



THE CANADIAN BOTANICAL ASSOCIATION
BULLETIN
ASSOCIATION BOTANIQUE DU CANADA

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Montréal

Patron / Président d'honneur

His Excellency the Right Honourable / Son excellence le très honorable

Roméo Leblanc, P.C., C.C., C.M.M., C.D.

Governor General of Canada / Gouverneur général du Canada

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There is very little time remaining between now and the annual meeting in Saskatoon in June. On page 19 of this issue of the Bulletin you will find a summarized version of the program of the meeting. The Chair of the organizing committee, Dr. Vipen Sawheny, promises us a very interesting program and extends an invitation to all CBA members to make an effort to attend. If you wish more information on things such as registration, lodging, field trips or social events, please consult the website of the organizing committee (<http://www.usask.ca/biology/cba.htm>).

On page 24, you will find a text entitled "Plant Canada - A proposal for the future of the plant sciences in Canada", written by a group of Canadian botanists under the direction of Dr. Iain Taylor. The text explores the possibility of an association between the CBA and the Canadian Society of Plant Physiology (CSPP) and has been submitted to the executives of both associations. The proposal is tabled as one of the topics of discussion at this year's general assembly.

I invite all those who have not yet sent in their membership fees for 1998 to do so as soon as possible. I am told that quite a few members have not yet taken care of this bit of housekeeping. If we have attached is a reminder in your copy of the Bulletin, please pay your dues...

On a final note, I again want to encourage members and other readers-at-large of the Bulletin to participate more actively by sending in information for the "Plant Press" or the "Scientific Press" (see CBA Bulletin, 31(1): 1-2). I am counting on your participation to get these columns rolling for the upcoming issue.

Il reste bien peu de temps avant le congrès annuel qui se tient cette année à Saskatoon. Vous trouverez à la page 19 du présent bulletin un sommaire du programme du congrès. Le président du comité organisateur, le Dr. Vipen Sawheny, nous promet un programme très intéressant et invite tous les membres de l'ABC à y assister. Veuillez donc consulter le site Internet du congrès (<http://www.usask.ca/biology/cba.htm>) pour obtenir plus d'information sur le programme, l'inscription, l'hébergement et les activités.

Vous trouverez à la page 24 un texte intitulé « Plant Canada - A proposal for the future of the plant sciences in Canada ». Ce texte, écrit par un groupe de botanistes canadiens dirigé par le Dr. Iain Taylor, explore la possibilité d'une association entre l'ABC et la Société canadienne de physiologie végétale (SCPV). Il a été remis aux exécutifs des deux associations et sera à l'ordre du jour de l'assemblée générale de l'ABC de cette année.

J'invite les membres qui n'ont pas encore payé leur cotisation à l'ABC pour 1998 à le faire le plus tôt possible. Si une petite note accompagne le bulletin que vous avez entre les mains, c'est que vous n'avez pas encore payé...

J'aimerais terminer en vous invitant encore une fois à me faire parvenir des textes pour les chroniques « La presse botanique » et « La presse scientifique » (pour les détails, voir le Bulletin de l'ABC, 31(1) : 1-2). Je compte sur votre participation pour le prochain bulletin.

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Information for submitting texts Soumission des textes

Texts and illustrations for the Bulletin must be sent to the Editor preferably via the electronic mail (attached file) or on a diskette. Texts should be saved under "MicrosoftWord" and illustrations under the "TIFF" format.

If you have any question about text submission please contact the Editor.

Les textes et les illustrations pour le bulletin doivent de préférence être envoyés par courrier électronique (sous forme de fichier attaché) ou encore sur une disquette.

Les textes doivent être enregistrés sous « Microsoft Word » et les illustrations sous le format « TIFF ».

N'hésitez pas à contacter le rédacteur pour toute information sur l'envoi de documents.

CBA Bulletin / Bulletin de l'ABC

The CBA Bulletin is issued quarterly (February, May, August, November) and sent to all CBA members.

Le Bulletin de l'ABC paraît quatre fois par année (février, mai, août, novembre) et est envoyé à tous les membres de l'ABC.

To ensure continuous delivery of the Bulletin please notify the Treasurer promptly of any change of address.

Veuillez communiquer tout changement d'adresse au trésorier afin de recevoir tous les numéros du bulletin.

If you have any comments or suggestions about the Bulletin, please contact the Editor at the above address.

Si vous avez des commentaires ou suggestions concernant le bulletin, veuillez s'il-vous-plait contacter le rédacteur à l'adresse mentionnée plus haut.

Texts for the August issue must be received before July 1, 1998. Les textes pour le bulletin de août doivent arriver au plus tard le 1^{er} juillet 1998.

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"SASKATOON 1998"
General Program
 (June 27 to July 1, 1998)

	SATURDAY June 27	SUNDAY June 28	MONDAY June 29	TUESDAY June 30	WEDNESDAY July 1
Time	Day 1	Day 2	Day 3	Day 4	Day 5
Morning	Arrival 	Registration 8:00-9:00 am Opening Ceremonies 8:30 am Biotechnology of Plants (Plenary Symposium) 9:00 am	Biocontrol of Weeds Symposium 8:30 am Oral Presentations	Medicinal Plants Symposium 8:30 am Oral Presentations	Weed Community Symposium 8:30 am Oral Presentations/ CJB Workshop
Noon		Buses leave at 12:00 noon for Innovation Place (Lunch & Visit)	Lunch/Section Meetings Oral Presentations 1:00-3:00 pm	Lunch/Section Meetings Oral Presentations 1:00-4:00 pm	Conference ends at 12:00 noon
Afternoon		Buses leave at 2:00 pm for Wanuskewin Park (visit & field trip)	Posters 3:00-5:30 pm	CBA/ABC Annual General Meeting 4:00-5:30 pm	CBA Incoming Executive meeting at 12:00 noon
Evening	CBA/ABC Executive Meeting 4:00 pm CJB Editorial Board Meeting 5:00 pm Registration 6:00-8:00 pm Reception 7:00-9:00 pm Biology/Geology Museum	Barbeque at Wanuskewin 5:30 pm Buses return to campus 7:00-7:30 pm Weresub Lecture 8:00 pm	Free evening	Buses leave at 5:45-6:15 pm for Banquet at Bessborough Hotel CBA/ABC Banquet Buses return to campus starting at 9:30 pm	Return home

CBA Annual Meeting / Congrès annuel de l'ABC

1998 CBA Annual Meeting Call for Resolutions for The Annual General Meeting

Members who wish to submit Resolutions to be included on the agenda of the CBA Annual General Meeting in Saskatoon should take note of the following rules (extracted from By-Laws 68-77).

Resolutions require a mover and four seconders, all of whom must be CBA members in good standing. They must be submitted to the Secretary of CBA (Ron Dengler) at least six weeks before the Annual General Meeting (by May 16, 1998). All resolutions must be accepted by the Board of Directors before they are placed on the agenda of the Annual General Meeting, and may be returned for revisions if they do not conform to the guidelines for Resolutions specified in By-Laws 68-77.

Congrès annuel de l'ABC 1998 Proposition de résolutions pour l'assemblée générale annuelle

Les membres qui désirent proposer une résolution à inscrire à l'ordre du jour de l'assemblée générale annuelle de l'ABC à Saskatoon doivent prendre note des règlements suivants (extrait des règlements 68 à 77 de l'Association).

Les résolutions requièrent un proposeur et quatre secondeurs, tous membres en règle de l'Association. Elles doivent être soumises au secrétaire de l'ABC (Ron Dengler) au moins six semaines avant l'assemblée générale annuelle (soit avant le 16 mai 1998). Toute résolution doit être acceptée par le Bureau de direction avant d'être inscrite à l'ordre du jour de l'assemblée générale annuelle. Si la résolution ne répond pas aux exigences requises dans les règlements 68 à 77, elle sera retournée au proposeur afin d'être révisée.

Field trips modifications

Field trips # 1 and 3, i.e., Last Mountain Lake and Fescue Prairie respectively, have been cancelled because of low response.

People who had registered for these field trips may wish to go on field trips # 2 and 4, Boreal Forest and Prairie Agroecosystems, which are available.

We will be contacting those who had registered for the field trips which have been cancelled.

Vipen Sawhney, sawhney@admin.usask.ca

Lawson Medals Montréal 1997

At the 1997 Annual Meeting held in Montréal, the George Lawson Medal, the most prestigious award made by the Canadian Botanical Association, was presented to two fine Canadian botanists : Dr. Anwar Maun and Dr. William J. Cody. (for more information, see the CBA Bulletin 30(4): 58-59)



Dr. Anwar Maun



Dr. William J. Cody

Poorly Known Economic Plants of Canada - 17. Roseroot, *Rhodiola rosea* (L.) Scop.

E. Small and P.M. Catling, Eastern Cereal and Oilseed Research Centre, Agriculture and Agri-Food Canada, Saunders Bldg., Central Experimental Farm, Ottawa K1A 0C6

Common Names: Roseroot, Golden Root, Arctic Root. French: orpin rose, rhodiola rougeâtre.

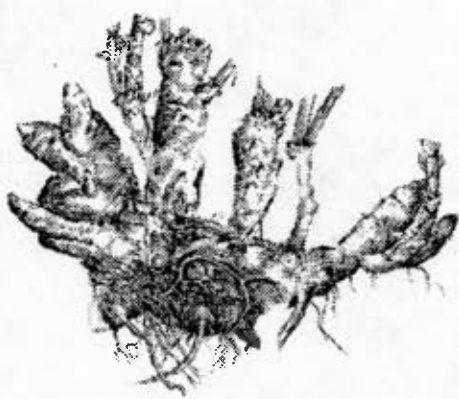
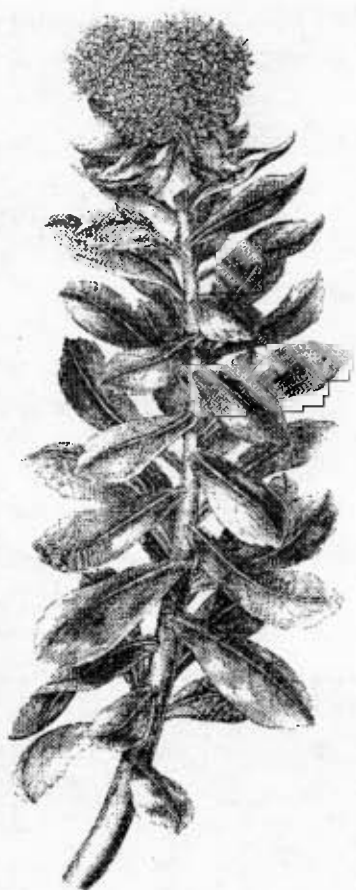
Rhodiola, a relatively advanced group of the Crassulaceae (Orpine family), has been interpreted (mostly in Eurasia) as a separate genus, or (particularly in North America) as a section of the genus *Sedum*. Extensive European and Asian literature on this drug plant is found under the name *Rhodiola*. There are about three dozen species of *Rhodiola*, mostly in the mountains of Asia, and their classification is in need of study. When Roseroot is considered to be a species of *Sedum*, it is known as *S. rosea* (L.) Scop. (erroneously as *S. roseum*; or sometimes by the invalidly published name *S. rhodiola* DC.).

Rhodiola rosea in the broad sense is an extremely variable circumpolar species of cool temperate and subarctic areas of the northern hemisphere, including North America, Greenland, Iceland, and Eurasia. The European distribution

includes northern Europe and most of the mountains of central Europe, southwards to the Pyrenees, central Italy, and Bulgaria. The Asian distribution includes polar Arctic and alpine regions in the Altai Mountains, Eastern Siberia, Tien-Shan, the Far East, and south to the Himalaya Mountains.

In North America, *Sedum* subgenus *Rhodiola* as defined by R.T. Clausen includes at least five North American taxa of the *S. rosea* complex, and *S. rhodantha* Gray, a species of the southern and central Rocky Mountains, with an elongate inflorescence of pink flowers. Western North American plants with dark red flowers and green leaves have most recently been listed as *S. integrifolium* (Raf.) A. Nelson (a species difficult to separate from *S. rosea* in the narrow sense), including var. *integrifolium*, var. *procerum* Clausen and var. *neomexicanum* (Britt.) Clausen. Dark red-flowered plants with glaucous leaves, isolated in Minnesota and New York, have been listed as *S. integrifolium* ssp. *leedyi* (Rosendahl & Moore) Clausen. Mostly coastal, eastern plants (isolated in the southern Appalachians of North Carolina), with relatively short yellow or green petals, have been listed as *S. rosea* in the narrow sense. The relationships of North American *S. rosea* in the broad sense with a number of similar Asiatic species is not clear.





Rhodiola rosea is found on moist cliffs, ledges, talus, ridges, and dry tundra. Northern plants of North America typically occur in crevices or among mats of moss and other vegetation, often near shores, and sometimes in rather rich substrates; southern plants tend to grow on north-exposed cliffs in alpine regions. The Arctic forms are lower in growth and have fewer

flowers. Roseroot plants are perennial dioecious herbs, 5-40 cm tall. Most plants are male or female, while occasional plants have both male and female flowers in the same cyme. The stout rootstocks are either erect or horizontal, 0.4 to 5 cm in diameter, and produce pale brown fibrous roots below and floriferous (or occasionally sterile) ascending or erect stems above. The common name Roseroot is a reference to the rootstocks possessing the scent of rose petals. The names «Gold Root» and «Golden Root» have been said to reflect the perceived value of the rootstocks, not their color. Stems of male plants are said to separate much more readily from the rhizome than those of the female plants. The leaves on the rhizome are scalelike, 2-7 mm long, and reddish-brown. The stem leaves are 7-40 mm long, fleshy, oval, obovate or oblong, spirally arranged, usually with dentate margins, dark green to glaucous or sometime reddish. The flowers occur in terminal, corymbose to umbellate cymes, 0.5-7 cm in diameter, with 1 - >150 flowers, these up to 7 mm in diameter. Flowering commences in early summer, sometimes before the leaves are fully expanded. The petals may be greenish, yellow, reddish or purple, or various intermediate shades. The fruits are erect, brown follicles, with small, brown or orange-brown winged seeds. In addition to dispersion by seeds, the plants are sometimes disseminated as pieces of rhizome. The rhizomes break or rot readily into pieces which can be transported by water, ice and wind.

Roseroot is grown in many countries as an ornamental. The young stems and leaves are also sometimes used as a wild food, either raw or cooked, although this may not be advisable. However, the plant is best known for its medicinal properties. It has been claimed that Roseroot leaves can be used like *Aloe vera* leaves to soothe burns, bites, and other irritations. Consistent with this, a paste or tea from the root has been used to help wounds heal. However, the raw rootstock sometimes causes allergic reactions. The rootstock of *R. rosea* was often used in European folk love potions. The legendary 13th century Ukrainian prince Danila Galitsky, whose reputation rivalled that of Casanova, was believed to have used Roseroot as an aphrodisiac. In present-day Ukraine, a

medicinal alcoholic drink called «nastojka» is prepared by mixing 40% alcohol (e.g. vodka) and an equal weight of rootstock, and allowing the mixture to stand for a few weeks; only a few teaspoons are consumed daily.

Roseroot is one of several medicinal plants that have been described as «adaptogens.» The world's best known adaptogens are Ginseng (certain *Panax* species) and Russian Ginseng (*Eleutherococcus senticosus*); other highly touted adaptogenic plants include Roseroot, Schizandra (*Schizandra chinensis*), and the mushroom Reishi (*Ganoderma lucidum*). The term adaptogen was used by Russian pharmacologists, starting with N.V. Lazarev about 1947, and popularized by his student, I.I. Brekhman. Adaptogenic plant-derived, legal, drug preparations have been credited with improving the performance of elite Russian sports figures and cosmonauts. An adaptogen has been defined as a substance that is «innocuous, causing minimal physiological disorder; non-specific in action, increasing resistance to the adverse influences of a wide range of physical, chemical and biological factors; and capable of a normalizing action irrespective of the direction of the pathological change.» The validity of the concept of an adaptogen has been debated, and much of the supportive research to date does not provide unbiased and unequivocal evaluation. Nevertheless, adaptogenic plants are increasingly being used medicinally in response to stress-generated maladies that are becoming more common in western society.

Roseroot is cultivated in Russia and some other Eurasian countries. Information on optimal harvesting times with regard to the compounds rosavidine and salidroside have been published. Information is also available on the effects of postharvest treatment of the quality of the rhizome. Many articles have been written by Russian scientists on the pharmacological effects of Roseroot. Experiments with rats and mice have suggested that the chemically active compounds can improve learning and memory and reduce stress. Experimentation has also suggested that they have

anti-cancer properties, a stimulatory effect on the central nervous system and the effect of protecting the liver, for example in carbon tetrachloride intoxication. Methods of determining the authenticity and quality of the rhizome are available, as well methods for the quantitative analysis of some of the biologically active compounds.

Roseroot is being vigorously marketed today as an almost miraculous tonic, as witnessed by the following advertisement: «Roseroot was used by the Vikings to give them the extra strength they needed for their long, arduous journeys. Today, scientific research confirms what the Vikings experienced. Roseroot helps you adapt and thrive when exposed to stressful conditions, such as overwork, physical exhaustion and mental fatigue. Studies confirm that it helps the body maintain homeostasis by assisting at a cellular level to adapt to environmental stressors, promote mental and physical vitality and increase alertness and physical endurance.»

In Eurasia where the plant is highly valued, areas for habitat restoration and *in situ* conservation have been recommended. Roseroot is not presently a medicinal plant of significant value in North America. Its potential importance lies in the fact that it is the only native Canadian plant species besides ginseng that has attracted international attention as an adaptogen. Plants with this reputation have a large potential market, and their economic development deserves periodic evaluation. This Arctic herb could easily be cultivated in cold areas of Canada where few other economic plants can be grown without protection.

Missing members

The Bulletin sent to these members has been returned to the Editor. If you happen to know the actual address of these persons, please contact the Editor.

MadhurAnand (Univ. Western Ontario, ON)
Lynne Atwood (Duncan, BC)
Colleen Doucet (Univ. Western Ontario, ON)
Nicole Ramesar-Fortner (Calgary, AB)
Marilyn Fuchs (Vancouver, BC)
Shaunna Morgan (Winnipeg, MB)
Dennis Rannelli (Laurentian Univ., ON)
Claudio Stasolla (Calgary, AB)
Rudolph Serbet (University of Ohio)

Plant Canada - A proposal for the future of the plant sciences in Canada

In the following pages, you will find a text from Iain Taylor and some colleagues that was sent to the President and Committee members of the Canadian Botanical Association and the Canadian Society of Plant Physiology. This text concerns the possibility of an association between the two societies.

Ladies and Gentlemen,

I attach the report of the study group whom you asked to investigate possibilities of an association between the CBA/ABC and CSPP/SCPV.

The group consisted of Denis Barabé (CBA/ABC), Luc Brouillet (CBA/ABC), Paul Cavers (CBA/ABC), David Gifford (CSPP/SCPV), Carol Peterson (CSPP/SCPV), and myself Iain Taylor (UBC, Chair). We met at the Lord Elgin Hotel in Ottawa on Saturday and Sunday, December 6-7, 1997. We purposely chose the broadest interpretation of our mandate and make 6 major recommendations. We also refer several potential problems to you and have left some larger and perhaps peripheral matters (Parking Lot) for future consideration.

We believe that we have presented the critical issues that face the Canadian community of plant scientists. The report is very ambitious and looks to the larger context. It thus presents some major challenges that will require some very clear decisions on priority and a long-term commitment by both societies as well as those societies who choose to join Plant Canada.

I will be happy to discuss the report with you and your members. I will be present at the CBA meeting in Saskatoon. I am not available to attend the CSPP meeting because of a commitment to teach in Indonesia in July. However, if the political scene makes that visit impossible, I will be available to attend the CSSP gathering.

I thank you for the opportunity to contribute to the future planning for plant sciences in Canada.

With very best wishes,

Iain E.P. Taylor, Professor and Head, Chair, Plant Canada Study Group

Plant Canada

A proposal for the future of the plant sciences in Canada

Prepared by:

Denis Barabé (CBA/ABC),
Luc Brouillet (CBA/ABC),
Paul Cavers (CBA/ABC),
David Gifford (CSPP/SCPV),
Carol Peterson (CSPP/SCPV),
Iain Taylor (UBC, Chair).

Introduction

The plant sciences are very diverse. Historically they have sub-divided along various research, professional or client lines. In the United States and the United Kingdom, where the scientific societies have greater than critical mass, they have often achieved tangible results that come from having a large membership. The societies in the larger community of biological scientists (botanists, zoologists, biochemists, geneticists, ecologists, etc.) also serve their own communities effectively.

The biological communities in Canada are no less diverse, but the small memberships of the sub-discipline societies make it difficult to attract members to scientific meetings. While there is a core of Canadian plant scientists who will always make the effort to present work to the Canadian societies, most scientists recognize the need for a larger forum, especially to provide exposure for their graduate students and post-docs who are looking for opportunities to start a career in professional science. The preferred solution for some is to attend the society meetings in the USA. Others prefer a larger scale exposure within Canada.

Scientists have a professional responsibility to explain their work to the public and to the politicians who control the purse strings of much scientific research. There is a long history of public interest and political attention to biomedical science. The Canadian Federation of Biological Sciences (CFBS) has a membership who pays for professional assistance to present their interests in the political and public arenas. The biomedical emphasis makes it easier to attract attention to research, and CFBS has been successful (albeit not as successful as they would like) in lobbying for funds and in drawing political attention to needs for research funding and support.

Plant Canada - A proposal for the future of the plant sciences in Canada

The non-medical sciences occasionally link to the biomedical community, but recent experience suggests that non-medical life scientists are frustrated with efforts to have the CFBS represent their causes (especially in the areas of environment and biodiversity) to the public. However, the relatively small populations of the sub-discipline communities and the emphasis that most politicians place on funding in research for more obvious human benefits, means that Canadian non-medical scientific societies must find resources to represent their communities in the public and political arenas.

In the summer of 1997, the Presidents of the Canadian Botanical Association and the Canadian Society of Plant Physiologists organized a task force to address the future of professional botany in Canada. This report proposes the establishment of "Plant Canada" as an umbrella organization to promote the plant sciences in Canada, and outlines ways in which such an organization could function.

Recommendations and Proposals

RECOMMENDATION 1.

That a Canadian federation/consortium of plant science societies named "Plant Canada", or name agreed by the founding societies, be formed as soon as possible.

RECOMMENDATION 2.

The purposes of Plant Canada should include:

- to be a well-coordinated organization in which all societies and their members can contribute effectively.
- to organize and sponsor regular and effective scientific meetings and workshops (both laboratory and outside) under a national umbrella where all plant science disciplines gather.
- to support public policy initiatives by societies and their members and to provide an effective forum to develop and articulate policy initiatives and recommendations for government at all levels and on public and private industry issues.
- to be an effective advocate and lobby for the plant sciences in Canada to all levels of government.
- to operate and maintain a strong communication network among societies and their members, the public and governments.
- to be a strong lobby and source of expertise devoted to improved education in plant sciences from K to post Ph.D.
- to ensure that there are strong incentives and rewards (financial and otherwise) for young professionals, especially graduate students and early career scientists.

- to be a strong and effective force for public education in the plant sciences.

- to encourage member societies to seek opportunities for international and regional meetings and to increase the international profile of Canadian plant sciences.

- to use as many 'best practices' for its operation as possible and to become an internationally recognized leader in ways and means of representing the plant sciences.

RECOMMENDATION 3.

That the executive committees of the Canadian Botanical Association and the Canadian Society of Plant Physiologists recommend to their memberships that CBA and CSPP form Plant Canada.

RECOMMENDATION 4.

That, after the establishment of Plant Canada, CBA and CSPP ask other Canadian plant science societies to join Plant Canada. Plant Canada should seek to accommodate all 'viable' plant societies.

RECOMMENDATION 5.

That Plant Canada convene a 'launch' meeting to be held in 2000, and thereafter in even numbered years.

RECOMMENDATION 6.

That Plant Canada holds a regular meeting every 2 years to which member societies contract to attend.

RATIONALE

Formation of Plant Canada

Plant Canada is an umbrella organization. It should not interfere with the independent operations of its member societies.

We estimate that the combined potential membership in all Canadian plant science societies, including plant scientists who are members of broader based groups, such as foresters, agrologists, and ecologists, is less than 5,000. It is clear that individual societies acting alone are unlikely to find a real voice in the political lobby and are unlikely to be able to afford the kind of public accountability that scientists are increasingly expected to show. Plant Canada sets out to provide an umbrella under which the plant sciences can find a critical mass necessary to be a credible voice for plant sciences in Canada.

Plant Canada should seek to accommodate all 'viable' national plant societies. Current examples include CBA, CSPP, Canadian Society of Plant Pathologists, Canadian Society of Plant Molecular Biologists, Phytochemical Society of North America, Expert Committee on Weeds, Canadian Council of Ecological Areas, Land Reclamation Society, Agricultural Institute of Canada, Forestry Institute of Canada, Canadian

Nature Federation.

Once established and operating, Plant Canada should determine its preferred relationship with local and other organizations, which support and promote the plant sciences.

Coordinated Activity

Plant Canada should be a well-coordinated organization for the Plant Sciences to which all societies and their members can contribute effectively. The organization must accommodate autonomous interest groups and their need to be part of a strong network.

There must be sharing of resources (where justified, adequate and efficient) to promote plant sciences. The goal is to develop and implement initiatives and instruments that will increase communication among societies, public and government. Properly undertaken this will lead to an increased international profile for Canadian plant sciences.

Critical Success Factors

There will be:

Shared responsibilities in such things as lobbying and public outreach.

Clear retention of member society autonomy.

Continuing and increasing individual support for membership in Plant Canada.

Meetings/Workshops

Most scientists join a scientific society to participate in meetings and to be a part of the network which that society fosters. Plant Canada should hold a regular meeting every 2 years, beginning in 2000. Member societies would contract to attend the Plant Canada meeting and to avoid where at all possible conflicting obligations to meet outside the umbrella. Societies must be able to meet their traditional commitments (currently CBA with BSA every 4 years, and CSPP with ASPP every 4 years) in the years when Plant Canada does not meet.

A local committee will organize each Plant Canada meeting. Both Plant Canada and the local committee should avoid excessive administration.

It is imperative that the meetings be open to the local media and that every effort be made to accommodate media needs to ensure maximum publicity for the meeting and for plant science in Canada.

Although there will need to be negotiations, Plant Canada should seek to accommodate all 'viable' plant societies at its meetings.

Plant Canada meetings should ensure the highest possible profile for students to 'present' themselves and for each society to honor its "winners" at all stages of their careers.

Plant Canada meetings should attract substantial participation from the education community.

Plant Canada meetings should have strong, high profile opportunities for public participation.

Critical Success Factors

There will be:

Regular scientific meetings of Plant Canada in which all plant science disciplines gather.

High member attendance.

Active participation in events.

A viable and regular discussion forum on policy issues.

Joint initiatives between societies on issues of mutual concern.

Top-notch international and national contributors will attend.

Students will have a chance to meet the visiting 'stars'.

Funds will be attracted to Plant Canada meeting and its activities.

Policy makers will attend.

Industry will attend.

Press will respond to invitations to attend, and will report immediately.

Workshops will be well attended.

Each meeting will have a strong education focus.

Increased international, national and regional profile for plant sciences between meetings.

Policy Forum

Every scientific society has an obligation to its members and to the public to provide an effective forum to develop policy recommendations for government at all levels and for private industry issues. The Plant Canada policy committee should work with its counterpart from each member society to develop initiatives and instruments that will influence policy at all levels.

Each Society must take responsibility for developing policy. These policies should then be articulated between societies and Plant Canada will ensure that policy recommendations are delivered effectively. Plant Canada will monitor the passage of recommendations through the target body.

Critical Success Factors

There will be:

Position papers that are well balanced, informed, properly justified and usable.

An effective debate forum from which each position will arise.

Change and actions as a result of policy recommendations.

An increasing list of successful initiatives.

Quick and effective Plant Canada response (and some prediction) to issues as they arise. Increased consultation of Plant Canada by government and others.

Advocacy

Advocacy requires well-informed and well-prepared presentations. Eventually, Plant Canada must find and take its place in lobbies at both national and regional levels.

Critical Success Factors

There will be:

An effective lobby for plant sciences to all levels of government. Well-trained and pro-active, paid and volunteer lobbyists acting for Plant Canada.

Government consultation with Plant Canada on issues affecting the plant sciences.

Plant Canada - A proposal for the future of the plant sciences in Canada

Communication

An essential measure of any scientific society is effective communication with members and with the outside community. This requires Plant Canada to have an up-to-date, well-maintained web site linked to the member society sites. Plant Canada news must be reported in member society newsletters and Plant Canada must highlight major events within the societies.

Plant Canada must be responsible for both paper and electronic communications and must serve its membership with items such as extended e-mail bulletin services and umbrella job postings.

It should be a long-term goal for Plant Canada to develop increased and improved links to the media (including national and local daily newspapers, magazines, radio such as Quirks & Quarks, and television such as national networks and Discovery Channel). There are many opportunities to develop high quality materials for school students of all ages and their teachers. However, these opportunities will require Plant Canada to find and develop ways and means to provide media training for members.

Critical Success Factors

There will be:

An active and up-to-date web site operated by each member society.

Measurable increasing number of Web site 'hits'.

Plant Canada news appearing regularly in society newsletters and web sites.

Increasingly thriving media links.

Regular use of materials by the Media.

Frequent contacts by the Media and Plant Canada.

Frequent reports that scientists are informed about society and Plant Canada activities.

Frequent requests for resources by schools.

Frequent requests for information by government and the public.

Education

Professional scientific societies have a obligation and a self-interest in the education system. If this is to achieve results there must be a strong lobby and source of expertise devoted to improved education in plant sciences from K to post Ph.D. This effort must be pro-active but not patronizing. Many opportunities exist at the local level. Plant Canada's role will be as facilitator and broker as well as coordinator of resources as and when they are required.

Critical Success Factors

There will be:

A strong and effective presence of the plant sciences in the public education system.

A Plant Canada presence (in addition to a strong presence from member societies) in all aspects of education from K to post Ph.D.

Strong representation of Plant Canada in Science Fairs across Canada.

Local initiatives, such as a program like "Let's talk Science" with graduate students as educators.

Youth

In this context, 'youth' refers to young professionals from undergraduates to those who have a job with some form of 'tenure'. Plant Canada and its member societies have major roles in promoting plant sciences to all would-be professionals. This complex area includes a wide range of activities and programs that provide support for young professionals through strong financial incentives and rewards, especially for graduate students and early career scientists.

The main target group is those between baccalaureate graduation and 'tenure'. Services include a job /educational opportunity board, employer input, career workshops, co-op programs, maximum publicity for government employment programs, publicity for internships, and scholarships.

The major role of Plant Canada is to ensure that students, post-docs, and young professionals have good opportunities to showcase themselves.

Critical Success Factors

There will be:

Youth participation at meetings will increase with progressive improvement over time.

Increased returning attendees at meetings.

Increased society membership to a new plateau (target %age of pool target to be added).

'Good' meetings and 'good' societies that will get 'give back' and ensure perennation.

Increased number of scholarships available.

Increased job placings for those active in the societies.

Government consultation with Plant Canada before job initiatives are taken.

Best practices

While Plant Canada is indeed another attempt to find some effective umbrella for the plant sciences in Canada, it is important that we not re-invent the wheel. Plant Canada and its members must be ever alert for examples of excellent practice outside our sphere. Current examples, which were drawn to our attention, include:

-the BSA Web site,

-the ASPP management of specialty events and cutting edge symposia,

-British Ecological Society and Institute of Biology (London) in recruiting large memberships including non researchers, and in public education,

-CFBS success in policy development

-Linnean Society and CBA 1 day workshops

Critical Success Factors

There will be:

Plant Canada - A proposal for the future of the plant sciences in Canada

Other organizations using Plant Canada procedures and programs.

Problems

Several problems remain unresolved and several issues were placed in the 'parking lot' for further consideration. These include:

- The need to protect Society charitable status
- Costs to start doing what needs to be done
- Costs to achieve success
- Uncertainty about whether societies can deliver the skill, talent, volunteer time?
- The level of member commitment to societies? (or are they just committed to meetings?)
- Will other societies join?
- If it is successful, could Plant Canada become too big?

Parking Lot

Professional status.

Does Plant Canada want to get into a national expectation of professional competence

Registry of plant scientists

Should Plant Canada develop a reliable registry of scientists and expertise in plant sciences?

Governance

How should Plant Canada be governed?

- a small body of Directors, e.g. 2 from each member society, with the authority to establish working and ad-hoc committees

Next Steps

Task force homework - best practices, determine the size of the community.

Societies establish how will Plant Canada will be governed?

Stake holders CBA CSPP

The following table includes the 'stakeholders' identified by the task force and an assessment of whether CBA and CSPP do, do not, or cannot cater to that stakeholder.

The committee assumes that both societies currently cater to women and minority groups.

+ = yes we cater;

- = no we do not cater;

0 = we cannot cater to them

	CBA	CSPP
7-12/13 students	+/-	+/-
7-12/13 teachers	+/-	+/-
Agrologists	+	-
Animal biologists	0	0
Anthropologists	0	0
Applied plant physiologists	0	+
Biomedical researchers	0	0
Biotechnology companies	-	+

Biotechnology researchers	-	-
Botanists	+	0
College teachers	-	-
Conservation biologists	+	0
Deans, Directors, presidents, CEOs	-	-
Ecological consultants	+	-
Ecologists	+	0
Economic botanists	+	-
Educators	+	+
Ethnobotanists	-	-
Evolutionary biologists	+	-
Field naturalists	+	-
Forest companies	-	+
Forest ecologists	+	-
Free lance writers	-	-
Gardeners	-	0
Geneticists	0	0
Government departments and Agencies	+	-
Graduate students	+	+
Granting agencies	+	+
Horticulturalists	0	-
Journalists	-	-
K-6 students	+/-	+/-
K-6 teachers	+/-	+/-
Medicinal botanists	-	-
Meeting attendees	+	+
Molecular biologists	0	+
Mycologists	+	0
Non-governmental agencies	-	-
Phycologists	-	0
Physicians	-	-
Phytochemists	0	+
Plant anatomists	+	+
Plant biochemists	-	+
Plant breeders	0	0
Plant developers (function)	-	+
Plant developers (structure)	+	+
Plant pathologists	0	+
Poison control centers	+	-
Police	-	-
Post-docs	+	+
Professional science managers	-	-
Reclamation botanists	+	-
School curriculum designers	+/-	+/-
Science Fair competitors	+/-	+/-
Systematists	+	-
Taxonomists	+	-
Tree breeders	0	0
Tree physiologists	0	+
Undergraduates	-	-
University faculty members	+	+
Weed scientists	+	-
Whole plant physiologists	+	+

Awards at the 1997 Montréal Annual Meeting

For the complete list of Awards presented at the 1997 Annual Meeting in Montréal, please see the CBA Bulletin 30(3) : 39-40.



Mary E. Elliot Award
Dr. Jean Gerrath
 University of Northern Iowa
 Cedar Falls, Iowa



Lionel Cinq-Mars Award and Macoun Travel Bursary
Julian Starr
 University of Manitoba
 Winnipeg, Manitoba



Macoun Travel Bursary
Gordon Lemon
 University of Guelph
 Guelph, Ontario



Taylor A. Steeves Award
Judith MacIntyre
 University of Prince Edward Island
 Charlottetown, PEI

The "Book reviews" column is always looking for volunteers to review books sent in by the publishers. The following publications have not yet been spoken for. If you are willing to review one of these books please contact the editor at the address indicated at the beginning of the Bulletin (page 18). On request we will send you the book you wish to review.

Plant-Microbe Interactions. Vol. 3

by G. Stacey & N.T. Keen
Chapman & Hall, 1997

European Vegetation Survey : Case studies

by L. Mucina, S. Pignatti, J.S.

Rodwell, J.H.J. Schaminée & M Chytrý
Special Features in Vegetation Science 14
Opulus Press, 1997

(First published as 32(2) : 113-120 (1997) and 32(3) : 221-342
(1997) of *Folia Geobotanica & Phytotaxonomica*)

Plants of British Columbia

Scientific and Common Names of Vascular
Plants, Bryophytes and Lichens
by H. Qian & K. Klinka
UBC Press, 1998

New Flora of the British Isles, Second Edition

by Clive Stace
Cambridge Univ. Press, 1997
(\$ US 85,00)

Stace's New Flora of the British Isles was first published in 1991 and, as many predicted, has become the Flora of choice for those working with the British Flora. It has been reprinted twice and 6 years later a second edition appeared, testament to its popularity. The arrangement of the Flora will be familiar in North America as it follows Cronquist's arrangement of families.

The criterion for inclusion of a species in the Flora is very liberal, resulting in over 4500 species being covered, in contrast to its predecessor Clapham, Tutin and Warburg's Flora of the British Isles which included less than 2500 species. The difference is due almost entirely to the very large number of introduced species that are covered. Perhaps the extreme example is *Cotoneaster* which in this new edition deals with 68 species, only one of which is native. Descriptions in the Flora are brief and essentially diagnostic, but are usually quite adequate. Most keys are strictly dichotomous and easy to use. A few of the more complex genera have multiple entry keys. Those which have 5 or fewer characters are not difficult to use, but the ones which require states to be chosen from a longer list of

characters are not very user friendly. In *Cotoneaster*, once the 8 character states are chosen, the particular combination of character states has to be found in the subsequent list of possible combinations, some of which may contain as many as 14 character states. Until one is very familiar with the key it is wise to have a pencil and paper handy! Such keys work easily on a computer, but unless kept simple, are not to be recommended in hard copy. The multiple entry keys in this Flora cannot be used to identify incomplete specimens (one of the theoretical advantages of such keys), but they do narrow down the possibilities.

The Flora has a good proportion of the species illustrated. The illustrations aim to show useful diagnostic characters, rather than present a general view of a species. Most of the difficult genera have a figure for all species. The line drawings are generally excellent and the scanning electron micrographs are for the most part comparable in quality and usefulness. The other photographic illustrations are much more variable in quality and utility (compare for example the photograph of leaves of *Populus*, fig. 228, with similar photographs for *Salix*, figs. 236, 238, 239).

Hybrids are listed in the text, but only a selection are described and keyed. The number of hybrids listed can be very extensive, and since they are formatted in the same way as species there are some pages where species descriptions get lost among the welter of hybrids; page 241 for example has 3 species described mixed with 14 hybrids.

There is a very complete index which takes up 130 pages, over 10% of the volume. Authorities for all taxa at and below generic level are included in the index, a great convenience.

To what extent is this Flora useful to Canadian botanists. It is not easy to obtain a picture of the native and well naturalised elements of the flora of the British Isles from this book; it contains far too many uncommon alien species. It is easily the best work for trying to identify unusual alien species in the milder parts of Canada. I succeeded in tracking down a locally naturalised *Cotoneaster*. Few people in Canada look at *Conyza canadensis* very carefully, but there are two very similar species naturalised in Britain which could certainly occur in southern British Columbia and perhaps also in Southern Ontario. Overall a useful book to have at hand.

Readers of the Bulletin should be aware that the North American price of \$85 US is exorbitantly high: it sells for under £29 (less than \$72 Can.) in Britain!

Dr. Peter Ball,
Botany Department
University of Toronto at Mississauga

Recent Graduates

RECENT GRADUATES UNIVERSITY OF GUELPH

Department of Botany

April Haig (M.Sc., 1997). The effect of habitat fragmentation on lichen and plant species richness of Niagara Escarpment cliffs in Ontario, Canada. Advisor : D. W. Larson.

Jennifer Rachich (M.Sc., 1997). A comparison of the effects of predators and neighbouring plants on *Lythrum salicaria* L. and *Verbena hastata* L. Advisor : R. Reader.

Wen-Jin Yu (Ph.D., 1997). Molecular and cellular studies of a cysteine proteinase from germinated *Vicia faba* L. Advisor : J.S. Greenwood.

Department of Crop Science

Akwasi Agyare-Tabbi (M.Sc., 1997). Isolation and characterization of repetitive and microsatellite DNA sequences in Cassava (*Manihot esculenta* Crantz). Advisor : L.R. Erickson.

Yong-He Bai (M.Sc., 1997). The use of molecular markers to tag genes for common bacterial blight resistance and measure genetic diversity in common bean. Advisor : K.P. Pauls.

Paul Cowan (M.Sc., 1997). Interference between pigweed (*Amaranthus* spp.), barnyardgrass (*Echinochloa crus-galli*) and soybean (*Glucine max*); Encompassing a multi-species approach. Advisor : C.J. Swanton.

Kim Jones (M.Sc., 1997). Relationship of metabolite levels and an ice nucleation barrier with depth of supercooling in grape buds. Advisor : B.D. McKersie.

Dennis Joosse (M.Sc., 1997). Performance of high input, low input and zero-synthetic cash crop systems. Advisor : D.J. Hume.

Kwadwo Obeng-Antwi (M.Sc. 1997). An evaluation of backcross methods for adaptation of late maturing inbred lines of maize (*Zea mays* L.). Advisor : L.W. Kannenberg.

Derek Schulze (M.Sc., 1997). Flow cytometric characterization of embryonic and gametophytic development in *Brassica napus* microspore cultures. Advisor : K.P. Pauls.

Yang Wang (M.Sc., 1997). Expression of rd29a cold responsive promoter elements in alfalfa (*Medicago sativa* L.). Advisor : B.D. McKersie.

Yong-Zhong Wu (Ph.D., 1997). Characterization of pollen-specific genes in alfalfa (*Medicago sativa* L.). Advisor : L.R. Erickson.

Department of Environmental Biology

Allison Back (M.Sc., 1997). Ammonification, nitrification and denitrification in the forested ecotone of a small, oligotrophic lake in Algonquin Park, Ontario. Advisor : A.M. Gordon.

Michael Cassidy (Ph.D., 1997). Encapsulation of bacterial cells in a novel kappa-carrageenan formulation for enhanced mineralization of pentachlorophenol in soil. Advisors : J.T. Trevors, H. Lee.

William Stadden (Ph.D., 1997). Effects of forestry practices and climatic factors on forest soil microbial diversity and enzymatic activity. Advisors : L.C. Duchesne, J.T. Trevors.

Department of Horticultural Science

Catherine Scott-Taffart (M.Sc., 1997). Inhibition of glutamine production increases glutamate metabolism via the GABA shunt. Advisor : B.J. Shelp.

Javad Mozafari (Ph.D., 1997). Genetic engineering and evaluation of pathogen-derived resistance to potato leafroll virus. Advisors : S.T. Ali-Khan, D.J. Wolyn.

Reena Grittle Pinhero (Ph.D., 1997). Biochemical mechanisms of chilling tolerance in maize. Advisors : D.P. Murr, G. Paliyath.

Future Workshops

Développement des plantes / Plant Development

Le prochain Workshop en développement des plantes se tiendra à Montréal, le samedi 10 octobre 1998, à l'Institut de recherche en biologie végétale (Jardin botanique de Montréal). Durant l'été, des informations supplémentaires seront envoyées aux personnes intéressées. Pour de plus amples informations contacter **Denis Barabé** (barabed@ere.umontreal.ca).

The next workshop in Plant Development will be held in Montreal, Saturday October 10, 1998, at the Institut de recherche en biologie végétale (Jardin botanique de Montréal). Persons interested to participate in this meeting will receive more information during the summer. For more information contact **Denis Barabé** (barabed@ere.umontreal.ca).

Biology and Management of Common tansy

August 13-14, 1998, Edmonton, Alberta

Common tansy (*Tanacetum vulgare*), is an increasingly abundant weed in pastures, roadsides, and riparian areas in Alberta. The Alberta Research Council and Alberta Agriculture, Food and Rural Development will be holding a workshop to review the available information on tansy, including the results of recent studies in Alberta, and to develop plans for its management. The possibility of starting a biological control program against tansy will be an option to be discussed. The program will include a field tour to view tansy-infested areas. This workshop will be open to anyone interested in this weed, including researchers, land managers, and weed control specialists from the public and private sectors. We would also be interested to know if anyone has information on possible economic uses of tansy (herbal, medicinal, etc.) that could be presented at the workshop. For further information, or if you would like to make a presentation at the workshop, please contact one of the following people by May 29, 1998 :

Alec McClay (alec@aec.arc.ab.ca)

Dan Cole (dan.cole@agric.gov.ab.ca)

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Future Annual Meetings / Prochains congrès annuels

1998

University of Saskatchewan, Saskatoon, Saskatchewan, June

1999

St-Louis, Missouri (XVI International Botanical Congress), August

2000

University of Western Ontario, London, Ontario

2001

Okanagan University College, Kelowna, British Columbia