degree at the University of Glasgow. He received his M.Sc. from the University of Toronto (Guelph) and his Ph.D. from Iowa State University. In 1984 he added his D.Sc. from the University of Glasgow. He has been at the University of Guelph since 1958, first in the Department of Botany in the Ontario Agricultural College, then in the Department of Botany and Genetics (briefly Acting Chair, 1971-72) and he finally came to rest in the Department of Environmental Biology. His

productivity over the years has been prodigious indeed, over 100 papers (mostly single author), as well as two classic and fundamental books (***The Genera of Hyphomycetes from Soil***, ***The Nematode-Destroying Fungi***). His interests and talents with fungi extend to photography and he is well known for his excellent colour prints of fungi. George seems to excel at just about everything that he undertakes. His Mycology course at the University of Guelph is renowned as one of the best courses of its kind and is in constant demand. Even retirement couldn't stop George from teaching the course!

Let me read a quote from one of George's colleagues: "*Many years ago an enterprising American mycologist named Charles Drechsler began to study the interactions between microscopic fungi and nematodes. Over the years his many publications raised our conciousness about the remarkable ways in which fungi exploit nematodes. George Barron began his career by studying soil fungi and the parasexual cycle in moulds, but later decided to pick up where Drechsler had left off. I am sure that many people thought that it would be difficult, if not impossible, to fill Drechsler's distinguished shoes. But George Barron has gone on, not merely to emulate his forerunner, but to surpass him: to expand the study of fungi exploiting small animals to amoebae and other protoctista, to rotifers, to tardigrades, to copepods and even to collembolans. His research has also greatly expanded our knowledge of the spectrum of fungi involved in these activities until it extends all the way from microscopic chytrids with chemotaxic swimming spores, through oomycetes with microscopic harpoons, to hyphomycetes with sharp, asymmetrical conidia that stick in the nematode's throat, or with non-constricting and constricting ring traps, and all the way to carnivorous mushrooms secreting narcotics for nematodes. He has not only discovered some of the mechanisms, but by painstaking observations and insights has shown how they work.*"

Without doubt George Barron is a most worthy recipient of the 1994 Lawson Medal for Lifetime Contribution to Canadian Botany and it is a great pleasure for me to ask George to come up and receive his award . . . it is well deserved and most timely.

# Student Awards at Calgary

## Macoun Travel Bursary

## Jeffrey K. Anderson

The 1994 Macoun Travel Bursary was awarded to **Jeffrey K Anderson (Ottawa)** to assist with travel expenses to the Calgary meeting of CBA/ABC. Mr. Anderson's contributed paper was entitled: **Systematic implications of isozyme variation in the tribe Brassiceae (Cruciferae)**.

## Lionel Cinq-Mars Award

## Anne C. Worley

The 1994 Lionel Cinq-Mars Award, given to the student judged to have made the best oral presentation of a contributed paper at the Annual Meeting of CBA/ABC in Calgary, was presented to Anne C. Worley (Calgary). Her paper was entitled: **Limits to reproduction in the common butterwort, *Pinguicula vulgaris*.**

Honorable mentions went to Jeffrey K Anderson (Ottawa) and André Arsenault (U.B.C.).

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## Mary E. Elliott Service Award

There was no Mary E. Elliott Service award presented at the CBA/ABC Annual Meeting in Calgary. Members are encouraged to nominate deserving members who have made significant service contributions toward the smooth functioning of the Association. Consult the call for nominations elsewhere in this issue.

## Poorly Known Economic Plants of Canada. 4. Ginseng - *Panax quinquefolius* L.

E. Small[1], P.M. Catling[1], and E. Haber[2]
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**Common names**: American Ginseng, Canadian Ginseng, Five-fingers, Occidental Ginseng, Sang, Seng. French: Ginseng, Ginseng à cinq folioles. "Panax" means all-healing, while "ginseng" means essence of earth in the form of a man.

***Panax*** is a genus of perennial herbs, with two species in eastern North America and perhaps 5-10 species in Asia. Best known is the eastern Asian species ***P. ginseng*** C.A. Mey., known as Ginseng, Oriental Ginseng, Chinese Ginseng and Korean Ginseng, which is the major source of ginseng of commerce. It has been used in Oriental medicine for perhaps 5,000 years, and is a major commodity of Asian commerce. Until recently, ginseng products in North America were largely imported Oriental Ginseng, but North American-grown American Ginseng is rapidly becoming popular as well in North America. Oriental Ginseng is extremely similar in appearance to American Ginseng, but the former is reported to have tapered leaflet bases while they are rounded in the latter. However, it has proven difficult to identify many plants using this character, and certain other recommended characters also appear to be quite variable.

The unbranched, erect stems arise from a short rhizome and an elongated tuberous root. The root is 1-3 cm thick and 5-10 cm long, spindle-shaped, and often forked. The roots of older plants become branched and acquire prominent circular wrinkles; they are slightly aromatic, and have a sweetish, somewhat bitter taste. Mature plants are 20-70 cm tall, with a whorl of three or four long-stalked, palmate leaves, each generally with five large leaflets, of which the upper three are larger than the two lower. In mid-summer, 6-20 small, yellowish flowers are borne on a short stalk arising from the centre of leaf attachment at the top of the stem. Fruits begin to ripen at the end of July and mature to a deep red color. Reproduction is entirely by seed. Seeds are produced by plants more than 3 years old with up to 150 being produced by a single plant. However, commonly, only a few seeds are produced by wild plants. Once a seedling of American Ginseng has become established, its life expectancy is over 20 years, and plants may live as long as 50 or 60 years. The age of a plant can be estimated by the number of stem scars on the short rhizome on top of the root and by leaf number. Wild plants with 2 palmate leaves, or prongs, are generally over 3 years old, those with 3 prongs are mostly more than 6 years old and those with 4 prongs are mostly over 13 years old.

American Ginseng occurs from southern Ontario and southwestern Quebec south to Oklahoma, Louisiana and northern Florida. It occurs in colonies of a few to hundreds of plants in rich, shady, deciduous forests, in deep leaf litter. Sites are frequently on northern or northeastern cool rocky slopes commonly in areas with limestone outcrops in damp but well-drained soils. Clearcutting of virgin forests and overharvesting have drastically reduced the size of wild populations.

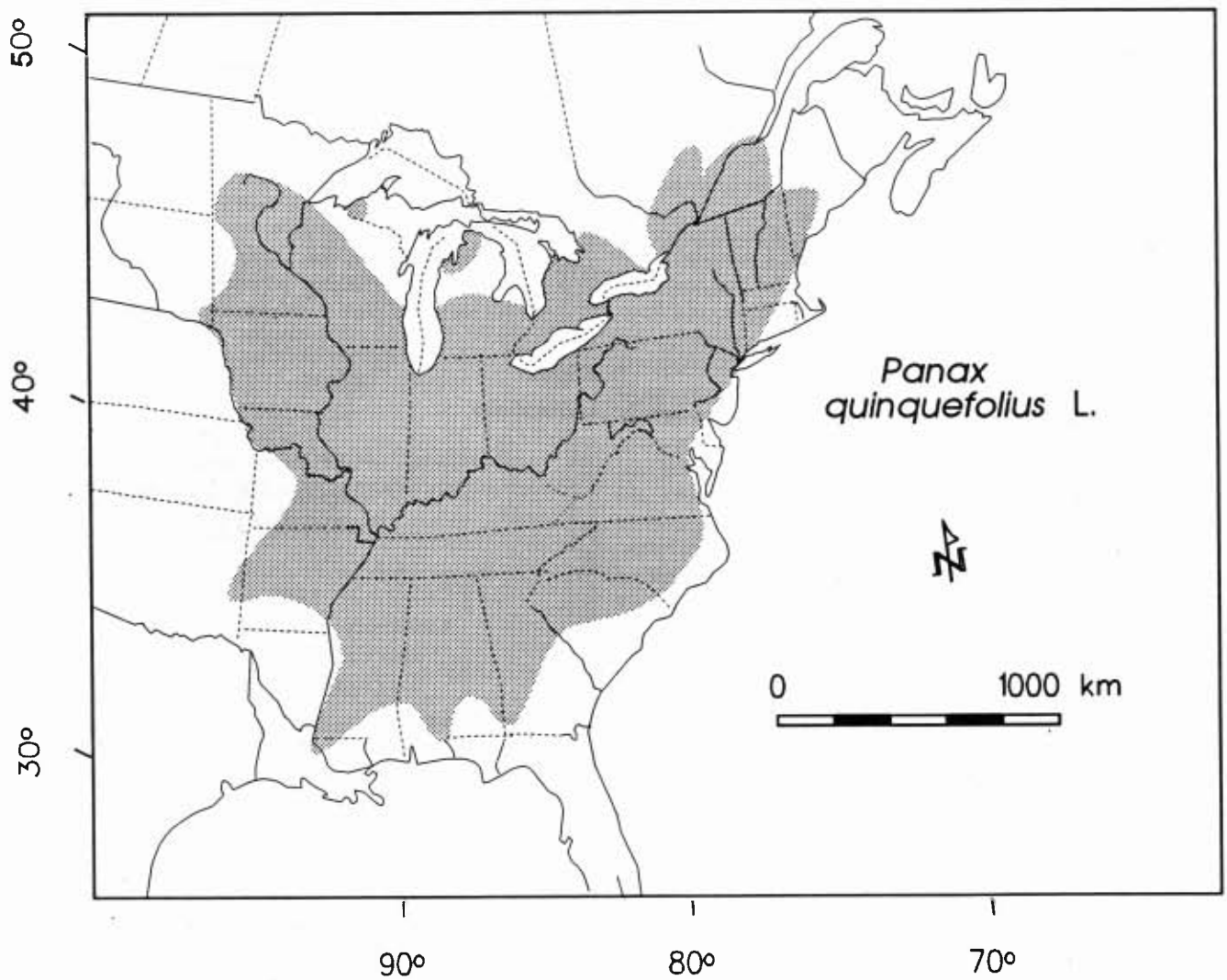
In North America, two species could easily be confused with American Ginseng. Dwarf Ginseng (***P. trifolius*** L.) is a smaller species with stemless leaflets, which does not appear to have the properties of American Ginseng, and is not harvested or cultivated. It is nevertheless a very unusual plant being one of the 0.1% of flowering plants that can change their gender from male to female and *vice versa*. Wild Sarsaparilla (***Aralia nudicaulis*** L.) and other species of ***Aralia*** are also superficially similar, but have pinnate instead of palmate leaves.

Although American Ginseng cannot change its gender like Dwarf Ginseng, it can modify its gender through varying ratios of flowers with one or two ovules. In general, the larger and older plants that are able to mature more seeds can be viewed as more female. The flowers are adapted to cross-pollination through protandry. Soon after the petals separate, the anthers mature and release pollen, prior to the stigmatic lobes separating and becoming receptive. Both wild

and cultivated plants of American Ginseng are visited by a wide variety of insects, but a few species of small bees are the most important pollinators. The attractive fruits are probably dispersed by animals.

Wild American Ginseng was apparently used by many Indian tribes for increasing the fertility of women, as a tonic to increase mental powers, and to treat headache, cramps, fevers, rheumatism, and cough. However, the extent to which these uses were acquired from visiting Europeans is uncertain.

The commercial significance of American Ginseng was not discovered until after knowledge of Oriental Ginseng was disseminated to the West. Oriental Ginseng was first described in western literature in 1714 by Père Jartoux, a missionary in China. Jartoux conjectured that Ginseng would be found in similar habitats in North America, and this information was transmitted by the Jesuits in Paris to their Canadian outposts. In 1704, Michael Sarrazin, the King's Physician to "New France," discovered American Ginseng in Quebec, and brought some roots to Paris. However, not until Father Lafitau, a Jesuit priest and missionary among the Iroquois, read Jartoux's paper and found American Ginseng near Montreal in 1716, did trade in the New World species begin. By 1718 the Jesuits were shipping dried roots, collected by the Iroquois, to China. They realized in the early 18th century that trade in American Ginseng with China was extremely lucrative, and so they attempted to keep this trade secret. However, just why the celibate fathers were taking such an unusual interest in a certain low-growing herb rumored to be an aphrodisiac attracted attention, and eventually the secret leaked out. In the early 1700's, American Ginseng became second only to fur as a trading commodity in New France. The practice of gathering ginseng in North America has continued to the present, especially by rural people in southern Appalachia, who harvest the roots for shipment to Asia and Europe. Historically, ginseng (mostly Oriental) has fetched absurdly inflated prices - on occasion, thousands of dollars a kilogram for unusually shaped or larger roots.



American Ginseng was first cultivated in Canada about 1890, but has been grown commonly only since the 1930's. The major centres of cultivation of American Ginseng today are in the Haldimand-Norfolk region of southwestern Ontario, and southern British Columbia, and Wisconsin (mostly Marathon County, where 80% of U.S. ginseng is grown). In the U.S., American Ginseng is also grown in Kentucky, North Carolina, Tennessee and other states. About 545 t (metric tons) were produced in 1991 in Wisconsin. In recent years, dried wild roots from Canada have sold for as much as $200.00/kg, while cultivated roots have sold for about $50.00/kg. In 1991, about 295 t were grown in Ontario, worth an estimated $35,000,000. In British Columbia in 1992, about 109 t of root worth about $13,000,000 were produced, as well as about 25 t of seeds, worth about $5,000,000. Canadian production of ginseng is increasing. About 3/4 of recent production has been shipped to Hong Kong.

American Ginseng plants take 5-7 years to mature and are grown from seeds or seedlings (1-3 years old). Loamy soils are best and 75% shade provided by screen or lath is essential. The crop is susceptible to fungus diseases and usually requires fungicide treatments as well as good air circulation. A good yield of roots is about 4 metric tons per hectare. The Ginseng Growers Association of Canada, centered in Simcoe, Ontario, helps Canadian farmers and promotes the market for the Canadian crop.

Ginseng is the world's most widely used medicine, a consequence of its popularity in Oriental medicine. The market for ginseng extends throughout the Far East, and there is minor usage as well in western nations. Five to six million people in the U.S. alone consume ginseng regularly, and perhaps 20 million in western nations have used it. Ginseng is widely used like vitamin C, as a preventive medicine, and to maintain good health. It is commonly believed, especially in western countries, that it is an aphrodisiac, has amazing healing properties, provides energy, lowers blood pressure, retards the aging process, cures neurological disorders, and speeds recovery from sickness. Ginseng has been said to enhance digestion, stimulate blood circulation, relieve fatigue and cure blood diseases, and in general have a stimulating tonic effect. Ginseng has the reputation of being the ultimate elixir of life, a symbol of strength and long life, and a source of happiness. Ginseng's alleged virtues are believed to be due to a large variety of root triterpene saponins called ginsenosides. An extremely impressive number of ginseng recipes are employed in Oriental medicine for various ailments. Particularly in the Orient, ginseng preparations are used medicinally to treat hypotension, hypertension, stress, insomnia, fatigue, depression, arthritis, diabetes, high cholesterol levels, bronchitis, some cancers, anaemia, impotence, and premature aging.

There is some good evidence for the therapeutic value of ginseng, but it has been a subject of continuing controversy, with western scientists generally rejecting the claims of eastern medicine that ginseng has manifest benefits in the treatment of numerous illnesses. Much of ginseng medical research has been supported by those with commercial motives, and the design of experiments has often allowed researchers to draw whatever conclusions they wished, ... but could hundreds of millions of users be wrong?

Fortunately, the incidence of adverse reactions to ginseng is very low. Nevertheless it has been suggested that those with hayfever, asthma, emphysema, and cardiac or blood clotting problems, as well as pregnant women, should limit consumption.

Until recently, export of wild roots from Ontario amounted to 40,000 per year. A Canadian study completed in 1987 found that the rate at which the wild roots were being harvested would likely eliminate the plant over large portions of its Ontario range. In 1988, American Ginseng was officially listed as "threatened" in Canada by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). In 1989 export of wild American Ginseng was officially discontinued from Canada pending evaluation of the magnitude of the threat. The Convention on International Trade in Endangered Species (CITES) requires countries to show that exporting indigenous ginseng will not endanger the plant's survival. In the U.S., collection and sale of wild American Ginseng are subject to registration, permits, and an official season. American Ginseng is an example of a plant that was seriously reduced in numbers and has received mitigating action through both national protection and expansion of cultivation, thus reducing pressure on natural populations. These natural populations are potentially important sources of genetic variation for the improvement of the crop.

## FUTURE ANNUAL MEETINGS
## PROCHAINES RÉUNIONS ANNUELLES

**1995**
**University of Guelph, Ontario**
**with CSPP/avec la SCPV**
**(June 24-27 juin)**

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

**1997**
**Université de Montréal (Institut botanique)**
**with/avec Botanical Society of America**

## BOOK REVIEW

**The Development of Flowers. by Richard I. Greyson, with a contribution by Carl N. McDaniel. Oxford University Press. 1994. Price CDN $96.50.**

After the information explosion began in the 1950's, it has always taken a brave person to produce a book reviewing a wide area of research. Books, even review articles, are often considered to be already "out of date" by the time they are published. Of course there is an element of truth in this view, particularly since academic books (as opposed to "popular" books that are just intended to make money) are notoriously slow to make the passage from manuscript to bookshop shelf. But a book or review is a statement based on a set time period and it is to be accepted as such: and these statements are often indispensable to students, teachers, and researchers. I believe that this book is such a statement.

In his Preface Dr. Greyson points out that the developmental biology of flowers, once a "descriptive study of macrostructure", is on the verge of breaking away from this stereotype. This is due largely to the discovery and exploitation of a wealth of genetically-based variability, and opportunities now exist for serious experimental explorations to assess the relative contributions of different levels of organisation to the overall process of flower formation. To support this, he has endeavoured to produce a text "identifying, summarizing and evaluating the status of knowledge of flower development". He has concentrated on information that bears on cellular and organismal aspects of development, he says, and has left serious examinations of the genetic and molecular aspects to future commentators.

The aims have largely been realised. After an introductory chapter, there are chapters concerned with: the angiosperm flower and life cycle; photoperiodic induction, evocation and floral initiation; the perianth; the androecium; the gynoecium; inflorescences; flowers and inflorescences of grasses; and a final summary chapter which reviews some of the hypotheses of regulation and integration of floral development and also outlines prospects for future work on floral organogenesis. There is enough information about recent work on the genetic control of aspects of floral development to enable a reader to get an entry into the literature.

Experimental studies, and genetically-based ones in particular, have tended to be based on a relatively limited number of favoured plants. In fact at one point the author states that "Throughout this book a number of proposed 'model' species are identified as appropriate for research on flower development. Of these, ***Arabidopsis*** is currently the material of choice, by some, for in-depth developmental and molecular studies". There is something of a gulf between those involved in these closely-focussed studies and those involved in descriptive morphology who may feel that they are working towards a global understanding of the myriad variations of the plant body. Dr. Greyson is evidently well aware of this dichotomy himself, and comments that the degree of relationship between organ types may eventually be sorted out by molecular investigations of organ homology, but I wonder how much the dichotomy will impinge on less well-informed readers. Also, favoured experimental plants, particularly economic plants which have already been subject to human interference, may not be the best representatives of generality. As a specific case in point, Figs. 5.2 and 6.5 illustrate floral development, particularly gynoecial development, in tomato cv. Pearson. The developing ovary is plainly multilocular - but this is actually an abnormality in the Solanaceae which normally have bilocular ovaries.

Although inflorescences are given a chapter to themselves it is evident that they represent a "grey area" in experimental as well as morphological studies. This chapter concludes with a list of specific aspects of inflorescence development which could be explored, and the first suggestion is that attempts be made to clarify the developmental distinction between racemose (polytelic) and cymose (monotelic) patterns of development. This is an interesting case where the tendencies of classical morphology to reduce phenomena to sharply-defined categories have been carried through into postulated experimental approaches. Certainly the distinction implied here between determinate and indeterminate growth is not necessarily correlated with presence or absence of "terminal flowers" or with racemose or cymose growth. There are plenty of examples of developmental patterns in inflorescences which are basically cymose but which effectively have growth as indeterminate as any racemose system. Also, this chapter might have discussed the existence of cases with character suites intermediate between "inflorescence" and "flower", and the possibility of floral derivation from pseudanthia. However, I may be exercising personal obsessions here, particularly since the book does a good job of discussing floral development without making heavy weather of the eternal thorny problem: how does one devise a universally adequate definition of "flower"?

These comments, though, mainly imply criticism not of the book but of the nature of the material available to Dr. Greyson. However, there are a few technical eccentricities in the book. It is quite copiously illustrated, and some of the illustrations have been reproduced with their original labelling. The captions do not always explain the labelling. Occasionally a caption includes an interpretive summary as well as descriptive statements. In some cases, for instance in relation to the illustrations showing tomato gynoecia, illustrations are quite inconveniently placed in relation to the relevant text. The indexing is rather sparse: "petalody" is mentioned in enough detail to be worthy of inclusion in the index at two locations in the text, but only one location is given. "Carpellody" is similarly treated.

In conclusion, this is a worthy contribution to the literature. Although it is concerned with mechanisms and control of floral development it acknowledges adequately other aspects of the study of floral morphology and development. It has a few small eccentricities and a few minor errors - but any decent book has. It seems expensive to me, but all academic books do.

*Alan Charlton, University of Manchester*

# 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 a l'éditeur ou a l'éditeur adjoint, et n'oubliez pas d'indiquer la source de l'article et la date de publication.

### The Taylors head West

Two former CBA/ABC Presidents, Roy Taylor and wife Janet Stein-Taylor, will be leaving the Chicago area in October. Roy, who has been director of the Chicago Botanic Garden for nine years, will become Director of the Rancho Santa Ana Botanic Garden in Claremont, California, effective November 1st. Prior to his Chicago directorship, he was instrumental in the development of the U.B.C. Botanical Garden. According to Taylor, his new position will "enable me to complete research projects related to the California flora".

*Chicago Tribune, August 5, 1994*

### Vintage Lead (!)

An article in *Nature* notes that a French/Belgian research team has found that some vintage French wines made from grapes grown close to busy motorways have high levels of lead (more specifically, "organoleads", such as trimethyl-lead and triethyl-lead, used in leaded fuels). Several vintages of Chateauneuf-du-Pape were tested (the vinyard is at the junction of Autoroutes 7 and 9). Trimethyl-lead was added to French fuels in 1960 and its presence in the wines rises steadily from 1962 to a peak in 1978. Triethyl-lead also rises to peaks in 1962, 1974 and 1976. Although unleaded fuels began to be sold in the 1980's, there is still measurable organolead found in recent vintages (1991). It turns out that unleaded fuels are not that much of a boon for wine fanciers. According to Richard Lobinski, a chemist on the research team, there is evidence that platinum compounds (from catalytic converters on vehicles using unleaded fuel) are building up in California wines.

*Nick Nuttall, The Times of London, July 7, 1994*

### Foreign Nuts

The word walnut is derived from Anglo-Saxon words meaning "foreign nut". What we sometimes call "English" walnut was actually introduced into Britain centuries ago from continental sources (it was "foreign" at that time).

*Kitchener-Waterloo Record, August 6, 1994*

### The "Great Wall" of Greenwich

If you looked hard enough you could probably come up with something stranger than this item. The Greenwich Meridian, which is important for the world in defining its time zones, may soon be visible from space. An organization which calls itself "The Greenwich Millenium Project" has formulated a scheme to plant about 10,000 trees (long lived ones such as oaks, limes and bristle-cone pines) along the line of the meridian through England. They hope to convince other countries to continue the planting (through France, Spain, Algeria, Burkina Faso and Ghana).

*The Times of London, July 9, 1994*

### Bran Warning

Recent recommendations that wheat bran would be a good source of dietary fibre should not be followed by anyone with irritable-bowel syndrome. According to a recent report in *The Lancet*, 55% of irritable-bowel patients in a Manchester hospital research study were made worse by wheat bran and only 10% were helped.

*Toronto Globe & Mail, July 30, 1994*

### Design is "Key" for Maples

The annoyance of raking up the annual crop of fallen maple keys should not blind us to their exquisite aerodynamic design. Several scientists have studied the action of the samara and its design features, which have evolved over about 140 million years. With a moderate wind blowing, samaras from an average-sized maple can travel as much as 160 metres away (in sport terms that is about the entire length of a CFL football field, including the end zones). The key features of samara design that seem to provide better flight performance are the thickened leading edge of the wing part and the roughened surface, a design similar to bird wings. These fruits are often compared to helicopters but, in flight, they cut into the air at very sharp angles that would cause stalling in a helicopter.

*Jay Ingram, Toronto Star, June 19, 1994*

### More Good Things about ASA

The plant world's gift to pain relief, acetyl salicylic acid, has received two more votes of confidence from the scientific press. A study by Harvard Medical School researchers in *Annals of Internal Medicine* concluded that men who reported using ASA two or more times a week were 32% less likely to develop colorectal cancer. This confirms other studies which had reported reductions of 30-50%. Another study by Yale researchers published in *Science* suggests that ASA (and sodium salicylate) may assist HIV-infected people from developing AIDS. It blocks a protein called NF-kappaB and inhibits tumor necrosis factor, preventing HIV from replicating and spreading.

*Kitchener-Waterloo Record, August 12, 1994*

## Farm has "gone to pot"

Canada's first legal crop of ***Cannabis*** since the 1930s has been harvested from a farm near Tillsonburg, Ontario. No, this is not the start of a Canadian marijuana industry -- and constant surveillance and testing by police and federal drug officials throughout the growing season have ensured that only low-cannabinol (less than 0.3%) hemp plants are harvested. The two farmers involved want to revive hemp as a cash crop that could replace tobacco fields in southern Ontario and supply industries making paper, rope and textiles with high quality fibers. Hemp was an essential cash crop in colonial Canada, but it was banned in 1938 (largely because of banning in the U.S.A. in 1937). It continues to be an important crop in eastern Europe and Asia, and is legally grown in such western European countries as France and Spain. Some British farmers were also allowed to grow experimental crops of hemp last year.

*Kitchener-Waterloo Record, October 4, 1994*

## Some Honey good for Ulcers

The antibacterial properties of honey have been confirmed in a study published in the *Journal of the New Zealand Royal Society of Medicine*. In particular the study related to the recent finding that many ulcers are the result of the action of a bacterium, ***Helicobacter pylori***. The research tested the ability of this bacterium to survive in the presence of various samples of honey. The winner, with 100% mortality of the ulcer bacterium, was a 5% solution of honey made by a bee that feeds on manuka flowers. Manuka is a tree that is native to Australia and New Zealand.

*Financial Post, September 17, 1994*

## Genes that fight Plant Diseases

Recent reports published in *Science* and *Cell* have shown the existence of plant genes that are targetted against disease organisms. A research team from Harvard isolated a gene labelled RPS2 from ***Arabidopsis*** which fights bacterial infection. A team from Berkeley cloned a gene (the N gene) from tobacco that fights a virus. There is also a fungus-fighting gene known from flax, called L6. These findings may mean that important crops could be given "instant resistance" to certain diseases by gene transfer techniques.

*K.-W. Record, September 23, 1994*

## Ötzi came from Italy

The 5300 year old "iceman" , nicknamed Ötzi because he was discovered high in the Ötztaler Alps, has been the subject of fierce custody battles between Austrian and Italian researchers. Now some botanists have concluded that he came from Italy. Lacking the modern convenience of toilet paper Ötzi wiped himself with mosses, specifically mats of ***Neckera pennata*** which were found associated with his body. The nearest modern source of ***Neckera*** is in the Vinschgau Valley in Italy. Thus, according to botanist James Dickson of Glasgow University, "The bottom line is simple: Ötzi was Italian.". Even so, Ötzi currently resides in an Austrian laboratory.

*Toronto Star, September 11, 1994*

## Banning of Pest Plants

A "pest plant" committee in the Shire of Eltham (near Melbourne, Australia) has issued a discussion paper recommending the banning and control of a number of common garden plants in order to prevent them from escaping and invading local bushland. Among the 60 prohibited plants are: ***Arbutus unedo***, pampas grass, several cotoneasters, ***Elodea***, ***Freesia***, ***Gladiolus***, both the holly and the ivy, several ***Ixia*** species, pennyroyal, ***Oxalis***, Monterey pine, willows, ***Sparaxis***, ***Tradescantia***, ***Typha***, and ***Vinca***. A second group of about 30 species may be sold by nurseries but must carry a label provided by the Shire which warns about their invasive habits. If legislation is eventually passed based on the discussion paper, the Shire will have the authority to order destruction of prohibited pest plants found growing in anyone's garden. [Thanks to Sylvia Taylor for sending in this item]

*Australian Horticulture, May 1994*

## Birth-Control Plants

Ancient Greek physicians, including Hippocrates, prescribed seeds of Queen Anne's lace as a contraceptive and as a "morning-after pill". Women in rural India and in the southern Appalachians still use this common weed for its ancient purpose. This is one of many bits of information found in a book, *Contraception and Abortion from the Ancient World to the Renaissance*, written by John Riddle, a medical historian at North Carolina State University. Ancient documents name many other plants which were used to regulate fertility, including pennyroyal, rue, willow, date palm, pomegranate, wormwood and myrrh. The most valued and famous contraceptive plant, which grew in what is now Libya, was called silphium by the Greeks. However, it was apparently harvested to extinction by the 4th century A.D. (perhaps an indication of its effectiveness). According to Riddle, loss of ancient contraceptive information is related both to the restriction of medical practice to men and to the burning of witches. Citing a statement repeated during the Inquisition ["*The devil works through herbs.*"], Riddle suspects that "witches" were midwives who dispensed herbal birth control, because they were accused of causing sterility, babies born dead, and miscarriages.

Modern experiments on laboratory rats and mice have shown that some 450 plant species contain substances which affect fertility through various mechanisms: preventing ovulation, blocking fertilization, inhibiting implantation of embryos, etc. Even the common garden pea has contraceptive effects. Mice fed a diet containing 20% peas have litters half the size as those fed a pea-free diet (at 30% peas the mice do not reproduce at all!).

*Toronto Star & K.-W. Record, Aug. 28 & Sept. 1, 1994*

## Ginger fights Migraine

If you feel a migraine attack coming on, Dr. Krishna Srivastava, a researcher at Odense University in Denmark, recommends that you chew a half dozen ginger snaps made with real ginger. He claims that one-third teaspoon of ginger will counter a migraine in its early stages. Ginger contains anti-inflammatory and pain-killing compounds as well as some that increase the production of prostaglandins.

*Financial Post, September 3, 1994*

## A PLEA FOR ACTION

*Editor's Note: The following is extracted from a letter which Dr. Ann Oaks sent to several newsletter editors. Although she is not a member of CBA/ABC her message is relevant to the kind of concerns which we all have concerning research funding.*

Science is in a mess in Canada largely because of the emphasis on relevant research, whatever that means. Well ... according to recent noises from NSERC, that means more bucks from government to industry to enhance investigations in engineering and computer science. The Life Sciences, which despite the flurry into biotech, have, according to whoever makes the policies, been doing that airy fairy ivory tower stuff, of no significance to the real world of technology and deficits.

I submit that we, the practitioners of the Life Sciences, have not been putting our case very well either to the politicians or to the general public. We have to try other methods. For example, we should be pointing out the importance of the Life Sciences in coming to an understanding required for preserving our renewable natural resources: the fisheries, the forests, and even our agricultural lands. Saying that answers to serious questions and that concensus between industry and the environmentalists must be found is not the correct approach.

The fisheries crisis off the east coast of North America, and the devastation that that means to the people of Newfoundland, is a case in point. We, our research moneys and our industry built bigger, faster ships with better detection devices and more efficient drag lines so that we could use our resources efficiently to catch the bounty waiting to be caught. There was not enough funding into the study of food chains, habitats, or even how many fish we dared to catch. Result: a weakened fish base that could not withstand the pressures of adverse weather change and the continued pressure of overfishing.

We have to convince the grass roots politicians as well as the mandarins of power that there is an important role for the biological sciences in defining the rules of Nature, an investigation even more important than in former times because of the high-tech methods we have at our disposal. Nature is being pushed to the limit. We accept the laws of gravity and work in compliance with them.. Somehow a case must be made for the laws of biology. To adequately understand those laws we need to emphasize basic research in the Life Sciences ... more funding, not less. One can make a similar case for the forests and cash crop farming. Our renewable natural resources are all in danger of being wiped out by the efficiency of high technology, by the greed of the business community, and by ignorance.

I organized seven well respected scientists in the College of Biological Sciences at the University of Guelph and two local MPs to discuss the plight of the Universities, and of research support in the Life Sciences. We met twice, once with the scientists alone and then with the politicians. The conversation was lively and informative on both sides. Our local MP, Brenda Chamberlain, has since contacted Dr. Gerrard and others with an interest in the science community, and Dr. Morand. I have the feeling that if other universities organized small groups of scientists to meet with their local MP that our message relating to the importance of the Universities and of biological research would be heeded. I think it does not really matter whether local MPs are part of the ruling Liberal Party or members of the opposition. The fact is that very few MPs, or people at large, understand the importance of science to our society and to our standard of living.

After we had discussed the problems related to funding cuts, I pointed out that we could also be of use to the politicians when questions of science policy arose in the house. For example, issues relating to somatotropin. Had they heard of that? They had and they were being lobbied very vigorously by people sympathetic to the industrial point of view. I have, since that meeting, studied in the library and organized my thoughts relating to the health aspects of somatotropin. I sent a one-page summary of the potential health hazards that might arise from the universal use of this high-tech product to Brenda Chamberlain, and she in turn has responded by contacting the key people in Ottawa.

Who should do the organizing? Well, I guess relatively successful senior scientists who can afford to spend such time without ruining their careers. But it needs to be a spontaneous effort. It also needs to be now. I hope that some of you out there are listening. I think you will find that your colleagues are willing to help and that the politicians actually appreciate our input. It is a different parliament with a lot of new people elected because of the discontent in the land, and they are willing to listen.

*Ann Oaks, FRSC*
*Dept. of Botany, University of Guelph*

## Student Theses and Reports

### University of New Brunswick
### Faculty of Forestry

The following list of theses and reports is extracted from *UNB Forestry Focus Vol. 19, No. 3 (Summer 1994).*

### Graduate Theses:

Ramlal, D. (M.Sc.F. - 1993) Differential response of black spruce clones at two levels of soil nitrogen, phosphorus and aluminum. Supervisor: H.H. Krause.

Meng, F.R. (Ph.D. - 1993) Sulfur dioxide effects on net photosynthesis and cumulative $CO_2$ fixation in red spruce stands. Supervisor: P.A. Arp.

### Undergraduate (B.Sc.F.) Reports

*These reports may be consulted or borrowed by contacting: Ardith Armstrong, Outreach Coordinator, Faculty of Forestry and Environmental Management, University of New Brunswick, Bag No. 44555, Fredericton, NB E3B 6C2.*

Andrew, M.G.L. - Growth and yield of mahogany (***Swietenia macrophylla*** King.) plantations in St. Lucia. Supervisor: J.A. Kershaw.

Bailey, T.D. - ***Sphagnum*** peat-nutrient interactions in the propagation of jack pine seedlings. Supervisor: H.H. Krause.

Black, L.W. - The impact of manual defoliation on shoot production of balsam fir, white spruce and black spruce over a range of site types. Supervisor: D. MacLean.

Carter, P.Q. - Sink-regulation of photosynthesis in balsam fir: a comparison of varying artificial defoliation techniques. Supervisor: D. Lavigne.

Crammond, H.C. - Microtopography gradient effects on taxonomic diversity of ground cover species in southeastern New Brunswick. Supervisor: M.R. Roberts.

Crocker, W.S. - A black spruce provenance study in central Newfoundland. Supervisor: E.K. Morgenstern.

Crouse, D.P. - Influence of vegetation on survival of balsam fir seedlings in a natural Christmas tree stand. Supervisor: G.R. Powell.

Deering, K. - Biomass equations and nutrient budget comparisons of three different white birch sites in central Newfoundland. Supervisor: D. Lavigne.

Dobbin, B.G. - An aerial seedling in central Newfoundland: response to moisture regime and microsite. Supervisor: G.E. Powell.

Ford, D.H. - A study of the effects of pre-commercial thinning on the branch diameter and stem taper of balsam fir in northwestern New Brunswick. Supervisor: T.D. Needham.

Foster, R.J. - The development of a growth model for coniferous seedlings. Supervisor: T.D. Needham.

Graham, P.J. - Identification and distribution of wetwood in balsam fir. Supervisor: M.H. Schneider.

Kendrick, M.L. - Identification of stand attrributes which separate trees into quality classes. Supervisor: J.A. Kershaw.

Kerrivan, M. - Comparison of five year growth response for a jack pine inter-tree spacing trial in northern Manitoba with results from the literature. Supervisor: J.A. Kershaw.

Krawchuk, C.M. - Growth of saplings under canopy and gap conditions in the Colonial Point hardwoods forest. Supervisor: M.R. Roberts.

McNaughton, J.W. - Global positioning systems in forestry: tool or toy. Supervisor: G.A. Jordan.

Nicholas, S.B. - A comparison of the 1978 jack pine provenance test and the 1979 jack pine stand test. Supervisor: E.K. Morgenstern.

Niziolomski, C. - The differences in woody species diversity between human originated disturbances and naturally caused disturbances. Supervisor: M.R. Roberts.

Pinette, M.H. - Cone collection in white spruce: theory and practice. Supervisor: E.K. Morgenstern.

Pollock, J.W. - Polymorphic site index curves for black spruce (***Picea mariana*** [Mill.] B.S.P.) in north-central Manitoba. Supervisor: T.D. Needham.

Providence, L.F. - An analysis of vegetation change with altitude on the La Soufrière Volcano, St. Vincent. Supervisor: M.R. Roberts.

Smith, M.M. - A survey of variability of ***Lophodermium*** species from a set population of red pine (***Pinus resinosa*** Ait.). Supervisor: N.J. Whitney.

Whittaker, G.A. - Generating spatial forest patterns: the Weibull way. Supervisor: J.A. Jordan.

## OBITUARY - Áskell Löve, 1916-1994

Áskell Löve came to Canada in 1951 and left for a position in the United States in 1964, so only botanists of older generations would have known him personally. But his impact on plant cytotaxonomy was so great that many taxonomists will know of his influence and major publications. His impact on Canadian botany, though overlooked by many, was so important that a tribute in these pages is appropriate. He died in May 1994 after a decade-long battle with the Parkinson's syndrome.

Áskell was awarded B.Sc. and Ph.D. degrees from the university in his native Reykjavik, Iceland, and a Doctor of Science in genetics from Lund University in 1943. He was Director of the Institute of Botany and Plant Breeding, University of Iceland, from 1945 to 1951, when he came to the University of Manitoba's Department of Botany. He was appointed Research Professor in Biosystematics at the Université de Montréal from 1956 to 1963, when he was appointed Professor of Biology at the University of Colorado, Boulder, where he served as chairman of the Department, Associate Curator of the Herbarium, and Research Associate of the Institute of Arctic and Alpine Research. Among many honours and distinctions, he was John Simon Guggenheim Fellow in 1963-64, First President of the International Organization of Plant Biosystematics, and President of the International Committee of Chemotaxonomists. His 776 publications appeared between 1935 and 1988 and include two popular handbooks of the Flora of Iceland; *Cytotechnology*, a handbook of techniques; *Chromosome Numbers of Central and Northwest European Plant Species*; *Cytotaxonomic Atlas of the Arctic Flora*; *Cytotaxonomic Atlas of the Slovenian Flora*; *Conspectus of the Triticeae*, widely regarded as a definitive major work; and other books and collations co-authored with his wife Doris Löve and colleagues. He was a key catalyst in the initiation of the *Flora Europaea* project, and edited 100 chromosome number reports published in *Taxon* between 1964 and 1988. A central element of his approach to plant taxonomy was epitomised in his landmark, often reprinted paper, *The Biological Species Concept*, which appeared originally in *Taxon* in 1964.

Áskell is survived by two daughters and by Doris Löve, a notable botanist in her own right. Together they were a marvellous partnership, professional and personal, and their impact on botany and on students, colleagues and friends was profound. May I illustrate by brief reminiscence - I arrived in Winnipeg in 1954, as a "displaced postdoctoral fellow", but the warmth, enthusiasm, sound advice and friendship of the Löves was of immeasureable value and importance in getting me settled into a career in Canada. It was inspiring and even awesome to be in their orbit, and to take part in the lively discussions on topics as varied as the identity of some herbarium specimens, the species concept, or the merits of some music composer; and I often recall my wonderment at my first visit to their home when Áskell took me to his study, the entire basement of the house, where over 10,000 reprints and several hundred books crowded the wall shelves, reflecting accurately his vast knowledge of plant taxonomy and the several major related fields of natural science. All of this was shared freely with the sparkling enthusiasm and twinkling humour that was part of his wonderful personality. Of course he had professional detractors, because, like most of us, he was fearless in expressing new, unfashionable ideas, and in questioning some parts of current conventional tenets. But his approach was always totally honest, friendly, and rooted in a passionate curiosity about the natural world and a profound desire to promote the science of botany.

Áskell will be missed as a friend and colleague by many around the world, not least in Canada where he spent a formative, active and influential segment of his distinguished career. But, as with other innovative, apparently unorthodox scientists, his contributions to Botany will remain, and will become even better appreciated as time passes.

*J. C. Ritchie*
*Professor Emeritus of Botany*
*University of Toronto*

## Keystone Symposia

Two Keystone Symposia dealing with botanical topics will be held early next year. **Host-Fungus Pathogens Interactions** will be held in Taos, New Mexico, **February 25th to March 3rd, 1995**. The second symposium is **Signal Transduction in Plants**, which will take place at Hilton Head, South Carolina, **March 29th to April 4th, 1995**. Information on both symposia can be obtained from: **Keystone Symposia, Drawer 1630, Silverthorne, CO 80498. Telephone: 303-262-1230.**

## Ecology of Arctic Environments

This is the title of a **Special Symposium** of the British Ecological Society which will be held in Aberdeen, U.K., **March 27-30, 1995**. Information: **The British Ecological Society, 26 Blades Court, Deodar Road, Putney, London, U.K. SW15 2NU.**

## 150th Anniversary Symposium of the Netherlands Botanical Society

**Plants and Evolution** is the title of this special symposium, which will be held in Nijmegen, The Netherlands, **May 18th, 1995**. Obtain further information from: **Prof. Dr. C.W.P.M. Blom, Department of Ecology, University of Nijmegen, Toernooiveld, 6525 ED Nijmegen, The Netherlands.**

## *Chlamydomonas* Conference

The **Euroconference on the Experimental Biology of *Chlamydomonas*** will be in Amsterdam, The Netherlands, **May 29-31, 1995**. Further information may be obtained from: **H. van den Ende, BioCentrum Amsterdam, Kruislaan 318, 1098 SM Amsterdam, The Netherlands.**

## Meeting on Aroids

The **Sixth International Aroid Conference** will be in Kunming, Peoples Republic of China, from **June 26 to July 2, 1995**. Obtain further information from: **Secretariat of IAC95, Kunming Institute of Botany, Academia Sinica Heilongtan, Kunming 650204, P.R. China.**

## Plant Protection Congress

**The 13th International Plant Protection Congress** will take place in The Hague, The Netherlands, **July 2-7, 1995**. The contact person for obtaining information is: **J.C. Zadoks, Congress Chairman, Department of Phytopathology, Wageningen Agricultural University, P.O.B. 8025, 6700 EE Wageningen, The Netherlands.**

## Rangeland Congress

The **Fifth International Rangeland Congress** will be in Salt Lake City, Utah, **July 2-7, 1995**. Information: **General Secretary - 5th IRC, P.O. Box 11637, Salt Lake City, UT 84147.**

## Systematics and Evolution in Montreal

The 1995 Annual Meeting of the **Society for the Study of Evolution** will be held at McGill University, **July 8-12, 1995**, in conjunction with the **27th International Numerical Taxonomy Conference** and Annual Meetings of the **Society of Systematic Biologists** and the **American Society of Naturalists**. To obtain further information, contact: **EVOL Secretariat, Conference Office, McGill University, 550 Sherbrooke St. W., West Tower, Suite 490, Montréal, Québec H3A 1B9. E-mail: EVOL@550sherb.lan.mcgill.ca**

## Serpentine Ecology

The **Second International Conference on Serpentine Ecology** will be held in Nouméa, New Calédonia, from **July 31 to August 5, 1995**. Further information may be obtained from: **Serpentine Conference, Centre ORSTOM de Nouméa, Attn. Mme. J. Thomas, B.P. 45, Nouméa Cédex, New Calédonia.**

## Phytochemical Society

Next year's annual meeting of the **Phytochemical Society of North America** will be held in Sault Ste. Marie, Ontario, **August 13-17, 1995**. Obtain further information from: **Dr. James A. Saunders, Plant Sciences Institute, USDA Bldg. 9, Rm. 5, Beltsville, MD 20705.**

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