

Contents
Table des matières

**The LAWSON MEDAL of
2003 : Dr. Irwin Brodo**
Liette Vasseur
page 29

**Mot de la présidente
President's Message**
pages 30-32

**About patronage
À propos de patronage**
page 31

**Book Reviews wanted
Revue de livres demandées**
page 32

**Three honorary degrees
given to botanists**
Liette Vasseur
pages 32, 33, 43

Paper / Article



**Poorly Known Economic
Plants of Canada - 38.**
Stinging Nettle, *Urtica dioica* L.
E. Small and P.M. Catling
pages 34-39

Book Review / Revue de livre
**B.D. Booth, S.D. Murphy
and C.J. Swanton :**
**Weed Ecology in Natural
and Agricultural Systems.**
Rene C. Van Acker
pages 40-41

**The Committees and Sections
of the Canadian Botanical
Association / Association
botanique du Canada**
Christine Maxwell
pages 41-42

Obituary / Nécrologie
Lorene L. Kennedy:
Mycologist-botanist
James A. Traquair
page 43

**The Canadian Botanical Association
Board of Directors (2003-2004)**
**Le bureau de direction de l'Association
botanique du Canada (2003-2004)**
page 44

The Canadian Botanical Association Bulletin



Bulletin de l'Association botanique du Canada

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The LAWSON MEDAL of 2003: Dr. Irwin Brodo

Every year, the CBA is very proud to present the Georges Lawson Medal. The medal is given each year to a botanist who significantly contributes or has contributed to botany in Canada, either in terms of life-long research accomplishment or for a major contribution to the field (such as a book).

This year's recipient is Dr. Irwin Brodo. Dr. Brodo is without doubt the pre-eminent lichenologist in North America today because of his breadth and depth of knowledge. He stayed in the United States for a part of his life where he did his undergraduate and graduate studies. He went to Cornell University for his master degree in general biology and a minor in science education. He elected to do his master's thesis on lichen ecology, a challenge since there was no lichenologist at Cornell. Bitten by research bug, he was accepted to Michigan State University for the Ph.D. degree. His work was very innovative and led to major contributions and many papers by others on the same topics. He supported himself during his Ph.D. through teaching then later a National Science Foundation Graduate Fellowship. Dr. Brodo became the Curator of Lichens at the National Museum of Natural Sciences and then research lichenologist at the Canadian Museum of Nature (formerly, National Museum of Natural Sciences). Thanks to his work the collection grew from fewer than 18,000 specimens in boxes to 112,000 packets, one of the most important collections in the world. He has described 2 new genera, 42 new species (many with co-authors), and 6 new subspecies or varieties. He has also made 64 new combinations. He has been honoured by having one genus of lichens named after him!

In addition of over 100 publications and review in 40 years of great contribution he has been participating in several TV/Radio interviews. Dr. Brodo didn't limit his involvement in botany to research. He is currently Vice-President of the International Association for Lichenology (2000 to present). He was in the past one of the Presidents of the CBA and the President of the American Bryological and Lichenological Society. He has also received numerous awards including the Council on Botanical & Horticultural Libraries 3rd Annual Literature Award for Technical Literature of Botany or Horticulture for Lichens of North America (April 2002), the Eric Acharius Medal from the International Association for Lichenology for outstanding contribution to lichenology (1994) and the Mary Elliot Service Award of the CBA. Finally, he has been delivering courses in Canadian and American universities, organised several workshops in North America and was invited to give lecture all over the world.

He is currently a research associate (Scientist Emeritus) of the Research Division of the Canadian Museum of Nature and remains very active in research of lichens in Canada and North America. It was quoted as being « an enthusiastic, extremely knowledgeable, unassuming and careful botanist ». His work led him to publish in 2001 the Lichens of North America, co-authored with the photographers Stephen and Sylvia Sharnoff ... a truly monumental work that achieves the rare distinction of serving frontiers of his science and those of the amateur field naturalist.

Liette Vasseur

Canadian Botanical Association



Bulletin

The CBA Bulletin is issued quarterly (in theory in March, June, September, and December) and sent to all CBA members. Comments or suggestions about the Bulletin should be directed to the Editor at the address below.

Information for submitting texts

Texts and illustrations for the Bulletin should preferably be sent to the Editor as electronic documents, nevertheless any medium is acceptable. Any format for texts or illustrations are welcome. Please make sure that scanned illustrations are done with a very good resolution. The pictures should be made available separately from the text. If you have any question about text submission, please contact the Editor.

For general info on CBA, go to the web site:
<http://www.uoguelph.ca/botany/cba/>

Association botanique du Canada



Bulletin

Le Bulletin de l'ABC paraît quatre fois par année, normalement en mars, juin, septembre et décembre. Il est envoyé à tous les membres de l'ABC. Tout commentaire concernant le bulletin est apprécié par le rédacteur.

Directives aux contributeurs

Les textes et les images sont de préférence envoyés sous forme électronique, néanmoins, tous les supports de même que tous les formats imaginables sont acceptables. Les fichiers graphiques doivent être de très bonne définition et disponibles indépendamment du texte. N'hésitez pas à contacter le rédacteur pour toute information.

Info générales sur l'ABC à l'url suivant:
<http://www.uoguelph.ca/botany/cba/>

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Next issue / Prochain numéro

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Mot de la présidente

Plante Canada 2003 a été un succès. Je crois que c'est le sentiment de tous les participants. Félicitations à David Garbary et au comité organisateur à St. Francis Xavier University pour cet excellent travail. Plusieurs événements ont marqué ce congrès dont la collation de grades honorifiques (voir "Three honorary degrees given to botanists" en page 32), des sorties sur le terrain, des symposiums des plus intéressants et la présence conjointe de la Fondation New Phytologist qui a présenté un symposium de trois jours sur l'écologie évolutive, un tribut à Verne Grant. Avec toutes les présentations, les affiches et les activités tels que le banquet, le BBQ et l'encan, les participants avaient de quoi se tenir occupés et ont eu de nombreuses occasions d'interagir avec leurs pairs.

Ce premier congrès de Plante Canada a été très positif. Comme vous le savez, déjà en 2001, nous avons fondé Plante Canada, un groupement de plusieurs associations afin d'augmenter les interactions entre scientifiques de la biologie végétale au Canada. Les groupes fondateurs étaient la Société canadienne de physiologie végétale et l'ABC. Depuis, d'autres organisations s'y sont jointes. Cela veut dire que nos congrès seront de plus grande envergure avec plusieurs centaines voire même un millier de participant.e.s. Cela contribuera certainement à développer le profil de la biologie végétale et domaines connexes au Canada.

Cette année, encore une fois, la qualité des présentations orales et les affiches était excellente et démontre le dynamisme de la recherche en biologie végétale au Canada. Je veux aussi souligner la présence et l'enthousiasme des étudiant.e.s présent.e.s à la conférence. Ils et elles ont démontré un professionnalisme et une motivation à s'intégrer et à s'engager dans l'association et la recherche. J'espère que dans le futur, nous aurons la chance de les voir s'engager dans des discussions et dans les activités de l'ABC. Il est important que tous les étudiant.e.s se sentent les bienvenu.e.s et aient des occasions de discuter entre eux et avec leurs pairs. J'invite donc tout spécialement les étudiant.e.s à exprimer leurs besoins face à l'association et à s'impliquer dans les comités, les sections et le Bulletin.

L'assemblée générale annuelle a aussi été des plus occupées avec plusieurs résolutions et propositions à adopter. Ainsi, il est maintenant officiel que l'ABC a approuvé la création de prix régionaux pour la meilleure présentation faite par un.e étudiant.e de premier cycle. Ainsi, à partir de septembre, nous allons pouvoir supporter les congrès régionaux de premier cycle, permettant à l'ABC à être plus visible dans les régions. Un fond sera graduellement créé pour ces prix et nous encourageons nos membres à aider à sa consolidation.

De plus, quatre autres résolutions ont été adoptées à l'unanimité lors de l'AGA. La première est une lettre à la ville de Toronto pour les féliciter pour les progrès réalisés dans le domaine du contrôle des espèces invasives. Cette résolution résulte du symposium et de discussions sur les espèces invasives au congrès. La deuxième résolution supporte le Réseau canadien botanique de la conservation et souligne le besoin de maintenir et de mettre disponible la liste d'espèces invasives qui posent des risques à la conservation de la biodiversité au Canada. Ce réseau travaille avec les jardins botaniques au niveau des enjeux reliés à la conservation des espèces végétales au Canada. La troisième résolution élabore sur le besoin de développer ou de supporter dans le futur rapproché l'établissement d'un réseau qui pourra aider à disséminer les informations sur les espèces invasives au Canada afin de mieux comprendre leur distribution, leur écologie et les conséquences qu'elles ont sur nos écosystèmes. Enfin la dernière résolution en est une conjointe avec la Société des zoologistes du Canada et la Société des entomologistes du Canada sur le besoin d'un agenda scientifique sur la biodiversité au Canada. Depuis la ratification de la Convention de la Biodiversité, le Canada a très peu avancé dans le domaine de la conservation et la science de la biodiversité. Il existe un besoin urgent de développer des programmes de recherche, d'éducation et de formation dans ce domaine afin de rencontrer les besoins futurs de nos communautés dans la protection de notre environnement. Elle encourage la formation d'un comité des sciences de la biodiversité et la formation de fonds de recherche et de formation dans ce domaine. Cette résolution sera acheminée au bureau de la Convention de la

Biodiversité et aux Ministres responsables avant la planification interministérielle de l'automne. Si vous voulez plus amples informations sur ces résolutions, elles sont affichées sur notre page web à www.uoguelph.ca/botany/cba.

Enfin, j'aimerais vous rappeler que le prochain congrès annuel se tiendra à Winnipeg à l'Université du Manitoba sous la vice-présidence de David Punter. Un événement important à souligner puisque ce sera le 40^{ième} anniversaire de l'Association ! Nous espérons que vous allez pouvoir y venir en grand nombre. Les préparatifs vont bon train et plusieurs activités seront à l'horaire. Les dates sont du 25 au 30 juin 2004.

Liette Vasseur, Présidente de l'ABC



President's message

Plant Canada 2003 was a great success thanks to David Garbary and his organizing committee at St Francis Xavier University. I would like to congratulate them all for this excellent work. Several events marked this first meeting of Plant Canada including a special convocation for honorary degrees to three plant scientists (see "Three honorary degrees given to botanists" on page 32), field trips, very interesting and interactive symposia, and a joint meeting with the New Phytologist Foundation who presented a three day symposium on evolutionary ecology in memory of Verne Grant. In addition to several oral and poster presentations, other activities such as a BBQ, an auction and the banquet completed our schedule and allowed participants to interact in various ways with their peers.

This was all positive for Plant Canada as a young federation. As you already know, in 2001, we have created Plant Canada, a federation of plant science associations in order to more effectively interact among ourselves. The founding groups were the Canadian Society of Plant Physiologists and the CBA. Since then, Plant Canada has grown and now includes five different associations. This means that the 2005 meeting will include a larger Plant Canada and several hundreds researchers are therefore expected to participate. This should lead to greater profile and interactions.



Liette Vasseur, President of CBA/ABC and Carol Peterson, President of Plant Canada.

Once again, the quality of oral and poster presentations was excellent and shows the dynamism in plant research in Canada. I would also like to underline the presence and enthusiasm of the students present at the conference. They demonstrated professionalism and a strong motivation in being involved in the association and in research. I really hope that in the future we will have more opportunities to have them involved in various activities of the

association. Students are welcomed in helping and getting involved in committees or sections as well as in the Bulletin.

The annual general meeting was also very busy with several adopted resolutions. The CBA officially endorsed the creation of regional awards for undergraduate oral presentations. There, starting in September, we will be able to allocate some efforts towards regional meetings and thus enhance the profile of the association. It is expected that a fund will gradually be created for the support of these regional awards and we encourage members to help solidify this new feature of the CBA.

(continued on next page)

About patronage

Some readers of this issue of the Bulletin may have noticed that the usual mention of the name of Her Excellency the Right Honourable Adrienne Clarkson, Governor General of Canada, as patron of our association has been removed. Indeed it was as we do not have the permission of using it ! Following the Governor General Office, the ABC never presented an application to get this privilege. What one needs to know is that privilege is not accorded once in a lifetime. When a new governor general is installed, he may take into consideration the patronage requests that are sent to him. Any previous privileges are obsolete. The only few exceptions to this rule concern centenary organisms traditionally patronized. Obviously, a new application should be made for the ABC in order to get this privilege with the next governor general.

Martin Dubé, Editor



À propos de patronage

Certains membres auront peut-être remarqué que la mention du patronage de l'Association botanique du Canada par Son Excellence la très honorable Adrienne Clarkson, Gouverneure générale du Canada, a été retirée. Et pour cause ! En effet, après consultation auprès du bureau de la Gouverneure générale, il est apparu que l'ABC n'avait pas le privilège de jouir de ce patronage. C'est que, pour l'obtenir, il faut présenter une demande en bonne et due forme. La décision en revient à la gouverneure générale elle-même selon ses intérêts personnels. Enfin, et c'est là le point important, il faut réitérer cette démarche à chaque changement de gouverneur général. Ceci sera fait pour le prochain gouverneur puisque le présent mandat tire déjà à sa fin.

Martin Dubé, rédacteur



Four other resolutions were also unanimously adopted at the AGM. The first one was a letter to the city of Toronto to commend them for their efforts to reduce risk and impacts of invasive plant species in the city. This resolution was the product of the symposium on invasive species that was organised at the meeting and discussions of participants. The second resolution supports the Canadian Botanical Conservation Network in its work in establishing a list of invasive species that can cause risks to natural biodiversity in Canada. The CBCN works mainly with Canadian botanical gardens on issues regarding conservation of biodiversity. The third resolution elaborates on the need to develop in a near future an information network on invasive species in order to better understand their distribution, their ecology and their impacts of our natural ecosystems. Finally the last resolution is drafted jointly with the Canadian Society of Zoologists and the Canadian Society of Entomologists and aims to encourage the government and the inter-ministerial panel on the environment in establishing officially a biodiversity science agenda for Canada. Canada ratified the International Convention on Biodiversity but progress has been slow in the area of biodiversity science. There is an urgent need to develop better research, training and education programs in this area in the country if we want to meet our obligations. The resolution encourages the creation of a biodiversity science board composed of active researchers in this discipline and funds for research and training. If you are interested in reading more about these resolutions, please go to our website www.uoguelph.ca/botany/cba.

Finally, I would like to remind you that next year's meeting will be held at the University of Manitoba in Winnipeg under the organisation of our new Vice President David Punter. This event will be one of the most exciting as we will be celebrating the 40th anniversary of the CBA. We hope that you will be able to join us in great number. The preparations are already underway and many activities will be scheduled. The dates are June 25 – 30, 2004.

Liette Vasseur, CBA President

Book Reviews wanted Revue de livres demandées

Anonyme, 2003. German Homoeopathic pharmacopoeia 2001 (GHP 2001). Translated by Ad-Ex Translations Ltd., Medpharm Scientific Publishers, 1772 pp., Loose-leaf, 2 ringbinders. €298.

Brendler, T., Gruenwald, J. and Jaenicke, C. (eds.), 2003. Herbal Remedies CD-ROM. Medpharm Scientific Publishers, Berlin. 1 CD-ROM. Approx. 1 500 colors figs., bilingual : Deutsch-English. €49.

Gaedcke, F. and Steinhoff, B., 2003. Herbal Medicinal Products. Scientific and Regulatory Basis for Development, Quality Assurance and Marketing Authorisation. XIII. In collaboration with Helga Balsius. Medpharm Scientific Publishers. 185 pp., 11 colors figs., 37 b/w figs, 30 tab., Hardcover. €82.

The Editor
Le rédacteur

Three Honorary Degrees given to Botanists

Plant Canada 2003 was highlighted this year with a special convocation. Drs. John Smol, Melvin T. Tyree and Jeremy David Pickett-Heaps received degree of Doctor of Laws, honoris causa from Saint Francis Xavier University. It may be the first time that three botanists received honorary degrees in a special convocation. The following is a summary of the citations that were given during the convocation. They illustrate the talent and dedication that all three recipients have demonstrated towards plant science. I believe that this highlight of the conference helped increase the profile of our associations and botanists in Canada.

Citation for Melvin T. Tyree: "To understand how our world's ecosystem works, one must understand how plants work. Everywhere on the planet where conditions are suitable, even in our cities, our landscapes are comprised of trees. The global movement of water, from the soil to the atmosphere, largely depends on forests.

Many believe that there is one person who knows more than anyone about how trees work. That person is Melvin Tyree.

Melvin Tyree's specialty is plant physiology. Since the early 1970s, he has worked on the biology and physics of how water gets from the soil to the tops of the tallest trees. This work has had important implications in the management of forests - not only for forestry and wood production, but for forest ecology, particularly in areas where lack of water limits growth.

His research is central in understanding the environmental factors surrounding the survival and growth of forests. As the world's forests are threatened by human harvesting and climate change, his work has perhaps never been more important or more necessary.

And that work has run the gamut, from studying the mechanisms of ion transport across membranes in trees, to examining problems facing tropical rainforests at the ecosystems level. Along the way, he has published extensively, and he has devised important new techniques for the study of trees which have revolutionized our understanding of them.

Melvin Tyree completed a PhD at Cambridge in 1972, and obtained his first academic appointment at the University of Toronto. Within five years, at the tender age of 31, he became one of the youngest full professors in the university's history - due largely to his outstanding productivity as a researcher.

At the University of Toronto, he held appointments in both the Botany Department and the Faculty of Forestry. Today, he maintains an adjunct position at the university, having moved in the early 1980s to the University of Vermont, where he is a full professor. His primary appointment is with the U.S. Forestry Service in Vermont, where he leads research projects at the Aiken Forestry Research Laboratory.



The three eminent botanists who were each awarded a Doctor of Laws (Honoris Causa) at a special convocation. Left to right: Melvin T. Tyree (U.S. Forest Service, Vermont); John Smol (Queen's University); Jeremy Pickett-Heaps (University of Melbourne, Australia).

The importance of his work has been recognized in other ways. Over the last ten years, grants supporting his research have totaled many millions of dollars. He has also received a number of significant awards, the most prestigious of which is the Wallenberg Prize, presented to him by the King of Sweden in 2002. The Wallenberg Prize is considered the equivalent of the Nobel Prize for forest research.

Melvin Tyree's scientific contributions are of the highest order. He has almost 200 publications to his name, and his science is published in the foremost journals in his field. He is one of the world's most frequently cited scientific authors."

Citation for Jeremy David Pickett-Heaps: "World-class researcher, award-winning teacher, and acclaimed lecturer and filmmaker, Professor Jeremy David Pickett-Heaps is a leading world authority on how plant cells grow and divide. Through his work, he has re-told the story of how plants evolve, entirely recasting our understanding of the evolution of plant life.

Professor Pickett-Heaps is truly an international scientist. He was born in India, studied at Cambridge, England, had an extensive career in the United States and, since 1988, has been professor of biology at the University of Melbourne in Australia.

He has spent most of his career studying the structure and cell biology of such plants as algae and diatoms. Using various forms of microscopy, he has sought to explain fundamental biological problems - how cells move, how cells divide. The revolutionary discovery that the process of cell division differs from species to species belongs to him. Following on this discovery, he showed that many primitive algae are, in fact, related to plants found on land.

Professor Pickett-Heaps has had more than 180 journal articles and book chapters published in eminent journals. His work is highly regarded by his peers, and is frequently

cited. He has been elected a Fellow of both the Royal Society of London and the Australian Academy of Science.

In addition to his research, he is an award-winning teacher and lecturer. The University of Colorado bestowed teaching awards on him twice. He was a national lecturer for the Phycological Society of America, and has been a Distinguished Lecturer at a number of institutions, including the universities of Manitoba, Tennessee, North Carolina and Mount Holyoke College, as well as the Woods Hole Marine Biology laboratories.

I have said that Professor Pickett-Heaps is also a filmmaker. Those of you who attended yesterday's plenary presentation know his facility with still and moving pictures - a facility that makes his presentations at conferences among the best in the world.

His video work includes a series of spectacular video-discs, video tapes and films he has produced privately and in conjunction with various educational publishers. The stars of these shows are of course the species of algae that he studies. Through his work, we may all see what he sees: Plant cells at the microscopic level, which may be appreciated not only for what they reveal about cell activity, but also for their remarkable beauty, a world which would otherwise remain inaccessible."

Citation for John Smol: "The study of climate change, and how biological systems respond to climate change, are among the most important types of environmental research being carried out today. In Professor John Smol, Canada has produced a world leader in this field. Professor Smol's contributions over the last fifteen years have revolutionized our understanding of how climate and human beings have altered our living world.

Professor Smol is a limnologist. He studies lakes. In particular, he studies the microscopic organisms that live in

(continued on page 43)

Poorly Known Economic Plants of Canada - 38.

Stinging Nettle, *Urtica dioica* L.

E. Small and P.M. Catling

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Burning pain from contact with stinging nettle is one of the first lessons teaching that nature has an unpleasant side. Many consider nettles to be among the most noxious and undesirable plants. The phrase "to nettle" means to aggravate, annoy, bother, etc. "Nettle rash" (urticaria), a common dermatitis marked by reddish, itchy swellings on the skin, is mostly due to exposure to other allergens, but it is nettle that comes to mind. Although the nettle plant has an image problem, its troublesome exterior overshadows a beneficial plant with promising economic potential. Contrary to widespread belief, the most commonly encountered stinging nettle of North America is not an introduced weed from Europe; rather, "American stinging nettle" (subspecies *gracilis*) is native and predominant, while "European stinging nettle" (subspecies *dioica*) is introduced and infrequent.

Latin Names

Urtica dioica L. subsp. *dioica* (European and introduced to North America)
U. dioica subsp. *gracilis* (Aiton) Selander (North American)
U. dioica subsp. *holosericea* (Nuttall) Thorne (Western North American)

The genus name *Urtica* is based on the Latin *urere*, to burn, and refers to the stinging caused by the hairs. The specific epithet *dioica* means "two sexually-segregated houses," a botanical way of saying that there are two kinds of plant, one with male flowers only and the other with female flowers only. The varietal epithet *gracilis* means slender, and the epithet *holosericea* indicates the plant is covered with silky hairs.

English Names

The modern English name "nettle" is derived from the Old English *nete*. The word is based on the Anglo-Saxon *noedl*, needle, referring to the sting of the plant or its use in making thread. Stinging nettle is also known as common nettle, common stinging nettle, great nettle, great stinging nettle, and a host of local names.

The subspecies *gracilis* is called American stinging nettle, Indian spinach, Lyall's American stinging nettle, slender stinging nettle, slim American stinging nettle, tall nettle, and tall wild nettle. The subspecies *dioica* has been called devil's leaf, European stinging nettle, hidgy pidgy, net plant, and Swedish hemp.

Some plants that are sometimes called nettles are unrelated to the nettle family (Urticaceae). For example, "dead nettles" are species of the genus *Lamium*, which belongs to the mint family (Lamiaceae); and hemp nettle, *Galeopsis tetrahit* L., is another member of the mint family. Although both have

opposite, nettle-like leaves, they differ from stinging nettle in their conspicuous, red, pink, purple, or white flowers. "Horse nettle," *Solanum carolinense* L., is a native herb and troublesome weed of eastern and central North America that belongs to the potato family (Solanaceae). It is easily distinguished by its alternate leaves. The wood nettle, *Laportea canadensis* (L.) Wedd., a native plant of swampy woods, also has stinging hairs and is a member of the nettle family. In Canada it occurs from the maritime provinces west to southern Manitoba. It also differs from stinging nettle in having alternate instead of opposite leaves. In Florida, the name "stinging nettle" is ambiguous, referring not only to *U. dioica* but also *Cnidoscolus stimulosus* (Michaux) Engelm. & Gray of the spurge family (Euphorbiaceae), a plant found on the coastal plain from Virginia to southern Florida and west to Oklahoma, Texas, and Louisiana. "Sea nettles" are species of dangerous jellyfish, which have sometimes stung swimmers to death.

French Names

Ortie, grande ortie, ortie dioïque, ortie élevée, ortie piquante
The subspecies *gracilis* is called ortie élevée and ortie dioïque d'Amérique. The subspecies *dioica* is known as ortie dioïque and ortie dioïque d'Europe.

Morphology

Stinging nettle is a forb with stems that are 0.3–3 m in height, but are generally 0.8–1.5 m, squarish and reminiscent of mints. The plant forms dense clonal patches from its perennial rhizomes (the adjective "urticose" is descriptive of an area with abundant nettle). The rhizomes grow shallowly underground, but are also sometimes found above-ground (strictly, rhizomes are underground creeping stems while above-ground creeping stems are stolons). Rhizome growth is a principal means of reproduction of the species, and a rhizome cutting has been observed to grow into a patch covering 3 m in diameter in a single season. The leaves are opposite and coarsely toothed. Tiny, greenish, unisexual flowers are produced in the axils of the leaf stalks. The flowers are in loosely branched, elongated, often pendent clusters, either male or female, or sometimes intermixed. The tepals are inconspicuous, reflecting the lack of a requirement to attract pollinators. Like other members of the Urticaceae, the plants are wind-pollinated. Flowering occurs from late spring or early summer to late fall, with the single-seeded fruits (achenes) maturing in late summer and early fall. The achenes are ovoid, 1–1.5 mm long, and as many as 20,000 may be produced on each shoot.

The plants of several genera of the Urticaceae are covered with bristly, small, stinging hairs that inject an irritant



European stinging nettle (*Urtica dioica* subsp. *dioica*)

substance under the skin when touched. The stinging hairs are marvels of design. They consist of a long stiff, silicified (hardened with silica) shaft, narrowing towards the point, and provided with a small bulbous tip. The shaft just under the tip is not hardened with silica, so a very slight touch breaks off the bulbous end. The tip breaks off at a slant, leaving a finely pointed hollow shaft, like the needle of a hypodermic syringe, which makes a puncture in the skin. Slight pressure on the hair compresses the sac-like base and the irritant is injected, resulting in itchy, raised welts.

Note

Victor Hugo on Utilization of Nettles in Les Misérables

“One day Monsieur Madeleine saw some peasants busy plucking out Nettles; he looked at the heap of plants uprooted and already withered, and said—‘They are dead. Yet it would be well if people knew how to make use of them. When the nettle is young, its leaf forms an excellent vegetable; when it matures, it has filaments and fibres like hemp and flax. Nettle fabric is as good as canvas. Chopped, the nettle is good for poultry; pounded it is good for cattle. The seed of the nettle mixed with fodder imparts a gloss to the coats of animals; its root mixed with salt produces a beautiful yellow colour. Moreover, it is an excellent hay and can be cut twice. And what does the nettle require? A little soil, no care, no cultivation. Only the seed falls as it ripens, and is difficult to gather. That is all. With a little trouble, the nettle would be useful; it is neglected and it becomes hurtful. It is exterminated. How many men resemble the nettle!’ He added, after a pause: ‘Remember this, my friends: there are no such things as bad plants or bad men. There are only bad cultivators.’”

—Victor Hugo (1802–1885, French writer; the original follows)

“Un jour il voyait des gens du pays très occupés à arracher des orties. Il regarda ce tas de plantes déracinées et déjà desséchées, et dit:—C’est mort. Cela serait pourtant bon si l’on savait s’en servir. Quand l’ortie est jeune, la feuille est un légume excellent; quand elle vieillit, elle a des filaments et des fibres comme le chanvre et le lin. La toile d’ortie vaut la toile de chanvre. Hachée, l’ortie est bonne pour la volaille; broyée, elle est bonne pour les bêtes à cornes. La graine de l’ortie mêlée au fourrage donne du luisant au poil des animaux; la racine mêlée au sel produit une belle couleur jaune. C’est du reste un excellent foin qu’on peut faucher deux fois. Et que faut-il à l’ortie? Peu de terre, nul soin, nulle culture. Seulement la graine tombe à mesure qu’elle mûrit, et est difficile à récolter. Voilà tout. Avec quelque peine qu’on prendrait, l’ortie serait utile; on la néglige, elle devient nuisible. Alors on la tue. Que d’hommes ressemblent à l’ortie!’—Il ajouta après un silence: ‘Mes amis, retenez ceci, il n’y a ni mauvaises herbes ni mauvais hommes. Il n’y a que de mauvais cultivateurs.’”

Classification and Geography

The genus *Urtica* has about 45 species. Common nettle is part of a very variable species complex, widely distributed in



American stinging nettle (Urtica dioica subsp. gracilis)

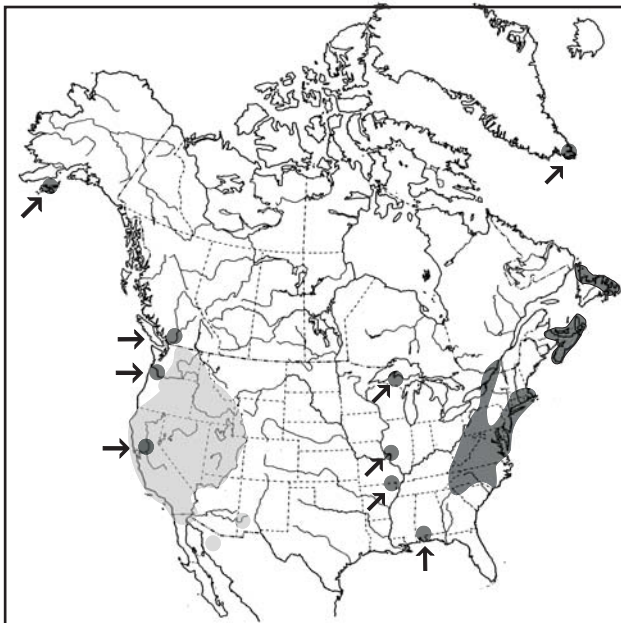
the temperate northern hemisphere. The classification of *U. dioica* requires additional study, particularly in the Old World. One well known subspecies is indigenous to and widespread in Eurasia, while two subspecies are indigenous to North America. American stinging nettle (*U. dioica* subsp. *gracilis*) is the dominant, indigenous form of the species in

North America, occurring throughout Canada and much of the United States. It is diploid ($2n = 26$) in the eastern part of its range, and tetraploid ($2n = 52$) in the far west (note map). European stinging nettle (*U. dioica* subsp. *dioica*), a tetraploid species (closely related diploid forms are known), is indigenous to Eurasia, and beginning in the mid-1800s it has become established along the Atlantic coast from Newfoundland south to Georgia and Alabama. It has also been collected as an adventive in isolated areas further west. Hoary nettle (*U. dioica* subsp. *holosericea*), a diploid taxon with leaves prominently hairy below and with softly pubescent stems, is native to the western United States, reaching close to the British Columbia border in Washington, although not yet discovered in Canada.

Key to Canadian subspecies of *Urtica dioica*

Plants dioecious (male & female flowers on different plants);
leaf blades with stinging hairs on both surfaces; stems
usually weak, sprawling and usually strongly covered with
bristly hairs *U. dioica* subsp. *dioica*

Plants usually monoecious (male & female flowers present
on same plant; occasionally female only, rarely male
only); leaf blades with stinging hairs usually on lower leaf
surface only; stems upright, without hairs or with
appressed hairs *U. dioica* subsp. *gracilis*

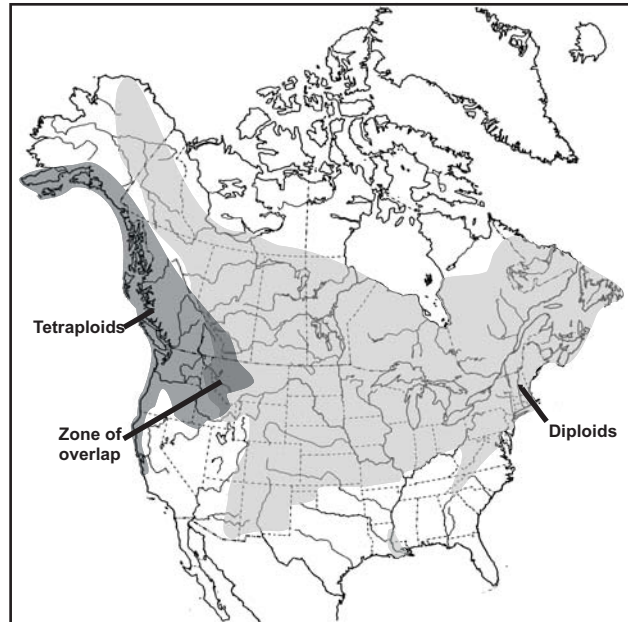


Distribution of European stinging nettle, *Urtica dioica* subsp. *dioica* (east & arrows) and of hoary nettle, *Urtica dioica* subsp. *holosericea* (west) after Woodland 1982 and Boufford 1997.

Ecology

Stinging nettle prefers moist, rich, circumneutral soil and full sun. While best adapted to mesic to wet open sites, it also occurs in drier areas, and in moderate shade such as found in thickets and forest edges. The species is a colonizer, growing well in disturbed areas such as woodland clearings,

waste places, vacant lots, and pastures; along ditches, roadsides, and hedgerows; and in periodically flooded areas including shores and marshes. Stinging nettle has been listed in the past as a noxious weed in Alberta, Manitoba, and Nova Scotia, and presently has this status in Quebec.



Distribution of American stinging nettle, *Urtica dioica* subsp. *gracilis* after Woodland 1982 and Boufford 1997.

Nettles are an essential food of the larvae of several attractive butterflies, both in Europe and the Americas. These include peacocks, several anglewings, red admirals, and Milbert's tortoiseshells. Some knowledgeable gardeners keep native plants such as nettles in a corner of their garden to attract these butterflies.

Use as Food

Young, fresh leaves are cooked like spinach. The young stalks are nutritious, high in vitamins A and C, and protein, and have more iron than spinach, with a very similar taste. Nettle can be used in quiches, stir fries and soups. Nettle beer and pudding are occasionally made. Stinging nettles are on the menus of some gourmet restaurants in North America. A range of recipes is available on the Web. It should be kept in mind that nettles are used in herbal medicine for its diuretic (urine-stimulating) property.

Wild-growing plants can be harvested (be certain of the identification before consuming), or plants can be grown in home gardens from seeds obtained from seed supply houses. Leaves are best picked (wearing leather, rubber, or plastic-coated gloves, long sleeves, and long pants) before the plants begin to flower, as they become coarse (it is recommended that shoots be harvested when less than 30 cm in length). Cystoliths (calcium carbonate concretions within epidermal cells) are characteristics of the Urticaceae, and in stinging nettle the older growth has larger calcium carbonate crystals, probably contributing to an undesirable grittiness. As the leaves age, the raw leaves become highly

irritating, particularly those of older plants, and should not be eaten. Boiling removes the irritation ability of the plant, as indeed does drying, but dried plants are not nearly as tasty.

Toxicity

The stinging sensation from contact with stinging nettle hairs has been attributed primarily to the presence of formic acid. However, while formic acid is present, recent research has indicated that the principal stinging constituents are histamine, acetylcholine, and 5-hydroxytryptamine (serotonin), stored at the base of the stinging hairs. Formic acid is the chemical warfare weapon that ants have in their saliva glands and bees have in their stingers, while the other chemicals are in some snake venoms. The degree and length of itchiness depends on the individual sensitivity, some suffering for as long as 24 hours, others for less than an hour. Formic acid can be neutralized by mixing it with a base, such as a paste of baking soda made with a little water. Human spit tends to be slightly basic and may help. Curiously, the juice of nettle is also an antidote for nettle sting, although care is required to obtain it, and the juice of dock (*Rumex* spp.), which frequently grows in the vicinity of stinging nettle, is often recommended. Other remedies include many common toothpastes, dilute alcohol, and water.

The pollen of stinging nettle is shed in large amounts, and is an important contributor to hay fever. Ironically, leaf extracts of stinging nettle possess antihistamine activity, and have been recommended as a treatment for hay fever (the validity of this remains to be verified).

Non-Food Uses

Nettle stems were one of the earliest sources of fibre in Europe, used to make cloth and occasionally also paper, although such usage was generally replaced with flax and hemp centuries ago. Like the latter two species, the fibre of interest is located in the phloem. Nettle fabric has been found in burial sites dating back to the Bronze Age, including a Danish grave with nettle cloth wrapped around cremated bones. For centuries, fibre from nettle was frequently used to weave tablecloths and sheets in Scotland. Mary, Queen of Scots (1542–1587), was particularly fond of nettle sheets. Indeed, the term “nettlecloth” came to be employed for all manner of fine fabric, whether made from nettle or not. Nettle fibre was used extensively in Germany, Austria, Scotland and Norway as late as the early 20th century, for cord, fishing line and sailcloth. Napoleon’s troops were clad in part with nettle fibre. During the First World War when cotton was in short supply, the uniforms of German soldiers were partly manufactured from nettles (by 1918, over 23,000 ha were cultivated in Germany). Independently of the European use of stinging nettle as a source of fibre, indigenous people of North America also used fibre from the plant, preparing twine, rope, and fishing nets. In modern times, there is interest in resurrecting the fibre use of nettles because the plant can produce large amounts of material on an acreage basis. The Italian fashion house Corpo Nove markets jeans and jackets made from nettle.

Dressed to Kill

Some people derive a special feeling of satisfaction by wearing garments made out of crocodile skin—as if displaying the hide of a creature with fiercesome teeth demonstrates their superiority. Few realize that there is a botanical counterpart: the skin of the stinging nettle furnishes fibre that is now used to produce garments of excellent quality.

Nettle also has a long history of use for medicinal purposes, both in the Old and New Worlds. The applications have been quite varied in Europe, including anemia, skin disorders, allergies, and as a “blood purifier.” In Daniel Moerman’s monumental book detailing uses of plants by North American Indians (*Native American Ethnobotany*, 1998, Timber Press), stinging nettle is listed as one of the ten plants with the greatest number of uses. North American First Nations people used it to treat a very wide array of ailments, including acne, eczema, diarrhea, intestinal worms, and urinary tract infections. Young nettle shoots were once consumed as a remedy for scurvy, a reasonable use since the plants are high in vitamin C. In modern times, commercial preparations of nettle tea have gained popularity for weight loss and maintenance. Recent scientific studies have suggested that nettle “root” (i.e. rhizome) extracts may be useful for relief of benign prostatic hyperplasia (enlargement of the prostate gland not due to cancer). It has been shown that constituents in the rhizome affect sex hormones, and this may be related to the beneficial effect on the prostate.

A common remedy dating to the Middle Ages in Europe, also carried out by Native American healers, and still occasionally practised, is urtification: flogging with nettles, particularly for joint problems. Modern research has shown that the resulting irritation increases blood flow, and stimulates the production of cortisone, which may counteract the inflammation associated with diseases such as rheumatism.

Dried nettles completely lose their stinging ability and can be fed to livestock. In Sweden, Russia, and elsewhere, nettles are in fact used as animal feed, and are considered an extremely healthy addition to fodder. However, few animals will eat fresh nettle, although goats and sheep have been observed nibbling on the plants. It has been shown that mammalian herbivores preferentially consume races of stinging nettle with lower densities of stinging hairs, and it seems clear that the stinging hairs are substantially an adaptation to repel mammalian herbivores.

According to old folklore, nettles have the ability to prevent baldness, a consequence of the old “Doctrine of Signatures” idea that plants have characteristics that signal their usefulness (in this case, the profusion of hairs on the plant suggested that it could stimulate hair growth). Curiously, nettle does seem to have some therapeutic properties for hair, and the herb has a strong reputation for making hair soft and shiny and eliminating dandruff. The Clairol company has used more than 40 tons of nettle in some years in its hair conditioners.

Nettle has also been used as a commercial source of chlorophyll, although there are numerous other species employed for this purpose today.

Agricultural and Commercial Aspects

Cultivation of stinging nettle (subspecies *dioica*) has a long history in Europe for fibre production. Once established, it has been claimed that the plants can remain productive for 10 years, with harvests by the second year of 6–9 t/ha of dry matter (about 17% of which is fibre). Male plants have been found to be slightly greater in productivity than female plants, an important consideration since clones (cuttings) rather than seeds are often being used currently to establish the crop. The plants are moderately resistant to insects and diseases (not surprising since the most productive forms are little changed from the wild), but require high amounts of nitrogen and phosphorus to achieve good yield. Modern commercial methods for extracting and preparing the fibre are still at the experimental stage, and stinging nettle is not yet a profitable fibre crop.

Cultivars & Germplasm

Advanced cultivars comparable to those of modern crops are not available for stinging nettle. During the first half of the 20th century, the German fibre plant specialist Gustav Bredemann, working in Hamburg, selected forms of stinging nettle with greatly increased content of fibre (up to 15% of the dry stem weight, it has been claimed, although a trial in 1995 using 30 Bredemann selections achieved less than 13% for the best selection). Wild plants, by comparison, contain only about 5% fibre.

Prospects

There is some interest in Europe and North America in developing a commercial crop of nettles for food and medicinal purposes. Nettle is presently sometimes commercially cultivated for medicinal and cosmetic extracts, although it is mostly collected from the wild. The textile potential of the plant is currently receiving considerable attention, particularly in Austria, Germany, Finland, and the United Kingdom. In Germany and central Europe the species is considered to be a promising candidate for sustainable production of natural fibre. Nettle has high protein content (crude protein contents of 20–25% have been reported), so that it also has potential for industrial and livestock feed applications.

Revenge of the Nettle

There once was a man wot piss'd on a nettle
The styng to his thyng sorely test'd his mettle
He twyst'd, he turn'd, he jump'd, he dans'd
He damme near leppt right out o' his pants
He hopp'd to his house, sate his arse in a kettyle
And the paine of the nettle did gradually setyle.

— George W. Maschke (1998©; this modern poem reflects an Old English saying, "He has pissed on a nettle.")

Myths, Legends, Tales, Folklore, and Interesting Facts

As noted above, stinging nettle has been deliberately applied to human skin for medical reasons, but there have been a variety of other motives historically. Roman soldiers are reported to have flogged their legs and arms with nettles to keep their circulation going in the cold (by Roman standards) climate of Britain. Some medieval monks flagellated themselves with nettle as penance for sins. By contrast, this practice of "urtication" was employed both in the ancient Roman world as well as in medieval times as a means of sexual flagellation, i.e. sexual stimulation. Married Nitinaht Indians of North America whipped their bodies with nettles in the belief that this would maintain the affection and faithfulness of their spouses.

Many past plant usages of North American Indians seem odd today, but this may often be simply because of a lack of understanding of the uses of plants in the past. The Thompson Indians of North America applied a decoction of stinging nettle root to treat hemorrhoids, which may seem like a good way to make a painful condition even more painful, but has some logic in the counter-irritant value of the plant. The Makah rubbed stinging nettle on their bodies for several purposes: to give them strength to hunt whales and seals, and as a purification ritual after handling a corpse; they also rubbed the plants on their fishing lines to improve their catch. It is possible these practices were beneficial by lessening human odors.

Nettle is one of the traditional "five bitter herbes" (the others are horseradish, coriander, horehound, and lettuce) eaten by Jews during the 8 day Passover to symbolize the bitterness of their enslavement by the ancient Egyptians.

The "world stinging nettle-eating challenge" has been held for several years at the Bottle Inn pub in the village of Marshwood, Dorset, South West England. Stinging nettles are cut into 60 cm lengths with competitors challenged to eat as many of the fresh leaves as they can. As of 2002, carpenter Simon Lambert, 43, holds the world nettle eating championship, having consumed 23 m of nettles in 1 hour. An allied contest for the longest nettle recorded a plant 4.9 m long.

Additional Information

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Book Review

Revue de livre

Weed Ecology in Natural and Agricultural Systems.

By B.D. Booth, S.D. Murphy and C.J. Swanton, 2003

CAB International Publishing & Oxford University Press, 303 p.

ISBN 0-85199-528-4 (paperback)

Price: USD\$60

Barbara Booth and her colleagues state clearly in the preface of this text that the purpose of this book was to allow readers from university undergraduate to graduate level to understand why weeds occur where they do. Their intention was not to discuss any manner or means of control or management of weeds. In pursuing their goal the authors present an easy to read and very understandable plant community and population ecology text book wherein, generally, weed species were used as examples to demonstrate key plant ecology concepts, theories and study techniques. The authors achieved their goal. The book is quite comprehensive and the information within is presented in a very reader friendly manner. A generous use of excellent tables and figures throughout the book provides a good compliment to the text and reinforces the content of the book. An abundance of excellent references is also provided allowing readers to pursue in greater depth any or all of the information presented. The text can also act as a workbook. Readers (students) are encouraged to choose a weed species and answer questions at the end of each chapter related to the concepts and theories in the chapter and how these apply to the readers chosen species. The "workbook" exercise is designed to allow the reader to discover the ecology of their chosen weed species.

It is a challenge to write a text intended to be useful both for students only beginning to study plant ecology as well as those who are somewhat more familiar with the concepts. This book is useful to readers at many different levels of understanding. The authors accomplish this by doing a good job of covering the basics and then leading readers to the point where theories are still being formed on given subjects. They ensure that readers are aware of the meaning of basic terms such as, for example, "stochastic," "bimodal," "logistic," "monocarpic vs. polycarpic" and "microsite." They also introduce the reader to newer ideas in plant ecology such as the "rivet-popper" hypothesis by Ehrlich and Ehrlich explaining the nature of the value of biodiversity in ecosystems and the unpredictability of response when species are randomly removed from any given ecosystem. There are extensive references to the ideas of prominent and important plant ecologists such as Clements, Grime and Tilman and their ideas are clearly explained with many examples. The references to prominent weed scientists are less common or obvious, but this may be a reflection of the original goal of the book.

The book starts with the authors defining what a weed is. After an interesting discussion they bring the reader to the standard conclusion that weeds exist because people exist. In chapters 2 through 13, the authors cover the bases of plant community and population ecology theory and concepts using weeds as examples when possible. Topics

include distribution, reproduction, competition and diversity. In chapter 4 the authors have some fun with the topic of sexual reproduction by including a section on "the benefits and costs of sex" where they introduce readers to the concept of tradeoffs in nature and the idea of plant strategy. This section also reinforces the idea that in nature there are always many paths to a given end, successful reproduction being the example here. Chapters 10 and 14 were uniquely practical chapters for students interested in pursuing research in weed ecology. In these chapters the authors provided an explanation of methods for studying plant communities and populations. These chapters included details on different experiment types, how to calculate diversity indices, when to use certain diversity indices, the use of long term experiments and basic multivariate analysis techniques. It was good to see that in chapter 11 the authors discussed the importance of considering scale when studying plant ecology. In this chapter the focus on scale was in the context of measuring diversity and understanding it's function.

This textbook is a strong broad service plant ecology text. Readers who are involved in weed management or who wish to be, may find that this book is not necessarily focused on the ecology of weeds. Although many of the examples used in this text to demonstrate concepts and theories are weed examples there are probably as many examples used that are not weed examples. In some cases this made it difficult to relate ideas being presented to the issue of weeds. Because of my bias as an applied weed scientist I would have preferred to have seen more reference in the book to weed management. The authors did state clearly in the preface that they would not discuss weed management but in chapter 15 they included a section titled "Why weed management needs weed ecology." In this section the authors succinctly justify our need to understand weeds in order to manage them. To tie the text closer to weed management and to perhaps make more plain for readers the direct link between understanding weed ecology and managing weeds it would perhaps have been good to see this section placed in the preface of the book and have it serve as a touchstone for the authors in tying the chapters together and relating concepts in the book to weed management. If the text were more closely tied to weed management strategies some areas of the book could have included some additional discussion. For example, in chapter 6 it would have been appropriate to discuss the importance of variability in time and space (both vertical and horizontal) in the suitability of seedling recruitment microsites and the tremendous impact this variability can have on the geographical location of weed seedling emergence and hence movement, competition, and persistence of species. This may be a function of a lack

of particular focus in this chapter on ruderal species, for which recruitment is perhaps the most critical phase in the life cycle. In chapter 8 "ability to withstand competition" and "ability to compete" would have been more intuitive than "competitive response" and "competitive effect." Also in this chapter the distinction between exploitative and interference competition was subtle and perhaps not appropriate to include given the intended audience of this book. In chapter 9 there was a very interesting discussion of mycorrhizal fungi associations with plants as an example of facultative mutualism but the discussion later in the chapter of the influence of nitrogen fixing plants on the suitability of environment for other species was brief and it did not include ideas related to the timing and placement of nitrogen and how this can greatly influence weed-crop competition within agricultural fields. In chapter 12 the discussion of

population evolution and species extinction pertained to temporal and spatial scales greater than the temporal and spatial scales relevant to weed management in the context of farming seasons (or farmers lifetimes) and average individual field or farm sizes.

My criticisms of this book should be considered minor given the intentions of the authors in writing this book it was very well done. I am happy to see this text and I will be using it as a resource for both my undergraduate and graduate level weed science courses.

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The Committees and Sections of the Canadian Botanical Association / Association botanique du Canada.

At the last meeting of the CBA/ABC in Antigonish, I received a number of questions about the committees and sections of the Association, so I thought it might be appropriate to say a few words about them. While some of the information may be found in the bylaws which are available on the CBA/ABC website, the rest is in the Manual of Policies and Procedures, which is not currently available on the website, but which may be in the future. It is important to note that any member, regular, students or life-members, can participate in the activities of the committees and sections. Most of them currently need help and we encourage you to contact the chairs for more information.

The committees

There are currently six committees listed in the manual and I will give a brief overview of their purposes.

1. The Nominating Committee

This is chaired by the Past President of the Association, and the function is to ensure a slate of candidates for election to the executive and Board of Directors at the next Annual General Meeting. The Editor of the Bulletin should print a Call for Nominations in the October issue of the Bulletin, however, it is the past president who ensures that the call is correct.

If there are position vacancies and no nominees, then the Secretary should be notified and consultation should take place during the executive conference call in January. Possible candidates can then be approached by phone. Fundamentally the CBA/ABC is looking for individuals who have a strong commitment to the Association, and "will make things happen".

2. The Membership Committee

This is an ad-hoc standing committee, which conducts

activities to enhance membership of the CBA/ABC. Currently there is one member/chair, Hugues Massicotte (hugues@unbc.ca), who reports to the annual general meeting on the status of the membership, encourages early payment of membership dues and the sponsoring of student members.

The committee is also engaged in the production of recruitment pamphlets.

3. The Science Policy Committee.

This committee was established 1986 to advise the Association on matters of science policy at the Federal and Provincial levels as they affect the activities of botanists in Canada. The chair is the Past president, currently Joe Gerrath (jfgerrath@sympatico.ca), and reports are made at executive meetings and at the Annual General meetings.

4. The Development Committee

This was established in 1991, with the idea of increasing membership in the CBA/ABC and also producing ideas for fund-raising. The Executive appointed Christian Lacroix as chair at the 2003 meeting. The president and the treasurer are ex-officio members of the committee. The chair reports to the executive and also presents a report at the annual general meeting. While it might seem that there is an overlap in the activities of the membership and development committees, they are intended to complement each other. If any member of the Association has ideas for fund-raising they should contact Christian Lacroix directly (lacroix@upei.ca).

5. The Conservation Committee

Established in 1980, this is a standing committee of the CBA/ABC, which represents the Association in conservation matters and advises the board in conservation

recommendations. The new chair of the committee is Dawn Bazely (dbazely@yorku.ca) of York University. In addition to the chair there are four or five members recommended by the chair and approved by the Board. There is also a Regional Contact person for each region of Canada to assist the Committee. The conservation committee is encouraged to take initiatives after careful assessments, and in the past have produced several position papers. Those who were present at this year's annual general meeting will recall that a number of resolutions were put forth on the topic of invasive plants and biodiversity.

Members of the CBA/ABC do not need to be formal members of the committee in order to attend the meetings which are held during the annual conference of the CBA/ABC and announced in the conference program. Your opinions and participation are welcomed by the committee.

6. The Awards Committee

Chaired by the President of the Association, committee members are drawn from the executive and Board of Directors. The committee is responsible for nominations for a number of awards, such as the Lawson medal, Mary Elliot Award and the Macoun Travel Bursaries.

The sections

Over the years groups of members with similar interests have formed "sections". These have to be formally recognized and approved by the Board, which also has the power to dissolve the sections if they become inactive or for any other valid reasons. On the annual membership form there are boxes which can be checked indicating your interest preference. It should be noted though that members may belong to any number of sections. Section meetings are held, usually at lunch time during the annual conferences and again they are advertised in the program.

Each section has a chair and secretary, and in some cases, a small executive. Section chairs are responsible for reporting section activities to the executive at out-going and in-coming executive meetings, and also for notifying the Vice president of activities planned for the next conference by October 31st of the preceding year, so that time can be allocated in the program.

Section chairs are also responsible for providing volunteer judges for the next Lionel Cinq Mars competition. Two such people are required, one to judge, and an alternate, in case the first person is unable to attend the conference. Names of the potential judges are given to the President-Elect at the meeting of the incoming executive.

The sections may also be responsible for organizing special interest symposia at the annual meetings.

1. Ecology Section

The section has a website which is accessed through the CBA/ABC Home page. The section is a forum for discussions of an ecological nature, and may include conservation issues. The section administers the Rowe award, named for Stanley Rowe, for the best paper on an

ecological topic by a Canadian graduate student either at a Canadian University or at a foreign university.

Meetings are held during the annual conference and all CBA/ABC members are welcome to attend and participate. The current chair is Dianne Fahselt (dfahselt@uwo.ca).

2. Mycology Section

The section sponsors the Weresub lecture at each conference and in addition has a Weresub prize awarded to the graduate student with the best paper in Mycology. Section meetings are held during the annual conference and all interested members are invited to attend. The current chair of the section is Jim Traquair (traquairj@agr.gc.ca).

3. Systematics and Phytogeography Section

The section meets annually at the conference and awards a prize for the best graduate student paper in the field. It is known as the Porsild Award, after Alf Erling Porsild, a former Chief Botanist of the National Herbarium. All interested members of the association are invited to participate in the meetings. The chair of the section is Geraldine Allen (gallen@uvic.ca).

4. Structure and Development Section

All CBA/ABC members who have an interest in this area may attend the annual meeting held during the conference. The section administers the Steeves Award, named in honor of Taylor Steeves of the University of Saskatchewan, who is still an active member of the section. The award is for the best graduate student paper in the area of structure and development. The current chair of the section is Arthur R. Davis (davisar@duke.usask.ca).

5. Teaching Section

The section was formerly known as the "General Section", until 1998 when several members suggested a change to the current name of "Teaching section". The section has a website of teaching resources, accessed through the main CBA/ABC page, and members are encouraged to suggest items which can be added to the site.

The section meets annually at the conference, and everyone who has an interest is invited to attend. The section has in the past organized sessions of contributed papers on teaching, and plans to have such a session at the next conference in Winnipeg. The current chair is Christine Maxwell (cmaxwell@trentu.ca).

Christine Maxwell, Secretary of ABC
Trent University



lakes, and their fossilized remains in the lake sediments. His meticulous studies on hundreds of lakes throughout Canada have provided baseline and experimental data which document the changes that have occurred over time. He is able to separate short-term changes in weather from longer-term changes in climate. He can also point to the effects of pollutants on lakes and the fish living in them. Because of his work, we now have records describing the conditions of lakes and the organisms living in them that stretch back to the last ice age.

Following undergraduate and masters degrees at McGill and Brock, John Smol completed a Ph.D. at Queen's University in 1984. He was appointed a faculty member at Queen's upon completion of his doctorate, and rose to full professor after only seven years. He has excelled among a faculty of superb scholars. His research group (The Paleocological Environmental Assessment and Research Lab, or PEARL) now occupies an entire floor of the Queen's Biology building and consists of a team of 30 researchers, staff and graduate students.

Only two years after his initial faculty appointment, John Smol was awarded the Steacie Prize by NSERC as Canada's outstanding young scientist, and by 1996 he was elected a Fellow of the Royal Society of Canada. His research has been singled out and given special recognition

by a host of agencies in both North America and Europe. Wherever environmental impacts on lakes are being discussed, John Smol's research will likely be front and centre.

With more than 330 journal articles and 13 books, John Smol's scientific contributions are truly significant. He has co-authored seven papers in *Nature* and four in *Science*, these being the most prestigious venues for scientific publication. In fact, it has been said that Professor Smol has published so much, he had to invent his own scientific journal! He is the founder of the *Journal of Paleolimnology*, for which he remains the primary editor. He also provides editorial contributions to several other journals, and is now editing a new book series.

In addition to his abilities as a scientist, Dr. Smol is a brilliant lecturer and has been given a teaching award from Queen's University. He is an example of a scientist who combines world-class science with world-class communication skills. In the post-Kyoto world, his science provides essential links in understanding the potential fate of the environment facing not only our own species but also the rest of the biological world."

Liette Vasseur, CBA President

Obituary - Lorene L. Kennedy: Mycologist-Botanist



Lorene Louise Kennedy, Ph.D., retired Professor of Botany and Mycology at the University of Alberta, Edmonton, Alberta, Canada died peacefully at her home in Cordova Bay, Saanich, British Columbia, Canada on August 31, 2002 in her 82nd year.

Dr. Kennedy had a well-rounded knowledge of the natural history of Alberta. She loved field trips and took great pride in stimulating undergraduates to recognize and appreciate the Acryptogamic flora of

Alberta. This knowledge included mosses, lichens, algae and fungi. Her research interests in mycology were focused primarily on the Basidiomycetes. She took a personal interest in the taxonomy and ecology of the Jelly Fungi. That interest was sparked by the training of the eminent mycologist, G. W. Martin, who was her Ph.D. supervisor at the University of Iowa. Her research dealt with the taxonomy of the jelly fungus Family *Dacrymycetaceae* including genera such as *Dacrymyces* and *Calocera* for which she took a special interest in the developmental morphology of basidiocarps. Her graduate students tackled the biosystematics, developmental morphology and ecology of various genera of *Aphyllphorales* (*Polyporales*).

Dr. Kennedy was born in Edmonton, Alberta on March 31, 1921. Her training as a botanist began in 1941 when she

graduated from the University of Alberta with a B.Sc degree. Two years later she was awarded a M.Sc. degree in botany from the University of Alberta. In 1957 she was awarded a Ph.D. in Botany from the University of Iowa. She began her teaching career as a lecturer at the University of Alberta in 1947 and rose to the rank of full professor in the Botany Department in 1965. She was active in University affairs and highly respected nationally and internationally as a professional mycologist and botanist. She was a member of the Botanical Society of America, the Canadian Botanical Association, the British Mycological Society and the Mycological Society of America.

Dr. Kennedy was a prime and proper scientist and a fair, a no-nonsense professional who detested any form of prejudice. It's hard to imagine grease on her face but she was trained as a motor mechanic during World War II! She was also a considerate and compassionate person who cared for her aging mother for many years in Edmonton before retiring to British Columbia. They loved to entertain and to work in the garden of their small, tidy home south of the campus. As her Ph.D. student from 1970-74, I recall many enjoyable Sunday dinners followed by lively discussions of current affairs and the latest books or musical sampling of the recordings of her favourite singer, the Russian bass, Ivan Rebroff.

James A. Traquair, Mycology Section Chair
Agriculture and Agri-Food Canada, London

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