

## THE CANADIAN BOTANICAL ASSOCIATION

## BULLETIN

## L'ASSOCIATION BOTANIQUE DU CANADA



July 1975

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Waterloo

## BEP 1975 - SASKATOON - SEE YOU THERE!

Have you completed your plans to attend the annual CBA/ABC meetings which are being held at Saskatoon from August 17th to 22nd this year? If not hurry for time is running out. A full range of papers will be presented. Nearly 100 titles have already been submitted promising an excellent scientific program. As noted in the January Bulletin, there will be four interdisciplinary sessions, each with out-standing keynote speakers. Related papers from the three societies - Entomological Society of Canada, Canadian Phytopathological Society and the CBA/ABC - will be grouped around the keynote topics. Interesting field trips are being planned. Take advantage of a unique opportunity to join with Entomologists and Plant Pathologists to discuss topics of mutual interest, and see the western grasslands!

## THE 1976 CBA/ABC MEETINGS

Planning for these meetings which will be held at Bishop's University, Lennoxville, P.Q. is in progress. Suggestions for a theme or themes for the meetings are required by your Executive Committee. So far two themes have been suggested - Natural Areas and Allelopathy. Have you any suggestions for themes or any comments on these two suggestions? If so please send them to me or to any member of the Executive Committee who will be attending the Saskatoon Meetings in time for discussion by the Executive at Saskatoon.

J.K. Morton

## NOMINATIONS FOR N.R.C. GRANT COMMITTEES

The CBA/ABC Nominating Committee is responsible for making nominations to the Biological Council of Canada for membership on the National Research Council Grant Selection Committees. Would you please forward immediately suggestions for the following committees to Dr. P.B. Cavers, Head of

## Nominating Committee:

- a. Cell Biology
- b. Plant Biology (we need 2 nominations here)
- c. Population Biology

His address is:- Dr. P.B. Cavers

Department of Plant Sciences  
University of Western Ontario  
London, Ontario N6A 5B7

## THE ADVANCING ICE

Recent studies of satellite photographs of the North Polar regions show that average snow and ice cover of the Northern hemisphere increased by nearly 12 per cent in 1971, and since 1971 snow and ice cover around the polar cap seems to have fluctuated about a new mean of 37 million square km as opposed to 33 million square km before 1971.

This is not to say that an ice age is approaching, but there does seem to be a connection with our weather, due to alteration in the global heat balance.

The above is from a note in the Bulletin of the Amateur Entomologists' Society for February 1975 dealing with recent shifts in the distribution of butterflies in Britain.

## THE BIOLOGY OF CANADIAN WEEDS

Readers of the Canadian Journal of Plant Science will have noted that ten articles have been published in the Biology of Canadian Weeds series as of January 1975. The species covered by these accounts are: Kalmia angustifolia; Spiraea latifolia; Cardaria chalepensis, C. draba and C. pubescens; Plantago major and P. rugelii; Daucus carota; Centaurea diffusa and C. maculosa; Myrica pensylvanica; Sinapis arvensis; Thlaspi arvense; and Iva axillaris.

Two other articles, one on Ambrosia artemisiifolia and A. psilostachya; the other on Dipsacus sylvestris are awaiting publication.

In addition accounts dealing with over 90 species are in preparation.

Offers of accounts on other species would be most welcome from C.B.A./A.B.C. members. Important species which merit work in the near

future include: Bromus tectorum, Digitaria ischaemum and D. sanguinalis, Panicum capillare, Rumex acetosella, Polygonum aviculare, P. convolvulus, Fagopyrum tataricum, Axyris amaranthoides, Salsola pestifer, Spergula arvensis, Berberis vulgaris, Lepidium spp., Capsella bursa-pastoris, Neslia paniculata, Camelina microcarpa, Raphanus raphanistrum, Erucastrum gallicum, Conringia orientalis, Sisymbrium altissimum, S. loeselii, Erysimum cheiranthoides, Vicia spp., Euphorbia esula, E. cyparissias, Euphorbia spp. (annuals), Rhamnus cathartica, Malva spp.; Hypericum perforatum, Oenothera biennis, Conium maculatum, Cicuta maculata, Sium suave, Cuscuta spp., Echium vulgare, Lappula echinata, Dracopcephalum parviflorum, Galeopsis tetrahit, Erigeron (Conyza) canadensis, Erigeron spp., Solidago spp., Iva xanthifolia, Galinsoga ciliata, Achillea millefolium, Matricaria spp., Anthemis spp., Senecio jacobaea, Cirsium vulgare, Centaurea repens, Leontodon autumnalis, Tragopogon spp., Lactuca spp., Crepis spp. The format for this series was published in the Canadian Journal of Plant Science in 1972 (Vol. 52 pgs. 651-654).

Offers of new accounts should be sent to Dr. P.B. Cavers, Department of Plant Sciences, University of Western Ontario, London, Ontario who will answer all enquiries. Copies of the format are available from the preceding address.

#### THE BIOLOGICAL COUNCIL OF CANADA

During the past year the Biological Council of Canada has been faced with a number of threats to its existence. Several large societies (e.g. Canadian Society of Cell Biology, Canadian Society of Microbiologists, Entomological Society of Canada) have withdrawn from the Council during this period. You will read elsewhere in material accompanying this Bulletin that the Council's annual meeting in April has been adjourned temporarily until the autumn to enable each constituent society to discuss at its annual meeting the future of the B.C.C.

One of the great problems with the Biological Council is that it has never been particularly 'visible' to the average member of a constituent society. Unlike other umbrella-type organizations it has never sponsored meetings nor operated a journal. Many people have questioned the value of their \$3.00 a year contribution to this organization.

Nevertheless the B.C.C. has worked extensively and effectively for Canadian biologists on a national basis. The information package prepared by the B.C.C. executive and also included with this issue of the C.B.A./ A.B.C. Bulletin documents the many useful activities of the B.C.C.

Obviously we will have to consider this matter very carefully during our Annual Meeting in August in Saskatoon. A number of questions will have to be answered. Who will represent Canadian Botanists in national and international matters in the future? If the B.C.C. is to be continued how can it be financed effectively? If the B.C.C. is terminated will our Association stand alone or will we link together in some new arrangement with other Canadian biological societies?

One alternative that we must evaluate is the formation of a Biological Institute of Canada. An institute would operate in a similar manner to the Agricultural Institute of Canada or the Chemical Institute. It would differ from the B.C.C. in that members would pay individual fees. These fees would be many times higher than the \$3.00 fee now required for the B.C.C. (The A.I.C. fee at present is \$50.00 per year and an increase for next year is a virtual certainty.) It is probable that many positions requiring professional biologists would require that the person filling the position be a member of the Biological Institute. The Executive of the B.C.C. have begun "preliminary investigations leading to an examination of the formation of an institute" in response to a motion which was carried unanimously at the April meeting.

Please read the accompanying documentation on the B.C.C. very carefully and come to the Saskatoon meetings prepared to discuss this matter. If you cannot be present in Saskatoon you can write to any member of the C.B.A./ A.B.C. executive before August to put forward your opinions and suggestions.

P.B. Cavers

#### PERSONALIA

##### Dr. Michael Shaw

Dr. Michael Shaw, F.R.S.C., Dean of the Faculty of Agricultural Sciences at the University of British Columbia, received the degree of Doctor of Science (honoris causa) at McGill's convocation ceremonies for the Faculty of Agriculture on May 31 at Macdonald College in Ste. Anne de Bellevue.

Dr. Shaw is a McGill graduate who has become preeminent in the field of plant physiology in Canada and is especially noted for his pioneer developments in physiological studies of wheat rust. He has also played key roles in a number of national groups concerned with the development of science policy.

Dr. Shaw taught plant physiology at the University of Saskatchewan from 1950 to 1967. In 1967, he joined the University of British Columbia as Professor of Agricultural Botany and Dean of the Faculty of Agricultural Sciences. He has edited the Canadian Journal of Botany for many years and is a past president of the Biological Council of Canada and of the Canadian Society of Plant Physiologists. He received the gold medal of the Canadian Society of Plant Physiologists in 1971. Dr. Shaw is a member of a number of professional societies including the American Society for the Advancement of Science, the American Society of Plant Physiologists and the Canadian Botany Association.

##### Dr. J.E. Cruise

Dr. Cruise has been appointed director of the Royal Ontario Museum. For many years Dr. Cruise has been a professor of botany at the University of Toronto, and more recently associate dean in the Faculty of Arts and Science of that university. One of his main tasks at the R.O.M. will be to carry the museum through a long awaited major expansion programme. Our congratulations to Dr. Cruise!

#### Dr. John Ramsbottom

Dr. Ramsbottom died in London, England on 14th December 1974 at the age of 89. He was well known to many as a mycologist and as Keeper of Botany at the British Museum from 1929 until he retired in 1950. He wrote several books on the fungi of the British Isles, including Mushrooms and Toadstools in the New Naturalist series in 1953, a Handbook of the Larger British Fungi in 1923 and Fungi in 1929 - a sixpenny paperback which proved very popular in its time. Dr. Ramsbottom was a botanist of international repute and received honorary degrees from the Universities of Coimbra and Uppsala in 1938 and 1957 respectively. His friends will miss him for he gave of his friendship freely to many.

#### Dr. Henry Allan Gleason Sr.

Dr. Gleason died in April of this year in Toronto at the age of 93. He was Head Curator of the New York Botanical Gardens until his retirement in 1951. He was a prolific writer producing some 280 papers and books during his 60 year career. He is perhaps best known for his two floras of northeastern North America - The New Britton and Brown Illustrated Flora and the Manual of Vascular Plants, the latter completed by Dr. Cronquist. Both are invaluable standard works.

#### Dr. J.H. Craigie

Dr. Craigie, whom everyone interested in rust knows as the discoverer of the sex life of the rust fungus is now living in the Glebe Centre Inc., 950 Bank St., in Ottawa. Although afflicted with Parkinson's disease, his mind is as sharp as ever and he would welcome continued contact with the scientific world.

### PUBLICATIONS

Pollen - Its Biology, Biochemistry and Management by R.G. Stanley and H.F. Liskens. Published by Springer-Verlag, New York, Heidelberg and Berlin.

"Meiotic division has three important features:-

1. Transformation of the chromosomes by crossing-over processes,
2. Rearrangement of the genomes by random distribution of the homologous chromosomes, and
3. Reduction of the chromosome number from  $2n$  (diploid) to  $n$  (haploid). Up to the present time many textbooks emphasize the third event. If this was the most important aspect of meiotic division, nature would renounce the complex processes of meiosis. However, 1. and 2. are decisive, because these events make recombination possible, which is probably the most important contribution of sexuality to evolution."

The above quotation from the early pages of this book sets the tone, brevity with clarity, of the entire work. The authors deal with the morphogenesis of the pollen grain through the formation of the pollen mother cell, meiosis, mitosis, the complex building up of the pollen exine, the dehiscence of the anther and the distribution of the pollen to the stigma of, hopefully, another flower of the same species, and the fertilization of the ovule. From here the book goes on to deal

with every conceivable aspect concerning pollen, hybridizing, collecting, storing and management. Pollinosis and bio-chemistry are considered in detail. This book is likely to become a standard text on anything pertaining to pollen and its extensive bibliography makes it invaluable.

Reg Adams

#### The National Wildlife Federation of the United States

The 20th Edition of the National Wildlife Federation's Directory is now available. The Directory includes listings for national and international organizations, federal and state agencies, and citizens' organizations concerned with natural resource use and management. The Canadian section includes federal and provincial government agencies and citizens' groups. Also included are universities offering training in environment and conservation, foreign government conservation/environment departments, Canadian and U.S. fish and wildlife administrators, audiovisual materials, periodicals, and other directories related to the conservation field. Over 1400 organizations and 8000 individuals are listed. The Directory is \$2.50 and is available by writing: DIRECTORY, National Wildlife Federation, 1412 16th Street, N.W., Washington, D.C., 20036.

The Federation also has produced the proceedings of its annual meeting in a 103-page paper bound volume available for \$2 at the same address. Sixteen presentations focus on various aspects of "How Do we Achieve and Maintain Variety and Optimum Numbers of Wildlife?"

#### The Economic Impact of Environmental Programs

The President's Council on Environmental Quality (CEQ) has published its Fifth Annual Report, "The Economic Impact of Environmental Programs". Copies are available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. The cost for Stock Number 4000-00327 is \$5.20.

### CONFERENCES

Tenth International Symposium on the Chemistry of Natural Products. Dunedin, New Zealand, August 23-28, 1976. Programme:-

#### Section A:

Nucleic acids, nucleotides and related compounds. Proteins and peptides (Both animal and plant). Molecular biology including enzymes and hormone receptors.

#### Section B:

Lipids, carbohydrates and other bio-polymers including lignins, tannins and related substances.

#### Section C:

Biologically active compounds, including hormones, antibiotics, pheromones, ecdysones and toxins. Flavour and odour chemistry.

#### Section D:

Biosynthesis and biosystematics, including chemotaxonomy and phylogeny.

Section E:  
Structural and synthetic studies of natural products, including steroid, terpenoid, alkaloid and monosaccharide chemistry.

Section F:  
Physical methods, including  $^{13}\text{C}$  resonance, mass spectrometry, X-ray crystallography, chromatography and newer analytical techniques. Separation of macromolecules.

Invited lecturers:- the following have accepted invitations to present the sectional plenary lectures:-

Section A: H.D. Niall (Australia)  
F. Sanger (U.K.)

Section B: L.L.M. van Deenen (Netherlands)  
J. Baddiley (U.K.)

Section C: K.L. Rinehart (U.S.A.)  
J. Meinwald (U.S.A.)

Section D: R.A. Battersby (U.K.)  
T.J. Mabry (U.S.A.)

Section E: R.B. Woodward (U.S.A.)  
(Provisional)  
P. Deslongchamps (Canada)

Section F: D. Doddrell (Australia)  
I. Karle (U.S.A.)

Several pre- and post-symposium tours have been arranged. Accommodation is available on the University of Otago campus. For more information write to:- Prof. P.K. Grant, Chemistry Department, University of Otago, P.O. Box 56, Dunedin, New Zealand.

#### The Fifth Soil Microcommunities Conference

This conference will be held from October 15 to 17 this year on the Syracuse Campus of the State University of New York. The program is open for contributed papers (15 min. max. time/paper) and will include a fine array of invited speakers, an impromptu short note session (5 min/note), synthesis sessions and an informal dinner gathering.

The purpose of this meeting will be to bring together scientists with mutual interests in the interrelationships of component organisms comprising soil, litter and other terrestrial microcommunities.

For more information contact Prof. Daniel L. Dindal, Department of Forest Zoology, College of Environmental Science and Forestry, State University of New York, Syracuse, New York 13210.

#### The Phytochemical Society of North America

The 1975 annual meeting of the Society will be held at the University of South Florida, Tampa, Florida from August 4-7, 1975. The symposium topic for these meetings is "Physiology and Biochemistry of Plant-Insect Interaction". In addition two other symposium presentations are planned dealing with the theme of "Raison d'être of Secondary Compounds". Speakers will include:-

Dr. L.B. Hendry - Chemical Messengers in Insects and Plants  
Dr. Paul Hedine - The Boll Weevil - Cotton Plant Complex

Dr. David Rhoades - Toward a General Theory of Plant Antiherbivore Chemistry  
Mr. Eloy Rodriguez - Biochemical Parallelisms in Attractant and Repellent Compounds in Plants and Arthropods  
Dr. Stanley D. Beck - Insect Plant Interaction - Nutrition and Metabolism  
Also Drs. Paul Feeny, Lincoln Brower and Kurt Mothes whose topics are not available at the time of writing this note.

The symposia papers will be edited by James Wallace and published as Volume 10 of Recent Advances in Phytochemistry by Plenum Press. The registration fee of \$20 includes the published symposia.

Contact Dr. Constance Nozzolillo, Department of Biology, University of Ottawa, Ottawa, Ontario K1N 6N5 for more information.

Enquiries about membership of the CBA/ABC should be addressed to the secretary of the association:- Miss Carolyn Bird, National Research Council, Atlantic Regional Laboratories, 1411 Oxford Street, Halifax, Nova Scotia B3X 3Z1.

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