

---

---

**VOL. 22**

**December - décembre, 1990**

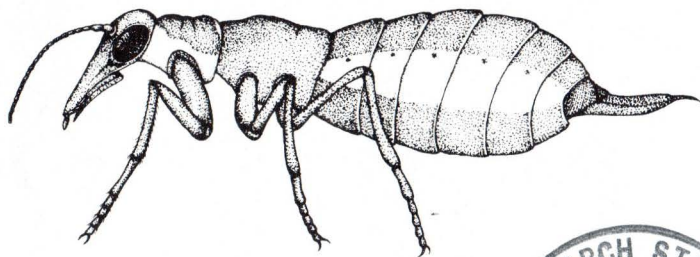
**No. 4**

---

---



# **BULLETIN**



**ENTOMOLOGICAL SOCIETY OF CANADA**  
**LA SOCIÉTÉ D'ENTOMOLOGIE DU CANADA**

**ENTOMOLOGICAL SOCIETY OF CANADA**  
**LA SOCIÉTÉ D'ENTOMOLOGIE DU CANADA**  
**BULLETIN**

**VOL 22 (4) - December/décembre, 1990**

---

---

**Editorials**

Where are the Women Entomologists?- J. Myers: The Paradox of Involvement - R. Aiken ..... 156

**Letters to the Editor / Lettres à l'éditeur** ..... 158

**Society Business / Affaires de la Société** ..... 159

Notice of Executive Council Meeting (p. 159); Memoirs Editor(p. 159); CFBS - Annual Meetings(p. 159);Committees and Representatives/Comités et Représentants(p. 160); President's Update(p. 163); Annual Reports(164);Minutes - Governing Board(p. 186 & 195); Annual General Meeting(p. 197)

**Articles** ..... 200

Gold Medal Address - Fool's Gold: The Fallacy of Government Funding of Research or Why do we do Research? - S. Tobe(p. 200); Ewen-Leech Laws of Publication(p. 203); L'Insectarium accueille son 300 000e visiteur(p. 203)

**Personalia / Personnalités** ..... 204

Gold Medal- S. S. Tobe(p. 204); Médaille d'Or - S. S. Tobe(p. 206); C. Gordon Hewitt Award- B. Roitberg(p. 208); Prix C. Gordon Hewitt- B. Roitberg(p. 209); P. Corbet(p. 210); M. McGregor(p. 212); M. Maw(p. 213); A. Arthur(p. 214); R. Garneau(p. 215)

**News of Organizations / Nouvelles des organisations** ..... 215

International Commission on Zoological Nomenclature(p. 215)

**Heritage / Notre passé**

**Publications** ..... 217

Book Reviews(p. 217); Book Notice(p. 224)

**Photos**

**Positions Available / Emplois disponibles** ..... 224

Mount Allison University(p. 224); University of Manitoba(p. 225)

**Scholarships and Grants / Bourses d'études et subventions** ..... 226

ESC 1990 Postgraduate Awards(p. 226); SEC 1990 Bourses pour étudiants post-gradués(p. 227); ESC 1990 Graduate Research-Travel Grants(p. 228); SEC 1990 Allocations de voyage pour étudiants gradués(p. 229); Smithsonian Research Fellowships(p. 230); Smithsonian Minority Internship Program(p. 230)

**Upcoming Meetings / Réunions à venir** ..... 231

**Miscellanea / Divers** ..... 232

Editor's Notes

---

---

Bulletin Editor / Editeur du Bulletin:

Cover Design / Conception de la couverture:

Published by / Publié par:

F. Hunter

R. Thiébaux

The Entomological Society of Canada/

La Société d'entomologie du Canada

1320 Carling Ave.

Ottawa, Ont. K1Z 7K9



**New Bulletin Editor**

**As of January 1, 1991  
the Editorship of the *Bulletin*  
will be taken over by**

**Dr. Fiona F. Hunter**

**Please send all correspondence  
concerning the *Bulletin* to :**

**Dr. F. Hunter, Bulletin Editor**

**Department of Zoology,**

**Brandon University**

**Brandon, Manitoba**

**R7A 6A9**

## GUEST EDITORIAL

### Where are the women entomologists?

Two recent events stimulated me to write this comment. At the recent meeting of the Pacific Branch of the American Entomological Society this June, I found myself to be the only woman in an audience of approximately 60 individuals at a symposium. This called to my attention once again how women seem not to be drawn to entomological societies. But yet over half of the undergraduates who have taken my entomology course have been women, many of whom are currently involved in entomological work as private consultants or with the provincial government. Only 10% of the members of the Canadian Entomological Society are women. Is membership in the Society not appealing to women?

The second event stimulating this comment was the editorial in the March issue of the *Bulletin, Sex, Lies and Red Tape* by Ron Aiken. If the tone of that editorial represents the attitudes of the Entomological Society, it is obvious why membership is less than attractive to female entomologists. Aiken puts his finger on why women are under represented in science in general and academia in particular. He calls it collegiality. The "Old Boy's Network" is an equally good term. Hiring on the basis of collegiality selects for those of the same sex and country of origin as those doing the hiring. This has meant that research jobs in government laboratories and academic positions have been most frequently filled by American and British males. Aiken opposes "righting social wrongs through hiring". However, there is a precedent for this in the University Research Fellowship program and the immigration policies implemented to insure that more Canadians would be hired in academic and research jobs. The new Women Scientist Program begun by NSERC and the invitation of applications from women for academic and government jobs follows in this same philosophy. You can not criticize one without criticizing the other.

There is a new generation of males that find females to be collegial and who encourage the participation of women in science and academia. I look forward to the greater participation in the Entomological Society of Canada by the many excellent young women whose careers involve entomological work. But the message expressed in even the title of the editorial "*Sex, Lies and Redtape*" will do little to encourage the younger generation of entomologists to join the Society.

Judith Myers,  
Depts. Zoology and Plant Science,  
University of British Columbia,  
Vancouver, Canada V6T 2A9

## EDITORIAL

### The Paradox of Involvement

I should be no surprise to anyone who has read some of the editorials in the last few issues of the *Bulletin* that I am no fan of bureaucrats and administrators. My entirely personal and admittedly biased view is that such people are, in the main, obstructive, petty, narrow-minded, utterly unproductive and woefully ignorant of the fact that they are supposed to make life easier for those whose working lives they affect. Yet these are precisely the people who make the decisions about matters that affect the funding, directions and logistics of research. How has this happened?

In the last few years, this Bulletin has devoted several pages to encourage entomologists to become involved in the more political matters that affect us. There have been eloquent pleas for us to devote our energies and time to any number of causes including the criminally low levels of funding of all kinds of research, the public perception of scientists as largely useless parasites on society the declining levels of students in North American universities that are entering the sciences and moronic funding schemes (remember the research tax credit for industry?). Issues looming on the horizon are no less serious. For example, has anyone made any noise about the fact that the new GST which, when applied to research grants, amounts to little more than a cynical and underhanded way to further reduce grant support? Are all these issues important? Of course they are. Do they deserve time and energy devoted to them? Of course they do. Do we have time to fight the good fight? Well.....

This is the frustrating paradox of involvement. Those who are deeply involved in research have the best justification for fighting over issues that affect us and who have the best perspective to make the necessary arguments about these issues. Yet those who are deeply involved in research have the least time to get involved.

Is this an unsolvable paradox? I think not. The solution is not the great involvement of a few people but a little involvement by a great number of people. For example, a recent issue of the *Bulletin* included a plea from John Laing to write letters to politicians. Did any one do it? I did. I say this not to appear to be saint-like but to make the point that the whole exercise took 25 minutes and 18K of computer memory. The point, too, is that no one person is going to come riding out of the fog on a white charger and, with recourse to sweet reason, rectify all the problems facing us.

We also have to realize with whom we are dealing. We are dealing with the administrators and bureaucrats. These are people who are not generally swayed by the kinds of rational argument that are so appealing to scientists. So if not reason, then what? I think we have first to get angry - after all this could be the best part of our careers at stake. Then we have to get really annoying, en masse. The bureaucrats seem to dislike their lives being made uncomfortable more than anything else. One person complaining consistently is a pain, a large number is a movement.

A little bit effort on the part of several and the effect will be impressive. To quote the ad for Nike sports gear - "Just do it."

Ron Aiken  
Mount Allison University

---



## LETTERS TO THE EDITOR/LETTRES A L'EDITEUR

Dear Ron:

I have usually enjoyed and agreed with your editorials in the *Bulletin* but I think you missed the boat regarding "*Sex, Lies and Redtape*". It appears you do not understand why affirmative action is, on some occasions, necessary. I sent a copy of your editorial to the chief of the Equal Employment Opportunity Office at the Experimental Station where I work and invited her comments. They are:

"I would argue that institutions that advertise in the manner described by Ron Aiken have undoubtedly established a reasonable basis for concluding that some type of affirmative action is necessary. To recognize that certain employment practices/policies have had an adverse effect on particular groups of individuals and to implement a progressive remedy without benefit of a court-ordered consent decree is admirable.

"Too often, Mr. Aiken's method of determining quality in an applicant and making a judgement call as to who would make the best colleague leads to a homogeneous workforce that emulates the selecting authority.

"Mr. Aiken expressed concern that science and scientific efforts will suffer from this type of affirmative action. I would wager that they will suffer more if we fail to utilize the diversity and global experience of the human resources available in this country today."

When she sent these comments she returned your editorial. She highlighted the sentence "The tone of a person's interview...all play a role" and the one "I'm trying to make a judgement on a colleague that I can deal with...over a number of years."

It may be that in New Brunswick - a province I have visited briefly several times - there is no need for affirmative action but, if so, it would seem that we all should have heard about it.

Perhaps the next professor to be hired in your department should be intentionally female so that the one you have will not be seen so clearly to be a token female and so there will be 25% of the department female - still a way to go before the proportion of females approaches that in the population of New Brunswick. To do so would send a message to the females who might consider careers in entomology, beginning with work at Mount Allison, that is not sent by the accidental employment of your single female colleague.

Sincerely,  
Bryant Mather

---

Dear Dr. Aiken:

Congratulations on your very timely editorial in the *Bulletin*. I wholeheartedly agree with your views. No doubt you will be on the receiving end of some nasty criticism, but only the shallow-minded will take offense to the real concerns shared by men and women, and so pointedly stated in your article.

Not long ago a very capable young lady told me of a job interview at which all the final candidates were women; she won the position but was justifiably angry when she learned that it was no accident no men were finalists; furthermore, the employer would receive 'extra' person years if a female was hired.

It is indeed a shallow victory for womankind in situations such as these. By all means nurture equality, this is a true and noble cause; but two wrongs still don't make one right.

Sincerely,  
Rob F. Smith

---



# SOCIETY BUSINESS / AFFAIRES DE LA SOCIÉTÉ

## Notice of Executive Council Meeting

The mid-term meeting of the Executive Council will be held in Ottawa in April 1991. Items for consideration at the meeting should be sent to me at the following address:

Forestry Canada  
Newfoundland and Labrador Region  
P.O. Box 6028  
St. John's, Newfoundland  
A1C 5X8

Rick West, Secretary  
FAX 709-772-2576

---

---

## NOTICE

The job of Scientific Editor for the E.S.C.'s publications will be divided between two people as of January 1, 1991. Al Ewen will continue to be responsible for *The Canadian Entomologist*; Valerie Behan-Pelletier will take over as Scientific Editor for the *Memoir* series of the E.S.C. Scientists submitting manuscripts for the *Memoir* series should send them directly to Valerie at:

Dr. V. Behan-Pelletier  
Agriculture Canada Research Branch  
Biosystematics Research Centre  
K.W. Neatby Building  
Ottawa, Ontario  
K1A 0C6

Al B. Ewen,  
Scientific Editor (*The Canadian Entomologist*)

---

---

## Canadian Federation of Biological Societies - Annual Meetings

Annual meetings of the CFBS will be held in Kingston (1991), Victoria (1992), Toronto (1993) and Montreal (1994). Themes selected for symposia for the 1992-1994 meetings are as follows:

- 1992 - Neurobiology, structural biology, molecular genetics and disease, and aging.
- 1993 - Neuroendocrine systems, biotech/bioethics, circulation, and growth and differentiation.
- 1994 - Gene regulation, biological communication, motility/muscle, and evolution/taxonomy.

The ESC is responsible for organizing the symposia on biological communication and on evolution/taxonomy for the 1994 meeting. Any ESC member wishing to organize symposia with these themes is asked to contact me (phone 709-772-2386, FAX 709-772-2576). The CFBS contributes \$3500 annually to each of its member societies to organize symposia under the themes selected for their annual meeting, so some support is available.

Rick West  
Secretary

**Committees and Representatives  
Entomological Society of Canada**

**Comité et Représentants  
La Société d'entomologie du Canada**

**Standing Committees/Comités permanents**

*Nominating/Nominations*

J.N. McNeil, Chair, Québec (418-656-2999)  
+ 2 others

*Elections*

A.B. Ewen, Chair, Saskatoon (306-975-7080)  
R.H. Elliott, Saskatoon  
C.H. Craig, Saskatoon  
President, *ex officio*

*Fellowship/Compagnons*

B.J.R. Philogène (1991), Chair, Ottawa (613-564-2490)  
R.D. McMullen (1991), Summerland  
A.R. Forbes (1992), Vancouver  
V.R. Vickery (1992), Ste-Anne-de-Bellevue  
E.E. Lindquist (1993), Ottawa  
L. Safranyik (1993), Victoria  
President, *ex officio*

**Continuing Committees/Comités permanents**

*Achievement Awards/Prix d'excellence*

P.W. Riegert, Chair, Regina (306-585-4224)  
Two members to be selected by the Chair  
President, *ex officio*

*Annual Meeting/Réunion annuelle*

C. Vincent, Chair & Regional Director, SEQ, St-Jean-sur-Richelieu (514-346-4494)  
J. Doane, Regional Director, ESS, Saskatoon (306-343-8214)  
+ one other

*Bilingualism/Bilinguisme*

C. Vincent, Chair, St-Jean-sur-Richelieu (514-346-4494)  
J. Delisle, Ste-Foy  
K. Pivnick, Saskatoon

### *By-Laws/Règlements*

D.T. Quiring, Chair, Fredericton (506-453-4501)  
G. Boivin, St.-Jean-sur-Richelieu  
President, *ex officio*

### *Endangered Species/Espèces menacées*

R. Canning, Chair, Victoria (604-387-2419)  
S. Canning, Vancouver  
B. Landry, Ottawa  
Affiliates' nominees  
President, *ex officio*

### *Finance*

I.M. Smith, Chair, Ottawa (613-996-1665)  
S.A. Marshall, Guelph  
G. Gibson, Ottawa  
E. Becker, Ottawa  
President, *ex officio*  
Treasurer, *ex officio*  
+ one other

### *Heritage/Héritage*

P.W. Riegert, Regina (306-584-4224)  
President, *ex officio*

### *Insect Common Names and Cultures/Noms communs d'Insectes et Élevages*

E. Belton, Co-Chair, Burnaby (604-420-3181)  
D. Eidt, Co-Chair, Fredericton (506-452-3551)  
J.S. Kelleher, Cultures list, Ottawa (613-996-1665)  
Affiliates' nominees  
President, *ex officio*

### *Membership/Adhésion*

B. Roitberg, Chair, Burnaby (604-291-3585)  
Affiliates' nominees  
President, *ex officio*

### *Public Education/Éducation publique*

V. Nealis, Co-Chair, Sault Ste-Marie (705-949-9461)  
J. Turgeon, Co-Chair, Sault Ste-Marie  
Regional Directors, *ex officio*  
President, *ex officio*

### *Publications*

H.V. Danks (1991), Chair, Ottawa(613-954-2648)  
L. Lesage (1991), Ottawa  
T. Arnason (1992), Ottawa  
T.S. Sahota (1992), Victoria  
R.S. Anderson (1993), Ottawa  
L. Dosdall (1993), Vegreville  
President, *ex officio*  
Scientific Editors, *ex officio*  
Bulletin Editor, *ex officio*  
Managing Editor, *ex officio*  
President, *ex officio*

### *Scholarships/Bourses d'étude*

J.S. Cunningham, Chair, Ste. Sault Marie (705-949-9461)  
Affiliates' nominees

### *Research-Travel Grants/Octrois pour la Recherche-Déplacements*

N. Holliday, Chair, Winnipeg (204-474-8365)  
Members selected by the Chair

### *Science Policy/Politique scientifique*

R. Ring, Chair, Victoria (604-721-7104)  
B. Frazer, Vancouver  
S. Tobe, Toronto  
N. Angerilli, Jakarta, Indonesia  
J.M. Campbell, Ottawa (AASC and COPSE)  
S.B. Hill, Ste-Anne-de-Bellevue (AASC and COPSE)  
P. Riegert, Second Vice President, *ex officio*  
President, *ex officio*

### *Student Affairs/Les affaires d'étudiants*

J.E. Corrigan, Chair, Guelph (519-824-4120)  
Y. Carrière, Burnaby  
R. Aucoin, Ottawa  
K. Mackenzie, Ithaca, N.Y.  
M. Winston, Burnaby  
President, *ex officio*

### *Ad Hoc Committees/Comités Ad Hoc*

### *Pest Management Policy/Politique sur la Lutte intégrée*

N. Angerilli, Chair, Jakarta, Indonesia  
S. Hill, Ste-Anne-de-Bellevue  
G. Konishita, Markham  
L.A. Gilkeson, Sidney  
R. Westwood, Winnipeg



*Diseases and Insects of Vegetables/Maladies et Insectes des Légumes*

J.A. Garland, Chair for entomology content, Ottawa (613-995-7900)  
G. Boivin, St.-Jean-sur-Richelieu  
R.P. Jaques, Harrow  
L.S. Thompson, Charlottetown  
W.S. Turnock, Winnipeg  
R.S. Vernon, Vancouver

*Insect Transmission of Plant Diseases/ Transmission des Maladies des Plantes par les Insectes*

G. Boiteau, Chair, Fredericton (506-452-3260)  
L. Chiykowski, Ottawa  
C. Cloutier, Québec  
M.K. Sears, Guelph

Representatives/Représentants

*AASC and COPSE*

S.B. Hill, Ste-Anne-de-Bellevue,  
J.M. Campbell, Ottawa

*CFBS*

Archives Committee	P.W. Riegert
Board of Governors	J.N. McNeil
Scientific Policy	J.E. Laing
Program Committee	R.J. West

---

---

**President's Update**

As I begin this first "President's Update" I, along with more than 240 colleagues, have just returned from a very successful meeting of our Society in Banff. My thanks to the Entomological Society of Alberta for hosting the meeting and particularly to Dr. Gordon Pritchard and his able organizing committee for a job well done.

I hope that those of you who were unable to attend the meeting will take a few minutes to read this issue of the *Bulletin* to keep yourselves well-informed regarding Society affairs. Past-president Jeremy McNeil summarizes the activities of the Society during the past year in his Presidential Address and further details of past and present actions are in the minutes of the Governing Board and Annual General meetings.

I am looking forward to a very busy year within the Society and I wish to share with you some of the goals set out by the Executive committees over the past few years. One of the top priorities of the Executive is to further integration of the Entomological Society of Canada and the Canadian Federation of Biological Societies, particularly in the area of science policy as it pertains to the government and the environment. Equally important to the Society, though of a different nature, is to ensure that our new headquarters is fully functional and generating income for the Society as soon as possible. Other important goals for this year are publication of the book *Diseases and Pests of Vegetable Crops in*

Canada prior to next year's annual meeting in Montreal, publication of a study on the economic benefits of entomological research in Canada, a statement on pest management policy, and a survey of student members of our Society in the *Bulletin* and publication of a list of the common names of insects of Canada. We also hope to issue a new membership list (in larger type) and a new list of insect cultures in Canada sometime next year.

In this issue of the *Bulletin* you will find a list of the committee members for this year. These individuals do much of the work of the Society and are to be commended for volunteering their time. If you are able to help them with their tasks, please do not hesitate to talk to the Chair of the appropriate committee.

Finally, although leaves are just beginning to fall as I write this, by the time it is read, Christmas will be just a few days away. Compliments of the Season to all of you and may 1991 be a good year for science in Canada, and particularly for our profession.

John E. Laing  
President  
Entomological Society of Canada

---

---

## Annual Reports of Executive, Trustees and Committee Chairs

### President

A great deal has happened during the last year but as much of the information is available in the committee reports that follow I will keep mine brief.

Our office is now located at 393 Winston Avenue, Ottawa, a house that the Society bought in May. While this acquisition has obviously had an impact on the finances of the Society, the setback will only be of a temporary nature. We save money by no longer having to rent office space and will generate an additional revenue through the rental of the second floor and part of the basement. A committee has been set up to find a suitable client for January, 1991.

Don Bright, Treasurer of the Society, plans to take a study leave next year and has therefore tendered his resignation. I would like to take this opportunity to thank Don, in the name of all members, for everything that he has completed on our behalf during his term as a Trustee of the Society. I am pleased to announce that Bob Footitt has agreed to serve as the next Treasurer, effective as of 1 January, 1991.

There has been considerable activity with respect to the Society's publications. As Al Ewen has mentioned in his report, there has been an increase in the number of manuscripts submitted to *The Canadian Entomologist*, a trend the Board hopes will continue as a result of the lower page charges. This has resulted in a significant increase in the editor's workload and the Board has approved Al's suggestion that a new scientific editor be appointed to deal with all manuscripts submitted to the *Memoirs of the Entomological Society of Canada*. I am pleased to announce that Valerie Behan-Pelletier has accepted this position and will start on 1 January, 1991. Gary Gibson will replace Valerie as associate editor of *The Canadian Entomologist*. As indicated in one of my Presidential updates, all required translation of abstracts/resumes are now being handled by a professional service in order to maintain a uniform quality. However, I would urge everyone to make every effort to provide a copy of their abstracts in both official languages at the time the manuscript is submitted for publication.

The *Bulletin* Editor, Ron Aiken, will be on sabbatical leave next year and has therefore tendered



his resignation, effective 1 January 1991. On behalf of all members of the Society I would like to thank Ron for the high quality of the *Bulletin* during his term as Trustee. Even though his editorial views have not always met with unanimous approval, they were both timely and thought provoking. Fiona Hunter, subject to approval at the next Governing Board Meeting, will be the new *Bulletin* Editor, starting with the first issue in 1991. Ron greatly reduced the cost of preparing the *Bulletin* through the use of a desk top publishing programme on a PC but as most people submitting items sent hard copies of their texts rather than disks (frequently at the last minute) Ron had to enter nearly every text himself. While he assures me that this is not the reason for his resignation, it requires a considerable amount of time. Consequently, the Board approved that up to \$800 per annum be made available to the *Bulletin* Editor to help with the production of the *Bulletin*. I would strongly urge that all members submitting items contact the Editor and whenever possible arrange to send your contributions on the appropriately formatted disk.

The book on the diseases and insects of vegetables is progressing well and the committee hopes that it will be ready for the 1991 Annual Meeting in Montreal. I submitted a grant to the Quebec Government for funds to translate the text into french, and the decision is expected in early November.

The final subject that I would like to discuss is the Canadian Federation of Biological Societies, the umbrella organisation we officially joined this year. As you know at the last Annual General meeting the membership accepted the Board's recommendation that the Society pay dues for all Canadian full and student members for the first three years (1991-1993). After this three year period each Canadian member of the Society will be charged Federation dues, together with those of the E.S.C. It should be noted that any person belonging to more than one Society that is a constituent member of the Federation will only pay once. There has been some opposition to our decision to join the CFBS, often with "\$40 is a lot of money; what do we get back?" Despite the importance of science to Canada and Canadians there is ample evidence that our politicians are not well versed in the subject (for example, their inability to differentiate between science and technology) and that their sporadic interest in different aspects of science is only stimulated by political expediency. Entomology, like the other sciences has suffered from such attitudes, with a marked decrease in funds available for research in University and Government laboratories, as well as in attrition of positions within different government agencies. Most scientists, while dismayed, take little concrete action to rectify the situation, often reasoning that there is little they can do that will change things. It is true that as individuals our effectiveness is somewhat limited but as a member of a coordinated group a great deal can be achieved. The ESC has, without doubt, been one of the most active Societies in Canada and in recent years our Science Policy Committee has prepared briefs on subjects such as Entomological Manpower in Canada and University Funding. Furthermore, the Society was instrumental in setting up the Biological Survey of Canada (Terrestrial Arthropods). However as a member of the CFBS, which maintains a permanent office in Ottawa and now represents over 6,000 scientists working in biological and biomedical fields, we have a much better political lobby. Since joining in April John Laing and I have had the occasion to work directly with the CFBS Science Policy Committee on several dossiers (e.g. preparation of a position paper on the Green Plan) and firmly believe that important advances will be made on the political front through Federation activities. However, as the CFBS has had to markedly expand its mandate to meet the interests of the constituent Societies that used to make up the Biological Council of Canada it is essential that the ESC, and other Societies that were in the B.C.C., provide the necessary expertise and leadership in areas such as the environment to insure that progress is made in these important areas. If we do not then much of the blame must rest with us. Similarly, through the Federation we will be able to compliment the Society's own efforts in the area of public awareness of science. There is no assurance that our efforts will bring about all the changes we desire but I think I can assure you of one thing; if we do nothing the situation will only get worse. **That is what is in it for you.** Personally, I believe that \$40 is a very modest sum to invest

in the future of my chosen profession and I am willing to pay my CFBS levy as of 1991. I urge others to exercise this option when you pay your 1991 E.S.C. dues in the coming weeks.

In closing, I would like to thank the Executive, Trustees and the Board, as well as the members of all the Committee for their support during my term as President. Finally, I would like to thank the Society for affording me the honour and privilege of serving as President of the E.S.C.

J.N. McNeil,  
Past-President

---

---

### Président

Beaucoup de choses se sont passées l'année dernière mais comme il est possible de retrouver la plupart de l'information disponible dans les rapports de comités qui suivent, le mien sera bref.

Notre bureau est maintenant situé au 393 Winston Avenue, Ottawa, une maison dont la Société a fait l'acquisition en mai dernier. Bien que cette dernière acquisition ait quelque peu miné les finances de la Société, ce contretemps ne peut être que temporaire. Ainsi nous économisons en éliminant les frais de location pour notre local et générerons un revenu supplémentaire en louant le deuxième étage et une partie du premier plancher de notre maison. Nous avons d'ailleurs créé un comité chargé de trouver une clientèle acceptable pour janvier 1991.

Le Trésorier de la Société, Don Bright, prévoyant prendre une année d'étude en 1991, nous a remis sa démission. J'aimerais donc profiter de l'occasion pour remercier Don, et ce au nom de tous les autres membres, pour son excellent travail en tant que Fiduciaire de la Société. Je suis heureux d'annoncer que Bob Footitt a accepté de le remplacer en tant que prochain Trésorier et ce, à partir du 1er janvier 1991.

En ce qui a trait aux publications de la Société, nous avons connu une activité considérable. Comme Al Ewen le mentionnait dans son rapport, nous avons connu une hausse dans le nombre de manuscrits soumis à la revue *The Canadian Entomologist*, une tendance qui nous l'espérons, se poursuivra conséquemment à la diminution des frais de publication. Ceci a eu pour effet d'accroître considérablement la tâche de l'éditeur, le Conseil de la Société a donc approuvé la suggestion d'Al voulant qu'un nouvel éditeur scientifique soit désigné pour s'occuper de tous les manuscrits soumis pour les *Mémoires de la Société Entomologique du Canada*. Il me fait plaisir d'annoncer que Valerie Behan-Pelletier a accepté ce poste et commencera sa tâche le 1er janvier 1991. Gary Gibson remplacera Valerie comme éditeur associé de la revue *The Canadian Entomologist*. Tel que mentionné dans l'une de mes mises-à-jour présidentielles, dorénavant tous les résumés/abstracts nécessitant une traduction seront soumis à un service professionnel afin de conserver une certaine uniformité dans la qualité des traductions. Cependant, j'incite tous et chacun de faire tout son possible pour nous procurer une copie de leurs résumés dans les deux langues officielles, en même temps que la soumission de leur manuscrit.

L'Éditeur du *Bulletin*, Ron Aiken, prendra un congé sabbatique l'an prochain et nous a donc remis sa démission; celle-ci sera effective à partir du 1er janvier 1991. Au nom de tous les membres de la Société je voudrais remercier Ron pour avoir contribué à produire un *Bulletin* de haute qualité durant son terme comme Fiduciaire. Même si ses vues éditoriales n'ont pas toujours fait l'unanimité, elles faisaient réfléchir tout en étant très à propos. Sujette à approbation lors de la prochaine réunion du Conseil de la Société, Fiona Hunter devrait devenir le prochain Editeur du *Bulletin* en commençant avec le premier numéro de 1991. Ron a considérablement réduit les frais de préparation du *Bulletin* en se servant d'un programme d'impression pour ordinateur personnel. Cependant, comme la plupart des personnes soumettant des items envoyaient des impressions de leur textes plutôt que des disquettes



(souvent à la dernière minute), Ron devait pratiquement entrer chaque texte lui-même. Bien que celui-ci m'assure que ceci n'est pas la cause de sa démission, ce processus demande considérablement de temps. En conséquences, le Conseil a voté pour que l'Editeur du *Bulletin* dispose d'une somme allant jusqu'à \$800 par année pour l'aider à produire le *Bulletin*. Je voudrais fortement recommander à tous les membres soumettant des items, de contacter l'Editeur et, lors que possible, de prendre les arrangements nécessaires pour envoyer ses contributions sur une disquette.

Le livre traitant des maladies et insectes associés aux légumes progresse bien et le comité espère que celui-ci sera complété pour le Congrès Annuel de 1991 à Montréal. J'ai demandé un octroi au Gouvernement du Québec pour l'obtention de fonds pour traduire le texte en français; nous attendons une réponse en début novembre.

Le dernier sujet que j'aimerais finalement aborder concerne La Fédération Canadienne des Sociétés de Biologie, une "organisation parapluie" à laquelle nous avons adhéré cette année. Comme vous le savez, lors de la dernière Assemblée Générale annuelle, les membres ont accepté la recommandation du Conseil de la Société voulant que la Société débourse les frais d'adhésion de tous les membres Canadiens (à part entière et étudiant) pour les trois premières années (1991-1993). Suite à cette période chaque membre Canadien de la Société se verra chargé les frais de la Fédération conjointement à ceux de la SEC. Il est à noter que toute personne appartenant déjà à une autre Société membre de la Fédération ne paiera qu'une seule fois. Nous avons connu une certaine opposition quant à notre décision de joindre la FCSB, avec souvent comme argument que \$40 constitue une grosse somme d'argent; que peut-on espérer en retour? En dépit de l'importance de la science pour le Canada et les Canadiens, il nous apparaît évident que nos politiciens ne sont pas très versés en la matière (par exemple, ils confondent facilement science avec technologie) et seule la nécessité politique stimule leur intérêt sporadique pour différents aspects de la science. L'entomologie, comme toutes les autres sciences a souffert de telles attitudes, résultant en une diminution marquée des fonds disponibles pour la recherche dans les universités, les laboratoires gouvernementaux, ainsi que dans l'attribution de postes à l'intérieur des diverses agences gouvernementales. Malgré leur consternation, la plupart des scientifiques ne posent pratiquement aucun geste concret pour rectifier la situation, leur raisonnement étant qu'ils ne peuvent pas faire grand chose pour changer l'ordre établi. Il est vrai qu'en tant qu'individu, notre efficacité est quelque peu limitée. Cependant en tant que membre d'un groupe coordonné, beaucoup peut être accompli. La SEC a sans aucun doute été l'une des Sociétés les plus actives au Canada et, ces dernières années, notre Comité de Politique en Sciences a préparé des exposés sur des sujets tels que la main-d'oeuvre en entomologie au Canada et le financement de la recherche universitaire. De plus, la Société a été instrumentale dans la mise-en-place du Recensement Biologique du Canada (Arthropodes terrestres). Cependant en tant que membre de la FCSB, laquelle occupe un local permanent à Ottawa et représente maintenant plus de 6,000 scientifiques travaillant dans des champs biologiques ou biomédicaux, nous occupons une bien meilleure position politique. Depuis notre enrôlement en avril dernier, John Laing et moi avons eu l'occasion de travailler directement avec le Comité de Politique en Sciences du FCSB sur plusieurs dossiers (comme sur la préparation d'un papier donnant notre position sur le Plan Vert) et croyons fermement que des progrès importants pourront être accomplis sur le front politique à travers nos activités dans la Fédération. Cependant, comme la FCSB a dû accroître de façon marquée son mandat pour rencontrer les intérêts des Sociétés constituantes formant habituellement le Conseil Biologique du Canada, il est essentiel que la SEC de même que les autres Sociétés faisant parti du B.C.C., procurent l'expertise nécessaire et prennent la direction en matières telles que l'environnement pour s'assurer que des progrès s'accomplissent dans ces domaines importants. Si nous n'agissons pas, nous serons les seuls à blâmer. De façon similaire, c'est à travers la Fédération que nous serons capables de compléter les propres efforts de la Société en matière de conscience publique pour la science. Il n'existe aucune assurance que nos efforts pourront apporter tous les changements désirés, mais je crois pouvoir vous

assurer d'une chose: si nous n'agissons pas, la situation ne pourra que se détériorer. **Il me semble que le retour d'un tel investissement est évident.** Personnellement, je crois que \$40 est une bien modeste somme pour investir dans le futur de la profession que j'ai choisi et j'accepte volontiers de payer ma contribution à la FCSB en 1991. Je vous conseille vivement d'exercer cette option lorsque vous paierez votre contribution à la S.E.C. pour 1991 lors de ces prochaines semaines.

Pour terminer, j'aimerais remercier l'Exécutif, les Fiduciaires et le Conseil de la Société, de même que les membres de tous les Comités pour leur support durant mon terme comme Président. Finalement, j'aimerais remercier la Société de m'avoir accordé l'honneur et le privilège de servir comme Président de la S.E.C.

J.N. McNeil

---

---

### Treasurer

This year has been an extremely busy year for the Treasurer, and I hope, an important year in the life of the Society.

The most important event was the purchase and occupation of our own office building. In early April, the property at 393 Winston Street was purchased with occupancy on May 1st. The building is a 2-storey brick structure. The upper floor had been renovated and served as an architect's office (now vacant). The first floor, over 900 square feet, serves as the Society office. There is space for storage and a mailing and packing area. We hope to rent the upstairs office area. There is also an apartment in the basement which we are in the process of emptying to make available more space for storage or other needs.

The funds for the purchase came from our investment portfolio, so we will now realize less interest income to help offset costs. On the other hand, we no longer pay rent and we do own the property which can only increase in value.

The Society finished the year 1989 in good financial condition. The slight loss is primarily due to the production and mailing of a memoir very late in 1989, the total cost of which is credited to 1989, but the revenue will not be recovered until this year.

The Scholarship Fund is in excellent condition, generating interest sufficient to cover the cost of the 2 scholarships.

The financial future of the Society is difficult to predict. The effect of the GST is not clear, but we already know that CFBS dues are subject to GST. As of this writing, we have been unable to get any clarification from Revenue Canada. The Society will be paying the CFBS dues for our Canadian members for the next few years. When individual members have to pay the dues themselves, what affect will this have on membership? Owning our own building means we don't pay rent and have access to rental income, however, the property must be maintained in order to maintain value. We should soon be in a position to begin rebuilding our investment portfolio from the surplus rental income.

If membership remains steady and careful financial management remains in place, the Society should continue to enjoy financial success.

It has been a pleasure to work as Treasurer of the Society, and I offer my best wishes and support to the new Treasurer.

D.E. Bright



## Scientific Editor

From 1 September 1989 through 31 August 1990, services and supplies for the office in Saskatoon have amounted to ca. \$594. per month, about the same as for the same period last year.

Drs. J.M. Hardman and J.E. Steele have resigned as Associate Editors as of 1 August, 1990 citing pressure of work as reasons. I thank these two distinguished scientists for their many years of outstanding service; I shall miss their counsel. Dr. D.J. Pree (Vineland Station, Ontario) and T.S. Sahota (Victoria, B.C.) have agreed to join the editorial board as Associate Editors responsible for submissions on applied agricultural entomology and insect physiology, respectively.

Dr. Valerie Behan-Pelletier has agreed to assume duties as Scientific Editor for the *Memoirs of the E.S.C.* beginning 1 January, 1991. From that date onward, all *Memoir* submissions should be sent to Valerie at: Agriculture Canada, Canada Agriculture Research Branch, Biosystematics Research Centre, K.W. Neatby Building, Ottawa, Ontario, K1A 0C6. Valerie's place as an Associate Editor will be assumed by Dr. Gary Gibson (BRC, Ottawa) on the same date.

*Manuscripts.* During this reporting period, 195 manuscripts, including 8 *Memoirs*, were submitted, a substantial increase over the past few years. About 75% of the manuscripts submitted eventually are published. Time in review is a continuing problem, although about 80% of the manuscripts received are returned to authors, along with reviewers' reports, within 3.5 months of submission date. Delays are because of tardiness on the part of reviewers, some of whom are impossible to deal with. Once identified, uncooperative reviewers are not sent manuscripts again.

During 1989, 1141 pages were published in *The Canadian Entomologist* and 562 pages were published as *Memoirs* (nos. 147 through 150). Only two *Memoirs* were submitted in 1989; seven have been submitted so far in 1990.

Translations of titles and abstracts have been contracted out to Triple D Translation Services, Regina, Sask. The translations are being done by Dr. G.R.F. Davis, a retired insect nutritionist. Cost to the Society will be ca. \$3000 per year.

*C.P. Alexander Fund.* One invitation paper has been reviewed and now is being revised, two others are due to be submitted this calendar year and two (perhaps three) have been scheduled for 1991. We are trying to invite submissions from fields of entomology in which we have not been particularly strong. To date, invitations have been accepted for manuscripts in biogeography, aquatic entomology, insect pathology (2), insect-plant relationships (2), insect genetics, and social insect behaviour.

I sincerely thank Barbara Patterson for the great job she is doing as Managing Editor and for her infinite patience. Thanks, too, to all the Associate Editors for their important contributions, to the many scientists who served as reviewers, and to Dr. H.V. Danks (Chair, Publications Committee) and President McNeil for their help and encouragement. And thank you for the privilege of serving the Society as Scientific Editor for another year.

Al B. Ewen

---

---

## Bulletin Editor

The *Bulletin of the Entomological Society of Canada* proceeded with few problems. Individual numbers were mailed on time in the month of issue. Submissions to the *Bulletin* are up in both number and length. The Society should provide some secretarial help (15-20 hours/issue) to alleviate the burden.

As of December 31, 1990, I will be resigning the editorship of the *Bulletin*. I will be on sabbatical leave in 1991-92 and it would not be feasible for me to continue in this role. I would like to thank all those who have helped, congratulated and criticized over my term as Editor.

Ron Aiken



## Graduate Research-Travel Grants

A call for applications was published in the December 1989 issue of the *Bulletin*, and two applications were received by the deadline. Both applications were funded, and the names of the recipients were published in the *E.S.C. Bulletin* for June 1990. Arrangements have been made for the call for applications for the 1991 competition to be published in the September 1990 issue of the *E.S.C. Bulletin*.

The Committee has completed a review of the Travel Grants programme. In general, the Committee is satisfied with the way in which the programme operates, and considers its procedures to be effective. However, the Committee has received applications for travel to scientific meetings and to travel to the major research site of a student's graduate thesis project; neither of these types of request conform to the intent of the Travel-Grant Programme. The Committee recommends to the Board of Directors that an additional statement be included in the Committee's regulations and in the call for applications to clarify the types of travel for which the awards are intended.

N.J. Holliday

---

---

## Nominating Committee

Below is a list of nominees for executive offices in the Society and for the Fellowship Committee. As required by the rules governing actions of the Nominating Committee, there is one more nomination for each position than the number of openings, and letters of consent to run are enclosed for each candidate.

### 2nd Vice-President:

Dr. P.W. Riegert  
Dr. I.M. Smith

### Director-at-Large:

Dr. Guy Boivin  
Dr. Yves Mauffette  
Dr. K.W. Richards

### Fellowship Committee:

Dr. S. C. Jay, FESC  
Dr. E.E. Lindquist, FESC  
Dr. L. Safranyik, FESC

Nominations must be signed by three members in good standing, which includes the members of the Nominating Committee.

D.C. Eidt

---

---

## Elections

The Committee was comprised of C.H. Craig, R.H. Elliott, and A.B. Ewen. The committee met on 16 July, 1990, at the Agriculture Canada Research Station, Saskatoon, Sask., and examined ballots for the 1990 election of officers. A total of 252 ballots were received. The successful candidates were:

Le comité a compris C.H. Craig, R.H. Elliott, et A.B. Ewen. Le comité a tenu une réunion le 16 juillet 1990 à la Station de Recherche d'Agriculture Canada, à Saskatoon, Sask., où il a examiné les bulletins de scrutin pour l'élection des officiers pour 1990. Un total de 252 bulletins ont été reçus. Les candidates élus sont:

Second Vice-President:  
Le deuxième vice-président:  
Directors-at-Large:  
Directeurs nationaux:  
Fellowship Selection Committee:  
Comité pour la sélection des compagnons  
de la société:

P.W. Riegert  
G. Boivin  
K.W. Richards  
E.E. Lindquist  
L. Safranyik

A.B. Ewen

---

---

### **Fellowships**

The number of Fellows excluding Emeritus and Honorary members shall not exceed 10% of the active membership except temporarily in the advent of a decrease in the number of Active members.

According to Sandy Devine in the Society's office, on 1 Sept. 1990, there were 631 Active members (546 Regular and 85 Student), 83 Emeritus members and 87 Fellows of whom 21 were Emeritus. Thus, the total of 66 non Emeritus Fellows exceeds the allowable limit, so again this year there will be no call for nominations.

Peter Harris

---

---

### **Achievement Awards**

#### *Gold Medal*

Dr. S.S. Tobe was acknowledged as the candidate to receive the Gold Medal Award. The Governing Board extended congratulations to Dr. Tobe.

#### *C. Gordon Hewitt Award*

Dr. B.D. Roitberg was acknowledged as the candidate to receive the C. Gordon Hewitt Award. The Governing Board extended congratulations to Dr. Roitberg.

R.Ring

---

---

### **By-Laws, Rules, and Regulations**

The By-Laws, Rules, and Regulations Committee was asked by the Governing Board to develop Standing Rules and Committee Guidelines for the Endangered Species Committee. These documents were produced. The Governing Board approved them in October and the Secretary has now incorporated them into the Society's documents.

G.H. Gerber

**Congrès conjoint de la Société d'entomologie du Canada, de la Société d'entomologie du Québec et de la Société d'entomologie de l'Ontario**

Ramada Renaissance, Montréal 21-23 octobre 1991 (Programme provisoire)

Dimanche, 20 octobre 1991

17h00 à 21h00	Inscription	Foyer
---------------	-------------	-------

Lundi, 21 octobre 1991

9h00 à 17h00	Inscription	Foyer
9h00 à 9h30	Mot de bienvenue	Salle A
9h30 à 12h00	Symposium "Entomologie et Société"	Salle A
	J.-P. Bourassa	
10h00 à 17h00	Exhibits	Salle E
13h30 à 16h30		Salle A
13h00 à 17h00	Session de posters	Salle E
16h30 à 18h00	Réunion d'affaires de la S.E.Q.	Salle A
19h00 à 22h00	Cocktail	Insectarium de Montréal

Mardi, 22 octobre 1991

9h00 à 12h00	Symposium "Bt"	Salle B
	Jacques Boisvert et (à déterminer)	
9h00 à 12h00	Communications scientifiques	Salle C
9h00 à 12h00	Communications scientifiques	Salle D
10h00 à 17h00	Exhibits	Salle E
13h30 à 16h30	Symposium "Insectes et résistance au froid"	Salle B
	D. Coderre et H.V. Danks	
13h30 à 16h30	Communications scientifiques	Salle C
13h30 à 16h30	Communications scientifiques	Salle D
17h00 à 19h00	Réunion d'affaires de la S.E.C.	Salle D
19h00	Banquet	Salle de bal

Mercredi, 23 octobre 1991

9h00 à 12h00	Symposium "Apprentissage chez les insectes"	Salle B
	C. Vincent et B. Roitberg	
9h00 à 12h00	Communications scientifiques	Salle C
9h00 à 12h00	Communications scientifiques	Salle D
12h00	Cloture du Congrès	

Autres événements à mettre au programme:

- 1) Réunion d'affaires de la S.E.O.
- 2) Symposium "Project update: Arthropods of Canadian Peatlands", S. Marshall.

Charles Vincent



## Le bilinguisme

Le Comité permanent du bilinguisme de la S.E.C. a poursuivi ses efforts en vue de fournir un environnement bilingue. En 1989-1990, nous avons concentré nos efforts sur les activités les plus importantes et les plus visibles de la S.E.C.

Depuis plusieurs années, les resumes de *The Canadian Entomologist* étaient traduits de l'anglais au français par le Dr. Conrad Cloutier et ce, sur une base volontaire. En collaboration avec le Rédacteur en chef, Dr. Al Ewen, nous avons mis sur pied une équipe de volontaires pour assurer la traduction des résumés. Peu de temps après, le Conseil exécutif de la S.E.C. s'est engagé à ce que cette traduction se fasse par les services d'un traducteur professionnel, pratique par ailleurs utilisés par d'autres organismes tels la Société Canadienne de Zoologie. Cet engagement résoud le problème de façon permanente. Il s'agit d'un geste très important car *The Canadian Entomologist* constitue une des principales activités de la Société. Le Comité du bilinguisme remercie le Dr. Cloutier pour ses efforts durant tout ce temps, et les volontaires qui ont accepté de collaborer à la traduction.

Nous avons également mis sur pied un réseau de volontaires pour assurer la traduction des résumés de la réunion annuelle de Banff. Pour des raisons logistiques, cette approche n'a pu être retenue en dernière minute. Il serait souhaitable que le Conseil d'administration statue sur le caractère de bilinguisme des réunions annuelles et que, le cas échéant, les directives pour organiser les réunions annuelles soient amendées en conséquences. Nous avons l'intention d'organiser une réunion à caractère bilingue à Montréal en octobre 1991.

Nous avons fait parvenir une demande de fonds au Secrétariat d'Etat du Canada pour faire traduire la Constitution et les Règlements de la Société. La demande est acceptée en principe, mais, faute de fonds, le Secrétariat d'Etat ne pourra y donner suite avant avril 1990.

Enfin, nous avons publié des rubriques et articles en français dans le Bulletin de la Société.

Nous demandons à tous ceux ou celles qui ont des commentaires à les adresser au Comité du bilinguisme de la S.E.C.

Charles Vincent

## Bilingualism

The Committee on Bilingualism of the E.S.C. pursued its efforts to provide a bilingual environment. In 1989-1990, our efforts were focused on the most important and visible activities of the E.S.C.

For a few years, the abstracts of *The Canadian Entomologist* were translated from English to French by Dr. Conrad Cloutier on a voluntary basis. In collaboration with *The Canadian Entomologist* editor Dr. Al Ewen, we formed a team of volunteers to translate the abstracts. Shortly afterward, the executive board of the E.S.C. committed funds to have the abstracts translated by a professional firm, a practice followed by other organizations such as the Canadian Zoological Society. This commitment solved the problem permanently. It is a step of paramount importance because *The Canadian Entomologist* is one of the chief activities of the E.S.C. The permanent committee on bilingualism thank Dr. Cloutier for his efforts during all this time, and the persons who volunteered as translators.

We also formed a network of volunteers to translate the abstracts of the Banff annual meeting. For logistical reasons, the action was not taken at the last minute. It would be desirable that the Governing Board statute on the bilingual character of annual meetings, and modify the guidelines of the annual organization committee accordingly. We intend to provide a bilingual environment at the Montreal

meeting in October 1991.

An application for funds to translate the Constitution and the standing rules was presented to the Secretary of State of Canada. The request was accepted in principle. However, due to financial restrictions, money will be available only in April 1991.

Finally we published articles in French in the *Bulletin* of the Society.

We would ask that anyone with comments please contact members of this committee.

Charles Vincent

---

---

### Endangered Species

1. The Chairman wrote COSEWIC encouraging this organization to include invertebrate conservation in their deliberations and to establish a subcommittee to report on the status of invertebrates. No response has yet been received.
2. The Chairman wrote the Nature Conservancy of Canada indicating the ESC's interest in, and commitment to, the task of documenting and conserving threatened and endangered terrestrial arthropods and their habitats in Canada.
3. The Chairman wrote the Task Force on A Wildlife Policy for Canada to indicate the ESC's support for the policy document being produced and to emphasize that the maintenance of all biological diversity must be the major goal of any wildlife policy. This document will be approved for publication by the Wildlife Ministers Council (Federal, Provincial and Territorial governments) in September 1990. The policy stresses the expanded definition of wildlife and includes invertebrates and habitats in its text.
4. The B.C. Ministry of the Environment is drafting a new Wildlife Act that will include a section on endangered species. The Act will deal with wildlife in the broad sense and will include invertebrates. The Chairman has written the Minister of the Environment and the Director of the Wildlife Branch regarding the ESC's interest in this matter. Rob and Syd Cannings and Geoff Scudder have taken part in meetings dealing with the drafting of this new legislation.
5. South Okanagan Critical Areas Program. Initiated by the B.C. Nature Trust and with funding from it and the B.C. Ministry of the Environment, the SOCAP is an interdisciplinary, interagency program designed to inventory representative habitats and properties primarily in the grasslands of the southern Okanagan Valley of B.C. Purchase of some properties is being considered. Such habitats are unique in Canada, and few with any integrity remain. Rob and Syd Cannings, Chris Guppy and Geoff Scudder have supplied information and field expertise with respect to terrestrial arthropods.
6. The Chairman and other B.C. entomologists have been involved in discussions concerning sites and species to be included in the data bank of the new B.C. Conservation Data Centre, which is now in development. The B.C. Ministry of the Environment in conjunction with the Nature Conservancy is funding this effort. Government funds for the initial three years of the project have been secured and matching funds from the private sector are being raised with the help of The Nature Trust. Such centres serve as a computerized resource for information on inventory and status of representative or threatened habitats, specific sites and species.
7. The Royal B.C. Museum has proposed a multi-year collections and inventory program in two major ecosystems — the coastal old-growth forests and the Dry Interior grasslands. Stress will be placed on more poorly-known groups, especially those of invertebrates and non-vascular plants. The involvement of individuals and other agencies will be solicited, and cooperative efforts with other groups with similar interests (e.g. Biosystematic Research Centre, Biological Survey, etc.) will be explored.
8. Geoff Scudder has begun a survey of the insects of the dry Douglas-fir forest on Galiano Island



in Georgia Strait. This habitat is typical of the original forest of the southwestern B.C. coast; only 5% of the Douglas-fir old-growth remains unlogged.

9. Studies on the invertebrate fauna of the Carmanah Creek Valley were begun by University of Victoria entomologists in 1990. Staff and a Research Associate from the Royal B.C. Museum also are involved. The site is at the centre of a conflict between logging and conservation interests; it contains some of the largest Sitka Spruce trees known. The survey is concentrating on the fauna of both the forest floor and the high canopy. Material will be deposited at the RBCM.

10. The Federation of B.C. Naturalists, in conjunction with the Royal B.C. Museum, is launching a new naturalists journal. The publication will encourage professionals and especially amateurs to submit the results of distributional and ecological studies on species and sites, including those ones that are threatened.

11. The Chairman exchanged information on activities concerning endangered species with Don Mairs, an entomologist who is Chairman of the Heritage Committee of the Maine Chapter of The Nature Conservancy. Maine entomologists make up a member unit of our Acadian Entomological Society.

12. Bernard Landry is compiling a data base on the status of Quebec insects in selected families for which faunistic knowledge is good. For the most part, the information is coded in the COSEWIC system and includes Odonata, Carabidae, Cerambycidae and various Lepidoptera.

13. The annual meeting of the Association des Entomologistes Amateurs du Québec, held on 8-9 September 1990 had as its theme the endangered insects of Quebec. Committee member Bernard Landry presented a talk comparing the relevant laws of Ontario and Quebec and discussed the Ontario experience with the West Virginia White butterfly.

14. Landry also reports that as a follow-up to the adoption of its endangered species legislation, the government of Quebec offered a contract to the SEQ to devise a list of 50 species in need of investigation for possible threatened or endangered status. The contract was given to an amateur coleopterist in Quebec City. Bernard will try to acquire the list when it is available.

#### Recommendations

1. That the Committee continue to act on the recommendations set out in the 1989 report and outlined above. The work during 1990 dealt in some way or other with all these recommendations, but much more work is required and must necessarily be ongoing.

2. That the scope of the Committee be modified to include all terrestrial arthropods rather than insects alone. Because entomologists traditionally deal with spiders, mites, myriapods and so on, and because the work of the ESC and its offspring, the Biological Survey, deals with groups other than insects, this is appropriate.

Robert A. Cannings

---

---

#### Finance

The Finance Committee has considered a number of items at the request of the Executive, and recommends the following actions:

1. *Cost of Annual Meetings*

The cost of holding the annual meetings has become an unacceptable burden on the finances of the Society, as clearly evidenced in the reports of the Treasurer for recent years. We suggest that the



Board consider the following recommendations to remedy this situation.

a) Substantially reduce or eliminate grants to members of the Governing Board for attending annual meetings. Elimination of these grants would save the Society approximately \$20,000 per year. The Society would then have to expect Board members to find institutional funding to attend meetings, as is the current practise of the Entomological Society of America. As an alternative, the Society could continue to subsidize only members of the Executive and Trustees, at a potential saving of \$10-15,000 per year. This would mean that the Directors (Regional and At-Large) would be expected to find their own sources of funding to attend meetings of the Board. We suggest that one of these options be implemented immediately, and that the Executive review the new policy after assessing its impact on the next Annual Meeting.

b) Establish a mechanism to ensure that the financial implications of local arrangements for annual meetings of the Society conform as much as possible with budget estimates. This could be accomplished by subjecting local arrangements to review and approval by the Finance Committee.

2. *Charges for Advertising in the Bulletin*

The Society should have modest expectations for revenues generated by advertising in the *Bulletin*. Given the publication schedule and distribution of the *Bulletin*, we suggest that a rate of \$100 per printed page would be appropriate.

3. *Grants to Member Societies to Support Public Awareness Projects*

The Executive has received a request to increase these annual grants from the current level of \$200. Members of the Committee acknowledge the importance of promoting public awareness, but suggest that the Board consider increasing the grants to member societies at this time only if corresponding expenditure reductions can be made elsewhere in the proposed budget (see item 1, above).

4. *Management of Real Assets of Society*

The Chairman of the Committee has been asked by the Treasurer and President to advise ad hoc on various matters concerning the purchase and management of the house which now serves as headquarters of the Society in Ottawa. The Committee recommends that the Board immediately develop policies and mechanisms to ensure that this property is managed in a responsible, business-like manner. Management responsibilities must be clearly defined, and assigned to appropriate officers of the Society. The Treasurer should play a key role in developing policies and procedures for consideration by the Executive and the Finance Committee. The Treasurer and Office Clerk should be responsible for managing the property. Members of the Finance Committee should not be directly involved in management activities, as this could seriously impair their ability to provide objective advice to the Society.

We recommend that the Treasurer immediately provide the Executive with a list of improvements that must be made to the house so that the Society can find a suitable tenant to rent the vacant office space on the second floor. We also recommend that the Executive take immediate action to ensure that the Society is meeting its legal obligations relating to the residential apartment now occupying the basement of the building. If the current tenant does not vacate the apartment immediately, the Society should arrange for the work that must be done to make the apartment a legal residence.

5. *Proposed Budget for 1991*

The Committee has reviewed and discussed the proposed budget with the Treasurer. Committee members are concerned at the level of expenditures relating to the annual meeting of the Governing Board (see item 1, above), the subsidy for membership in the CFBS, and improvements to the house in Ottawa. In light of the projected budgetary deficit, we suggest that the Board recognize that significant economies must be made. We can recommend approval of the proposed budget only if the following conditions are met:

a) The projected cost of the annual meeting must be substantially decreased.

b) The projected cost of subsidizing membership in the CFBS must be reviewed in light of the increase in fees by this organization. The Governing Board must take the initiative in rationalizing this additional cost to the Society.

c) The issues related to management of the house in Ottawa (see item 4, above) must be resolved so that the Society can find a suitable tenant for the office space on the second floor to ensure that the projected rental income is realized.

6. *Possibility of Managing the E.S.C. as an Endowment*

The possibility of managing the Society as an endowment has been suggested to the Finance Committee. This was apparently investigated by the Treasurer some time ago, but was not considered by the Governing Board of the Finance Committee. We propose to study this matter during 1991, and provide the Board with a recommendation at the next annual meeting.

Ian M. Smith

---

---

### Heritage

Archival material (photos, reports, minutes) have been piling up in my office but none have been transmitted to the Public Archives of Canada in 1990. As soon as I am notified that space is available, the E.S.C. material will be shipped to them.

Compilation of the book *Entomologists of Saskatchewan* is complete; it will be at the printers in September. Work on the *Entomologists of British Columbia* is nearing completion and will, hopefully, be published before the end of 1990.

Several biographies of past members of the E.S.C. have been prepared and have appeared in the *Bulletin*; others are being compiled.

P.W. Riegert

---

---

### Insect Common Names and Cultures

The six new common names, one additional name and one deletion published in the June *Bulletin* (vol 22, p. 87) received no objections and have now been adopted by the Society. The scientific name of apple ermine moth was misprinted and should be *Yponomeuta malinella* (Zell.) (R.W. Hodges, personal communication Sept. 1990).

This year the ICNCC has approved the following common names -  
northern false chinch bug, *Nysius niger* Baker, Heteroptera:Lygaeidae  
Russian wheat aphid, *Diuraphis noxia* (Mordvilko), Homoptera:Aphididae  
sunflower midge, *Contarinia shulzi* Gagne, Diptera:Cecidomyiidae

The following changes of common names are recommended (to agree with the ESA's revised list of common names) -

common walkingstick to walkingstick

smaller European elm bark beetle to European elm bark beetle

(the Committee was divided about changing larger pale booklouse to larger pale trogid)



and the following deletions are suggested -

false chinch bug, *Nysius ericae* (Schill.) (not found in Canada)

spottedwing mosquito, *Anopheles punctipennis* (Say)

(the common name could apply to several *Anopheles* and *Culiseta* species).

Please inform the Committee within 30 days of receipt of this *Bulletin* if you disagree with any of these proposals - FAX (604) 291-4581.

E.M. Belton,  
Centre for Pest Management,  
Simon Fraser University  
Burnaby, B.C., V5A 1S6

---

---

## Membership

The number of members has remained constant over the last two years: 646 (1989) vs. 622 (plus 12 members paying retroactive dues).

During spring 1990, letters were sent to department chairs throughout the country, asking them to identify new students working in the area of Entomology. Individuals so identified who were not already members of the Society were contacted by direct mail. Several of these students responded by joining the society. Student lists were circulated to regional representatives on the committee and each was asked to supplement the list and to contact those other potential student members directly.

Individuals whose membership lapsed during the last year were contacted by direct mail. Nearly everyone responded by either paying their dues or by explaining why they had left the Society.

Plans are being made to assemble an updated members' address listing. FAX numbers and electronic addresses will be added to the current phone and hard address listings.

Honorary membership nominations were not solicited for 1990. The addition of Professor Thelma Finlayson to the honorary membership roll means that we have reached our legal limit in this category.

B. Roitberg

---

---

## Public Awareness

The committee dispersed \$300.00 to two projects in the past year.

1. \$200.00 to the Public Education Committee of the Entomological Society of British Columbia. These funds were matched by the ESBC and used to support an Entomology Club at Tyee Elementary School in Vancouver under the guidance of Debbie Henderson.

2. \$100.00 to Richard Gagne of the University of Guelph for assistance in publishing *Ontario Amateur Entomologists Newsletter*.

On behalf of the ESBC, John McLean requests that the ESC raise the \$200.00 annual grant to member societies to support public awareness. According to the guidelines of the committee, "applications in excess of \$200.00 shall be considered". Given the dearth of requests for financial support, this is reasonable. We recommend that groups receiving funds submit a brief report to the ESC public awareness committee. Other interested members could get some ideas for their own programs. As much as possible we should support those few groups which are active.



## Public Awareness and the CFBS

Over the past few years, researchers in all branches of science have come to realize that they, and science, are slipping from public awareness. Evidence of this comes from several studies which reveal the disturbing level of scientific ignorance by the public in general and, more worrying, by the policy makers in our society. There is declining enrolment in science education everywhere. Entomology, in particular, seems to be in a decline in North America (Holden 1989, *Science* 246: 754-756). As the influence of science wanes, public skepticism of the worth of science diminishes and so does public support for research funding.

The Royal Society of Canada held two conferences on public awareness of science. The most recent, held in Ottawa in May, addressed the theme of *Communicating Science: Why and How*. A report can be found in the *Bulletin of the Canadian Society of Zoologists* (Fenwick 1990, Vol 21: 30-31).

Now that the Entomological Society of Canada is a member of the much larger Canadian Federation of Biological Societies (CFBS), there is an opportunity to support a more concerted effort in the general problem of public awareness and education in science. The ESC public education committee has received a proposal from M.B. Fenton of the Canadian Society of Zoologists. The idea is to initiate a project to use scientists as sources of information to introduce non-scientists to current issues in science applicable at the local, regional, national and global levels. The target audiences would be students as well as the general public. The mechanism is a grassroots approach to public education. Regional societies would contribute by identifying members willing to serve as contacts for educators etc. in the development of information packages. The objectives of these information packages could be general or specific. At the school level, the packages may serve to assist teachers with background information or activities, much as ESBC members are now doing in Vancouver. The packages may also identify scientists prepared to discuss science issues, careers etc. with schools, media or public interest groups. In entomology, topics could range from public interest such as "What Bug is This" to public information on environmental issues such as use of pesticides or habitat conservation.

To bring all this together at a national level, Dr. Fenton proposes that affiliate societies support a position for a co-ordinator. Ideally, this will be someone with a science and an education background. To fund this initiative, Dr. Fenton would work through the CFBS Task Force on Public Awareness of Science and solicit contributions from member societies. The Canadian Society of Zoology, for example, are prepared to commit \$3000.00 through the Zoological Education Trust, for this purpose. He is looking for a similar commitment from other societies. Once some commitment from the affiliated societies is established, a formal proposal for matching funds will be made to Science Culture Canada. The societies' commitment only holds if the proposal for matching funds is successful.

We recommend that the Entomological Society of Canada support the CSZ initiative. As can be seen from this and previous annual reports, very little use is now made of the committee by members. The projects mentioned above are exceptional in more ways than one. The ESC should continue to support and encourage these and similar projects. But we suspect that most members would be more likely to become involved if there was a vehicle or mechanism with which to identify. As a relatively small and highly dispersed society, the opportunity to combine with other biologists and with the scientific community in general is what many members need. A concerted shout rather than a few isolated whimpers for science is certainly what the public needs.

Another consequence of our new affiliation with the CFBS is the opportunity for ESC members to become involved in the nomination, selection and receipt of the Gordin Kaplan Award for Outstanding Contributions to the Public Awareness of Science. Among other items, the ESC is invited to participate in the advisory board.

This issue will be raised at the business as well as the general meeting in Banff.

---

Vince Nealis

## Publications

Members of the Publications Committee are: J. Arnason, V.M. Behan-Pelletier, H.V. Danks, L. LeSage, T. Sahota, J.F. Sutcliffe. The Scientific Editors, *Bulletin* Editor and President are *ex officio* members.

During 1989 to 1990, the Committee dealt with the following items:

1. At the request of the Governing Board, the Publications Committee developed a report providing guidelines for advertisements that might appear in the *Bulletin*.
2. The Committee undertook to evaluate after one year (and hence to the 1991 Executive Council) the consequences of publishing *The Canadian Entomologist* bi-monthly.
3. The Publications Committee dealt with 30 books sent for review. Reviews were solicited and submitted for publication in the *Bulletin*. Several book notices were prepared.
4. Two applications for page charge waiver were considered. One of them was judged eligible for waiver.
5. Assistance was provided to the Scientific Editor and President regarding appointment of Associate Editors and other matters.

H.V. Danks

---

---

## Scholarships

In 1990, there were 10 applications for Entomological Society of Canada Postgraduate Awards. All applications were of a very high standard and the choice of two successful applicants was a difficult decision for the 6 committee members.

The successful applicants for the two \$2,000 awards this year were Marie-Chantal Bertrand and Colleen Teerling. Ms. Bertrand is studying for a Masters Degree at the Department of Biology, University of Ottawa, under the supervision of Dr. J.T. Arnason. The topic for her thesis is *Toxicokinetics and metabolism of axidirachtin in the European corn borer, Ostrinia nubilalis Hubner*.

Ms. Teerling is studying for a Masters Degree in the Department of Biological Sciences, Simon Fraser University under the supervision of Dr. J.H. Borden. Her studies involve an alarm pheromone in western flower thrips, *Frankliniella occidentalis*, with a view to using the pheromone as a bioirritant in combination with an insecticide thereby increasing the activity of the thrips and their exposure to the insecticide.

Ms. Teerling attended the ESC Annual Meeting in Banff. Ms. Bertrand received her certificate at the Annual Meeting of the Entomological Society of Quebec.

J. Cunningham

---

---

## Science Policy

The midterm meeting of the Science Policy Committee (April, 18, 1990) followed the midterm meeting of the Executive in Ottawa. The format differed from the usual due to the pending approval of our joining the Canadian Federation of Biological Societies (CFBS). Dr. Clement Gauthier, Science Policy Officer of CFBS, joined us for a discussion of how the E.S.C. would participate in the Science Policy Committee of the CFBS. Of interest to the E.S.C. are subcommittees of the Science Policy Committee on Animal Experimentation, the Environment, Public Awareness of Science, and Governmental Regulations in addition to their providing strong representation to the lobbying efforts of the



National Consortium of Scientific and Educational Societies, a pipeline to the Standing Committee on Industry, Science and Technology, liaison committees with NSERC/MRC, and liaison with the University Research Committee of the Royal Society of Canada.

As the representative of the E.S.C., I attended the Science Policy Committee meeting of CFBS (June 15, 1990) in Halifax, N.S., and represented our Society at the Governing Board meeting of CFBS (June 17, 1990). On behalf of our Society and CFBS, I wrote a response to the Ministry of Environment's "Green Plan" which was subsequently submitted to the Standing Committee on Industry, Science and Technology by Dr. Mark Bisby (President of CFBS) and Dr. J.N. McNeil (E.S.C.). I am convinced that our Science Policy Committee and the E.S.C. will benefit greatly from our association with the Science Policy Committee of the CFBS if we are willing to take part in at least some of the activities and subcommittees of that organization but it will take a considerable effort by our members.

Dr. Stuart Hill has agreed to respond on behalf of the E.S.C. to a paper on Sustainable Agriculture produced by the Science Council of Canada.

The publication of *Diseases and Pests of Vegetable Crops in Canada* is proceeding on schedule for publication in 1991. (See separate report by Dr. J.A. Garland).

The ad hoc committee on Insect Transmission of Plant Diseases has begun preparation of a brief and a questionnaire will be circulated to those E.S.C. members and others who have conducted research in this area. (See report by G. Boiteau).

An M.Sc. thesis on the economic benefits of entomological research is nearing completion at the University of Guelph and will be made available soon to the ad hoc committee on Costs-Benefits of Entomological Research (F.L. McEwen).

The ad hoc committee on Pest Management Policy has had some problems with communication due to the location of its Chair, Nello Angerilli in Indonesia. The first draft of their report to the Board of Governors should be completed within two months.

J.E. Laing

---

---

### Student Affairs

The student affairs committee produced a survey designed to identify the concerns of the student members vis-a-vis the Society, which was sent to all student members of the Society in August. The response rate, as of early September, was approximately 40%. The results of the survey will be published in a future *Bulletin*, and the committee will be submitting recommendations to the Governing Board based on these results.

J. Corrigan

---

---

### Pest Management Policy

The ad hoc committee on Pest Management Policy was reconstituted for a second time at the 1989 Governing Board meeting by adjusting the membership with a view to rounding the perspective that the committee would bring to bear on its task. The latter having been defined as the preparation of an ESC Pest Management Policy. Membership was expanded to give a more balanced view of both pesticide usage and biological control.

Committee progress during the first half of the year was slow, but led to the creation of a method for development of a draft policy that would be sensitive to the input of the committee members as well



as the membership at large. During the past 4 months however, considerable progress has been made by individual committee members in defining their stance and philosophy with respect to the pest management concept and the role of biological control, cultural control/ecological aspects, pesticide usage, pesticide safety, pesticide legislation/developments and resistance management within the context of theory and practice. Revision and refinement of these positions is in progress and it is hoped that integration will lead to the first rough draft of the policy prior to the spring meeting of the Science Policy Committee.

Nello Angerilli

---

---

### **Insect Transmission of Plant Diseases**

Since last April, a tentative protocol on the preparation of the brief has been circulated to the Committee members. The document was then discussed by phone. The very limited amount of research done in this specialty makes it difficult to evaluate objectively the relative importance of the various insect vectored diseases. A standardized short questionnaire, now in revision, will be used by members of the committee to obtain the opinions of selected ESC members that are or have conducted research in this subject. Hopefully, the survey can be done in the latter part of September.

Gilles Boiteau

---

---

### **Diseases and Pests of Vegetable Crops in Canada**

Pathology and entomology text merger is in progress and should be finished by Christmas. About 400 colour slides are in hand.

An application was made by Dr. J.N. McNeill to the Quebec Government for financial assistance, outcome of which is pending. Dr. Guy Boivin (ESC) has agreed to act as a reviewer of the French translation, along with Dr. Michel Caron (CPS).

Fund-raising has been proposed with emphasis on grower organizations. Approach to be made by the ad hoc CPS/ESC Marketing Committee (Dr. I.R. Evans (CPS), Chair).

A pre-publication flyer in both official languages has been prepared for distribution (English version attached).

The ESC house at 393 Winston Ave. has been suggested as a place to stockpile bulk quantities of the publication, the staff also handling distribution of same.

The CPS and ESC Chairs will meet in December to assess progress and review publication arrangements.

J.A. Garland

---

---

### **Acadian Entomological Society**

Most of the recent activity of the AES centered around the preparation for, and the hosting of, the joint meeting with the ESC in St. John's, Newfoundland. The meeting certainly was a success from a scientific and activities standpoint. Financially things turned out well also. The \$1,000.00 seed money provided by AES was returned and \$3,055.15 was donated to the ESC Scholarship Fund.

Thirty AES members attended the 1989 joint annual meeting. For various reasons our membership is not as large as in past years, and we will be attempting to increase membership and participation

in the future.

Jean-Pierre LeBlanc has been appointed curator of the Archives of the Society, and the Archives are now housed in the A.D. Pickett Entomological Museum and Research Laboratory at the N.S. Agricultural College.

The last annual meeting of the AES was held in Fredericton, N.B., 18-20 April, 1990. The next AES annual meeting is tentatively set for the end of July 1991.

Eben A. Osgood

---

### La Société d'entomologie du Québec

La réunion annuelle de la Société d'entomologie du Québec (SEQ) s'est tenue à l'Auberge Ramada Inn à Sainte-Foy, Québec. Cette réunion a connu un très vif succès. Plus de 125 personnes se sont inscrites des la première journée pour entendre les spécialistes de diverses régions du Canada dans le cadre du symposium intitulé "Cultivons-nous la forêt pour le bénéfice des insectes nuisibles?" sous la direction des animateurs, MM. Yvan Hardy et Louis Dorais. Le Dr. Bernard Philogène représentait la Société d'entomologie du Canada.

Dans la matinée du 20 octobre, plusieurs communications scientifiques ont été présentées. M. Francois Lorenzetti, étudiant à l'UQAM., a remporté le prix E.-Melville-Duporte, lequel est décerné à un(e) étudiant(e) à plein temps de niveau universitaire pour souligner la qualité de son travail et de sa présentation. Pour la première fois le prix était accompagné d'une bourse de 300.00\$ commanditée par l'Association des spécialistes en extermination du Québec (ASEQ). Cette bourse lui a été remise par MM. Ronald Maheu et Michel Maheu, respectivement président et vice-président de l'ASEQ.

Un numéro de la *Revue d'entomologie du Québec* est paru, sous la direction du rédacteur en chef, le Dr. David J. Lewis

L'entomologie et le grand public font bon ménage au Québec comme je l'ai écrit dans le numéro de juin du *Bulletin* de la Société d'entomologie du Canada. Depuis 1985, la filiale de Québec de la Société d'entomologie du Québec pilote un projet appelé "la Maison des Insectes". Il s'agit d'un pavillon situé sur le site du Jardin Zoologique de Québec (à Charlesbourg en banlieue de Québec) où l'on expose des boîtes de collections et des insectes vivants. Depuis 1985, plus de 400 000 visiteurs ont visité "la Maison des Insectes" qui ouvre ses portes pendant la saison estivale. Par ailleurs on a procédé, au cours de la semaine du 14 février 1990, aux cérémonies d'ouverture de l'Insectarium de Montréal. A la demande du président Jeremy N. McNeil, j'y ai représenté la Société d'entomologie du Canada. L'Insectarium est un pavillon situé sur le site du Jardin Botanique de Montréal qui est exclusivement réservé aux insectes et aux arthropodes apparentés. En septembre 1990, l'Insectarium de Montréal accueillait son 300 000<sup>e</sup> visiteur depuis son ouverture.

La SEQ, a publié, en partie grâce à une contribution financière de la Société la Société d'entomologie du Canada d'entomologie du Canada, un dépliant d'information visant à promouvoir l'entomologie et à augmenter le membership de notre Société.

En octobre 1990, la Société d'entomologie du Québec publiera une nouvelle édition de ses membres. On a effectué des changements à près de 50% des noms ou des adresses et le nombre de membres s'est stabilisé à 225 depuis quelques années.

La prochaine réunion de la Société d'entomologie du Québec se tiendra à Saint-Hyacinthe les 18 et 19 octobre 1990 sous la présidence du Dr. Claude Ritchot. Le symposium s'intitulera "La recherche en entomologie agricole, ça sert à quoi?"

La Société d'entomologie du Québec est fière d'accueillir la Société d'entomologie du Canada



et la Société d'entomologie de l'Ontario pour une réunion conjointe à Montréal les 21-22-23 octobre 1991. Le comité organisateur, composé de Daniel Coderre, Yves Maufette et moi-même, a déjà arrêté le programme.

Charles Vincent

---

---

### Entomological Society of Manitoba

The 45th Annual General Meeting (AGM) of the Entomological Society of Manitoba (ESM) was held at the Freshwater Institute, University of Manitoba campus, on November 2nd and 3rd, 1989. Dr. T.E. Rinderer (U.S.D.A., Baton Rouge, Louisiana) was the invited speaker. The best student paper competition (\$100 award) was won by Mr. F. Mwangala (U. of M.). The winners of the 1989 Student Achievement Award (\$100 book award) were Ms. B. Deneka and Mr. S. Pernal. The winner of the SWAT (undergraduate student) award was Mr. R. Brandt. The ESM Graduate Scholarship (\$1000 award) went to Mr. L.R. Lindsay. At the AGM, Honorary Members of ESM were presented with scrolls by the President of ESM.

Other activities of the Society include an annual New Members Social and occasional luncheons with guest speakers. ESM continues to publish a Newsletter quarterly. I have requested that the ESM Newsletter be sent regularly to the *Bulletin* Editor of ESC.

A Fund Raising Committee (Chairperson, Dr. R. Westwood) was established by ESM in 1988 to assist in raising funds to support the activities of ESM and to date it has been very successful through sales of T-shirts, soliciting corporate donations and sale of advertising space in the Proceedings of the ESM. Future plans are to continue with these projects and possibly to develop an insect calendar.

The Youth Encouragement and Public Education Committee, which in part is supported by ESC funds, was quite active during 1989-1990. The active membership list of the Young Entomologists Club stands at 111 youngsters. To date, 13 talks have been provided to public schools and special interest groups. In addition, the resources of the Committee have been used by three primary school teachers interested in developing their own class discussions about insects.

*The Butterflies of Manitoba* which was encouraged and financially supported by ESM has been selling very well. The publisher, Manitoba Museum of Man and Nature, is considering a second printing.

At the last ESC board meeting, ESM was requested to develop a standing committee on the endangered species of insects of Manitoba. Dr. W.B. Preston (Manitoba Museum of Man and Nature) has agreed to serve on this committee and to serve as liaison to the ESC committee.

Presently the membership of ESM stands at 137 members which is an increase of seven members (5%) over 1989.

The 46th AGM of the Entomological Society of Manitoba will be held on November 1st and 2nd, 1990 at the Freshwater Institute, University of Manitoba campus in Winnipeg.

R.E. Roughley

---

---

### Entomological Society of Saskatchewan

The Entomological Society of Saskatchewan held an autumn (October 1989) and a spring (April 1990) meeting during the past year. Plans for the 1992 ESC and ESS Joint Meeting to be held September 27-30 at Saskatoon, are well underway. The following officers and committees were named: General Chairperson - P.G. Mason; Treasurer - P.M. Kusters; Science Program - R.H. Elliott and C. Gillott (Co-chairpersons), K. Pivnick, K. Moore; Local Arrangements - J.J. Soroka (Chairperson), M. Braun, D.W.



Goerzen, C. Lynn (Publicity), O.O. Olfert, R. Weiss.

The ESS has 85 members including several amateurs. The membership was particularly active on committees for Student and Amateur Encouragement, Grasslands Survey and in promoting entomology to the general public. Members were active in setting up displays at garden shows and local exhibitions. Visits to schools were also made to give lectures on insects and their biology. About 300 people viewed the insect collection of one of our amateur entomologists, John Kozial, at Tisdale Sask. There were two collecting trips to the Grasslands Park organized by Ken Pivnick. An informational brochure on the Entomological Society of Saskatchewan and its activities was prepared by O. Olfert and R. Weiss. This draft will be considered for acceptance at the 1990 fall meeting of the ESS.

The autumn meeting of the ESS is planned for November 1-3 at the Museum of Natural History in Regina (Contact Person D. Peschken).

John F. Doane

---

---

### Entomological Society of British Columbia

1. The 88th Annual Meeting of the Entomological Society of British Columbia was held on October 25, 1989 at the Pacific Forestry Centre in Victoria. Sixteen papers were presented to the 45 attendees. Prizes for the student paper competitions were Josee Boisclair (M.Sc. - James Grant Award) and Mary Reid (Ph.D. - Harold Madsen Award).
2. Volume 10(1) of *BOREUS* contains a detailed list of the Society's Library holdings.
3. The ESBC Education Committee funded a project to a grade school to help with the purchase of aquaria and other teaching aids. The funding for this project was derived by matching the ESC \$200 grant from ESBC funds. We are actively looking for other projects to support and pursuing other sources of funding.
4. On the 20th March 1990, the inaugural H.R. MacCarthy Pest Management Lecture was presented at Simon Fraser University by Dr. Marcos Kogan on the topic of "Implementation of IPM Programs: Impact of Agroecological and Socioeconomic Conditions."

This lecture series is funded by an endowment obtained by public subscription to honour the many contributions of Dr. H.R. "Mac" MacCarthy to entomology in B.C. and for his tireless efforts as Journal Editor for the Society. Dr. MacCarthy has also been active in retirement as a sessional lecturer at Simon Fraser University. He has always cheerfully assisted students, and older authors, in better usage of the English language.
5. The 89th Annual Meeting of the Entomological Society of British Columbia will be held on October 25th at the Vancouver Research Station of Agriculture Canada.

John A. McLean

---

---

## Minutes

### Governing Board Meeting

Banff Centre  
Banff, Alberta

October 6, 1990

The meeting was called to order at 0900 hrs on October 6, 1990 by President J.N. McNeil, Those present were J.N. McNeil, President; J.E. Laing, First Vice-President; R. Ring, Second Vice-President; D.C. Eidt, Past-President; D.E. Bright, Treasurer; G.H. Gerber, B. Roitberg, L.A. Gilkeson, D. Quiring, Directors-at-Large; C. Vincent (SEQ), E.A. Osgood (AES), R. Roughley (ESM), J. Doane (ESS), A. McClay (ESA), Directors from Affiliate Societies; A.B. Ewen, Scientific Editor; R.B. Aiken, Bulletin Editor; R.J. West, Secretary; K.W. Richards, P.W. Riegert and R. Footit, observers.

#### 1. Notice of Meeting

Notices of this meeting were mailed August 4, 1990. A notice was published in the March and June, 1990 issue (Vol. 22) of the *Bulletin*.

#### 2. Proxies and Absences

##### 2.1. Proxies

R. Roughley for M. Galloway

##### 2.2. Absences

J.E. Hollebhone, N. Angerilli, J. McLean, M. Galloway, P. Kevan

#### 3. Additions to the Agenda and Approval of the Agenda

The agenda was accepted. The report of the Finance Committee was brought forward and followed item 9.2.2 (Treasurer's Report)

#### 4. Minutes of Governing Board Meeting, October 4, 1989

G. H. Gerber moved and L. Gilkeson seconded that the minutes as circulated and printed in the March, 1990 (22:1) issue of the *Bulletin* be accepted.

**Carried**

**No action required**

#### 5. Minutes of the Governing Board Meeting, September 30 - October 1, 1989

B. Roitberg moved and R. Ring seconded that the minutes as circulated and printed in the March, 1990 (22:1) issue of the *Bulletin* be accepted

**Carried**

**No action required**

#### 6. Minutes - Executive Council Meeting, April 17, 1990

D. Quiring moved and R. Ring seconded that the minutes as circulated be received with the following corrections.

Item 9.2.2. Replace "\$40/member" with "\$40/Canadian full Member and \$10/StudentMember

Item 9.2.6. Replace "No nominations were received..." with "No Fellows were named..."

Item 9.2.7.1 Replace with, "The Executive Council unanimously approved the selection of Dr. S. Tobe as the 1990 recipient of the Gold Medal Award".

Item 9.2.7.1 Replace with, "The Executive Council unanimously approved the selection of Dr. B. Roitberg as the 1990 recipient of the C. Gordon Hewitt Award".

**Carried**

**No action required**

## 7. Business Arising from Previous Minutes

8.1. Computer record of Charter, Committee Guidelines, By-Laws, Rules and Regulations (Item 8.2, Governing Board Meeting, 29 September-1 October 1989)

R. West reported that electronic and hard copies of the Guidelines and Rules and Regulations were made and sent to the Chair of the By-Laws, Rules and Regulations Committee. Hard copies of the Guidelines and Rules and Regulations were sent to the Chair of the Bilingualism Committee for translation. When all updates are made, computer records of the Charter, Committee Guidelines, By-Laws, Rules and Regulations will be retained by the Secretary, Chair of the By-Laws, Rules and Regulations Committee and the ESC office.

**Action: Secretary**

8.2. National Science and Technology Week (Item 9.2.16, Executive Council Meeting, 17 April 1990)

The CFBS provided a roster of speakers from different member societies to the organisers of the Science and Technology Week.

**No action required**

8.3. New Treasurer (Item 9.3.3, Executive Council Meeting, 17 April 1990)

J. McNeil reported that R. Footit has agreed to accept the position of Treasurer of the Entomological Society of Canada. Dr. Footit will assume the duties of this office on Jan. 1, 1991. Day-to-day duties regarding the running of the ESC office will be handled by Sandy Devine (ESC clerk) while the Treasurer will handle matters beyond this responsibility (i.e. obtaining legal advice, repairs to the house, etc.). J. McNeil thanked the outgoing Treasurer, D. Bright, for his service to the Society.

D. Eidt moved and J. Laing seconded that R. Footit be the new Treasurer of the Society.

**Carried**

**No action required**

8.4. *Annual Review of Entomology* - Delivery delays (Item 9.3.4, Executive Council Meeting, 17 April 1990)

J. McNeil answered an inquiry concerning the delay in delivery when the *Annual Review of Entomology* is bought through the ESC. D. Bright advised the Board that delivery delays by purchasing the *A.R.E.* through the ESC are only a matter of a few days. Orders for the *A.R.E.* will be sent to Annual Reviews, Palo Alto, Calif. as they are received by the Treasurer.

**No action required**



## 9. New Business

### 9.1. Correspondence

R. West introduced items of correspondence which required no formal action. Notice was given of the deaths of Gerald Lanier, Malcolm Neary, Cecil Twinn, Roger Garneau and Hsien-Hua Cheng.

The President of the ESO wrote to President McNeil expressing a concern that the reduced page charges for *The Canadian Entomologist* would lower the number of manuscripts submitted for publication in the *Proceedings of the Entomological Society of Ontario*.

President McNeil summarized the contents of letters sent to him in response to his letter to the Prime Minister regarding the closure of the biting fly centre.

**No action required**

### 9.2. Reports from Officers, Trustees Representatives and Committees

G. Gerber moved and R. Aiken seconded that all reports be received.

**Carried**

**No action required**

#### 9.2.1. Executive Council

The Executive Council's report will be presented at the Annual Meeting. Updates of the President's office are regularly published in the *Bulletin*.

**No action required**

#### 9.2.2. Treasurer

The Scholarship Fund is in good shape. The GST probably will affect membership dues including those to the CFBS as well as all purchases and services which will be refunded upon paperwork (submissions required every three months).

The ESC lost \$9,000 in 1989. There were extra costs in sending the Board to the St. John's meeting. There were bills for 5 *Bulletins* and a large *Memoir* in 1989. The *Bulletin* now has to go by first class mail.

A commercially-zoned house was purchased in June 1990 and is now the headquarters of the ESC. The upstairs was renovated as an architect's office (720 sq. ft.) and is suitable for renting. The downstairs office (about 750 sq. ft.) is equipped with a fax machine, new rugs and new lights. Several renovations have been made to the outside of the building. Prior to the purchase of the house, the basement was rented as a residence. The individual occupying the basement at the time of purchase was given notice to vacate the premises (by October 31, 1990) to allow the ESC more flexibility in deciding what to do with the extra space.

President McNeil stated that it is essential that we generate revenue from rent of space in the house. Costs (taxes, insurance, general upkeep and repairs, cleaning, legal fees) were estimated at \$600/mo (\$7,200/yr) by D. Bright, revenue lost (interest) at \$20,000/yr and unforeseen expenses at \$2,800/yr. Estimated revenues from the move to the house are as follows: Money saved on rent, \$11,000; Rent from upstairs, \$12,000; basement flat, if rented, will require an outlay of at least \$5,000 and there are problems in retaining a reliable tenant. The other option is to rent storage space in the basement (i.e., ESC/CPS charged for storage space for books).

D. Bright advised the Board that the present tenant has been given notice to vacate the ESC premises by October 31, 1990

only. G. Gerber moved and B. Roitberg seconded that the ESC office in Ottawa be commercial.

**Carried**

**Action: Treasurer**

D. Eidt moved and G. Gerber seconded that a housing policy committee comprised of the Chair of the Finance Committee, the Treasurer and two Ottawa-based members be struck to solicit a commercial tenant, prepare a detailed annual budget and have the house in a state to generate revenue by January 1, 1991. The committee will be Ian Smith, Bob Footitt, Don Bright and Gary Gibson.

**Carried**

**Action: Chair of Finance Committee  
and Treasurer**

#### 9.2.3. Finance Committee

##### 9.2.3.1. Cost of Annual Meeting

Ways were discussed to reduce the costs of sending Governing Board members to the annual meetings.

G. Gerber moved and J. Doane seconded that funding attendance to the Governing Board meetings be limited to travel costs up to excursion rates by air for Trustees and members of the Board.

**Carried**

**Action: Standing Rules Committee**

L. Gilkeson moved and R. Ring seconded that the actual costs of room and board of a Board Member or Trustee to attend Board meetings may be paid at the discretion of the Executive Council. Application justifying this request must be made to the President by the Board Member or Trustee prior to the Governing Board meetings.

**Carried**

**Action: Standing Rules Committee**

##### 9.2.3.2. Charges for Advertising in the *Bulletin*

The Finance Committee recommended that the advertising rate be \$100 per printed page and \$50 per half page. This recommendation was accepted by the Board.

##### 9.2.3.3. Grants to Member Societies to Support Public Awareness Projects

The Executive Council received a request to increase the annual grants to the regional societies from the current level of \$200. According to the Committee Guidelines there are already provisions to consider application in excess of \$200. Announcements regarding grants will be made in the *Bulletin*.

**Action: Public Education Committee**

##### 9.2.3.4. Funding participation with CFBS

Funding is required to attend board and science policy meetings of the CFBS and there is a provision for this in the budget. J. McNeil summarized ESC participation with the CFBS this year. J. Laing stated that the CFBS needs our input on environmental matters. The Federal Government goes to the CFBS for advice and for the ESC, going through the CFBS is one of the best routes to decision-makers in the Government.

##### 9.2.3.5. Program Committee

Annual meetings of the CFBS will be held in Kingston (1991), Victoria (1992), Toronto

(1993) and Montreal (1994). Notice of these dates will be published in the *Bulletin*.

**Action: Secretary**

On September 14, 1990, the Program Committee selected themes for symposia for the 1992-94 meeting:

1992 - Neurobiology, structural biology, molecular genetics and disease, and aging.

1993 - Neuroendocrine systems, biotech/bioethics, circulation, and growth and differentiation.

1994 - Gene regulation, biological communications, motility/muscle, and evolution/taxonomy.

R. West, the ESC representative on the Program Committee, tentatively committed the ESC to organize symposia within the themes of biological communication and evolution/taxonomy for the 1994 meeting. CFBS contributes \$3,500 annually to any of its member societies to help them organize symposia. Invitations to workshops and dinner/workshops on the evening before the formal meetings begin were suggested to promote attendance by "middle-level" scientists. CFBS annual meeting is of major importance in obtaining revenue for the Federation. Announcements of ESC involvement with the CFBS will be made regularly in the *Bulletin*.

**Action: Executive Committee**

**9.2.4. Scientific Editor**

**9.2.4.1. Scientific Editor (*Memoirs*)**

D. Eidt moved and B. Roitberg seconded that a new position and Trustee, Scientific Editor (*Memoirs*) be created.

**Carried**

D. Eidt moved and G. Gerber seconded that an honorarium of \$400 be paid annually to the Scientific Editor (*Memoirs*).

**Carried**

Dr. Valerie Behan-Pelletier (BRC, Ottawa) was appointed Scientific Editor (*Memoirs*) to start on January 1, 1991. Dr. G. Gibson (BRC, Ottawa) will replace Dr. Behan-Pelletier as an Associate Editor of *The Canadian Entomologist*.

J. Laing moved and R. Ring seconded that funds be provided to cover additional costs of the Scientific Editor in moving the Editor's office to his home following his retirement.

**Carried**

G. Gerber moved and C. Vincent seconded that the ESC pay to have the abstracts of articles for *The Canadian Entomologist* translated into French or English.

**Carried**

J. McNeil suggested that time could be saved by faxing titles and abstracts of manuscripts to Associate Editors.

**9.2.5. Editor - *Bulletin***

Efforts have been made to increase the French content of the *Bulletin*. Costs of the *Bulletin* have been reduced through the use of a Macintosh computer. Some secretarial help is required. Ron Aiken will resign as *Bulletin* Editor on December 31, 1990 but will assist the new Editor during a transition period.

J. Laing moved and R. Roughley seconded that up to \$800 per annum be provided to obtain the services of a typist to assist in the production of the *Bulletin*.

**Carried**

An ad hoc committee comprised of R. Aiken, H. Danks, P. Riepert and J. McNeil was struck to find a new *Bulletin* Editor.

The Publications Committee was requested to examine the feasibility of creating a new



award, the Hocking-Ball Award, to honour two entomologists who have contributed much to scientific publishing in Canada.

**Action: Publications Committee**

9.2.6. Nominating Committee

The Nominating Committee submitted the following nominations:

Nominees for Second Vice-President:

Dr. P.W. Riegert

Dr. I.M. Smith

Nominees for Director-at-Large:

Dr. Guy Boivin

Dr. Yves Mauffette

Dr. K.W. Richards

Nominees for Fellowship Committee:

Dr. S. C. Jay, FESC

Dr. E.E. Lindquist, FESC

Dr. L. Safranyik, FESC

**No action required**

9.2.7. Elections Committee

The successful candidates were:

Second Vice-President: P.W. Riegert

Directors-at-Large: G. Boivin, K.W. Richards

Fellowship Selection Committee: E.E. Lindquist, L. Safranyik

J. Laing moved and G. Gerber seconded that the 1990 ballots be destroyed.

**No action required**

9.2.8. Fellowship Committee

There was no call for nominations for Fellows because of quota restrictions. Twenty-one Fellows are not currently members of the Society. A letter inviting non-retired Fellows, as leaders of Canadian entomology, to join to rejoin the Society will be written.

**Action: President, Membership Committee**

9.2.9. Achievement Awards Committee

9.2.9.1. Gold Medal

Dr. S. Tobe was acknowledged as the recipient of the Gold Medal Award. The Governing Board extended congratulations to Dr. Tobe.

**No action required**

9.2.9.2. C. Gordon Hewitt Award

Dr. B. Roitberg was acknowledged as the recipient of the C. Gordon Hewitt Award. The Governing Board extended congratulations to Dr. Roitberg.

**No action required**

#### 9.2.10. Annual Meeting Committee

There will be a joint meeting of the ESC, SEQ and ESO hosted by the SEQ in Montreal, October 21-23 in 1991. C. Vincent provided an initial draft of the program which includes 4-5 symposia and submitted papers.

No offers from any of the regional societies to host the 1993 annual meeting have been received. The site of the 1993 meeting will be discussed at the Oct. 10 meeting of the Board.

D. Edit suggested that other entomological organizations be advised of the dates of the ESC annual meetings well in advance to avoid conflicts in scheduling meetings.

#### 9.2.11. Bilingualism Committee

Application for \$5,000 to translate the Constitution, Committee Guidelines, Standing Rules and Bylaws has been made to the Secretary of State for Canada and has been accepted in principle. Monies will be available in April, 1991.

The Publications Committee will write to the appropriate Government agency to obtain ongoing support for the translation of abstracts for ESC publications.

**Action: Publications Committee**

#### 9.2.12. By-laws, Rules and Regulations Committee

##### 9.2.12.1. Standing Rules and Guidelines on the Endangered Species Committee

G.H. Gerber moved and L. Gilkeson seconded that 'insect' be replaced with 'arthropod' in the Rules and Committee Guidelines.

**Carried**

**Action: Secretary**

G.H. Gerber moved and D. Quiring seconded that the Standing Rules and Committee Guidelines for the Endangered Species Committee be accepted.

**Carried**

**No action required**

#### 9.2.13. By-laws, Rules and Regulations Committee

D. Eidt recommended that the Canadian Nature Federation be advised of the presence of the Endangered Species Committee and that the names of endangered species be published in their journal.

**Action: Endangered Species Committee**

#### 9.2.14. Finance Committee (moved to item 9.2.3.)

#### 9.2.15. Heritage Committee

The booklet, *Entomologists of Alberta*, has been published by the ESC at a cost of approximately \$4000. The ESA agreed to pay half of the costs of this publication. To date, this amount has not been paid to the ESC.

**Action: Regional Director, ESA**

#### 9.2.16. Insect Common Names and Cultures Committee

At the request of the Executive Council, R. West wrote to E. Belton, Chair of the Insect Common Names and Cultures Committee, to express concern over the lack of progress in producing an ESC/SPPQ list of common names. It was suggested that disbanding the Committee be considered should the list not be published within one year. E. Belton felt that this was unfair given that the delay was due in part to the length of time it took for "a succession" of ESC Presidents to obtain computer discs from

the SPPQ. The Committee now has the necessary computer disks to proceed but would need funds for secretarial help if the list is to be produced quickly. E. Belton requested that a decision on funding be made at the Annual General Meeting.

D. Edit and J. Laing will meet with E. Belton to determine what actions will be recommended to the Board on October 10, 1990.

**Action: D. Eidt, J. Laing**

#### 9.2.17. Membership Committee

Ways in which to attract new members were outlined. A new membership list will be produced.

**Action: Chair, Membership Committee**

#### 9.2.18. Public Education Committee

Due to financial constraints, the Board did not approve the recommendation that the ESC provide funding to the CFBS to assist in the hiring of a national coordinator for public awareness of science although it supports this effort of the CFBS and the Canadian Zoological Society. The Board asked the President to write a letter to the co-chairs of the Public Education Committee to convey this view.

**Action: J. Laing**

#### 9.2.19. Publications Committee

D. Edit moved and B. Roitberg seconded that advertisements in the *Bulletin* be accepted for any products that contribute to the study, advancement, or promotion of entomology.

**Carried**

**Action: Bulletin Editor**

#### 9.2.20. Scholarship Committee

An announcement advertising the Student Awards was prepared and distributed to universities for posting. ESC Postgraduate Award winners in 1990 were: Marie-Chantal Bertrand and Colleen Teerling

#### 9.2.21. Research-Travel Grants

Travel grants for 1990 were awarded to B.V. Brown (U. of Alberta) and T. Wheeler (U. of Guelph).

B. Roitberg moved and J. Laing seconded that the Committee Guidelines for these grants indicate that the travel grants are not intended to fund attendance at scientific meetings or visits to the major research sites of the student's thesis project.

**Carried**

**Action: Rules and Regulations Committee**

#### 9.2.22. Science Policy Committee

J. Laing will contact F.L. McEwen regarding the publication of information contained in an M.Sc. thesis (U. of Guelph) on the economic benefits of entomological research.

**Action: J. Laing**



9.2.23. Student Affairs Committee  
The Governing Board accepted the report.

**No action required**

9.2.24. Pest Management Policy Committee

**No action required**

9.2.25. Diseases of Insects of Vegetables Committee

The Board agreed that bulk quantities of the CPS/ESC book will be stored at 393 Winston Avenue and distributed by ESC staff. Costs of storage and distribution will be shared by the ESC and CPS.

**No action required**

9.2.26. Insect Transmission of Plant Diseases Committee

**No action required**

9.2.27. AASC and COPSE

No report was received.

**No action required**

9.2.28. Directors from Affiliates

Reports from Affiliate Societies were presented by:

C. Vincent - Société d'entomologie du Québec

R. Roughley - Entomological Society of Manitoba

J. Doane - Entomological Society of Saskatchewan

E. Osgood - Acadian Entomological Society

The Board was encouraged by the involvement of the regional societies in entomological activities, particularly public awareness.

**No action required**

### 9.3. Other Business

9.3.1. Letter on Stored Grain Ecosystems

J. Laing moved and R. Roughley seconded that the Entomological Society of Canada act as a co-sponsor of the Symposium on Stored Grain Ecosystems to be held June 7-10, 1992 in Winnipeg and that this symposium be promoted in the *Bulletin*.

**Carried**

**Action: G. Gerber, Bulletin Editor**

### 10. Date of Next Meeting

The next meeting of the Governing Board will be held at the Banff Centre at 1200 hrs on October 10, 1990.

### 11. Adjournment

President McNeil adjourned the meeting adjourned at 1815 hrs, October 6, 1990 following a motion by G. Gerber seconded by J. Laing.

## Minutes

### Governing Board Meeting

Banff Centre, Banff, Alberta

October 10, 1990

The meeting was called to order at 1200 hrs on October 10, 1990 by President J.E. Laing. Those present were: J.E. Laing, President; J.N. McNeil, Past President; R. Ring, First Vice-President; P.W. Riegert, Second Vice-President; ; B. Roitberg, D. Quiring, L. Gilkeson, K.W. Richards and G. Boivin, Directors-at-Large; C. Vincent (SEQ), E.A. Osgood (AES), P. Kevan (ESO) R. Roughley (ESM), A. McClay (ESA), Directors from Affiliate Societies; D. Bright, Treasurer; R.J. West, Secretary; and R. Footit, observer.

#### 1. Notice of Meeting

Notices of this meeting were mailed August 4, 1990. A notice was published in the March and June, 1990 issue (Vol. 22) of the *Bulletin*.

#### 2. Proxies and Absences

##### 2.1 Absences

Absent with apologies: R. Aiken, J.E. Hollebhone, A.B. Ewen, J. Doane, M. Galloway, J. Maclean.

##### 2.2 Proxies

P. Riegert for J. Doane, R. Roughley for M. Galloway

#### 3. Additions to Agenda and Approval of Agenda

- Add - Item 7.2. ESC profits to travel grants
- Item 7.3. ESO report

P. Riegert moved and R. Roughley seconded that the agenda as amended be accepted.

**Carried**

**No action required**

#### 4. Minutes of the previous Governing Board Meeting

K. Richards moved and L. Gilkeson seconded that the minutes of the Governing Board Meeting held on October 6, 1990 as circulated be accepted.

**Carried**

**No action required**

#### 5. Business Arising from Previous Minutes

##### 5.1. 1993 Annual Meeting

P. Kevan stated that the 1993 Annual Meeting will be held in Ontario. Possible sites include the Muskoka area, Niagara-on-the-Lake and Salut Ste. Marie. Further information on the site and dates of the 1993 meeting will be available after the ESO annual meeting 19-21 October 1990.

##### 5.2. Ent. Soc. Alberta Booklet

A. McClay indicated that the ESA will bear their share of the cost of the booklet, *The Entomologists of Alberta*.

## 6. Other Business

### 6.1 Appointments

#### 6.1.1. Executive Council

B. Roitberg moved and C. Vincent seconded that the Executive Council for 1990-91 be: J.E. Laing, President; J.N. McNeil, Past President; R. Ring, First Vice-President; P.W. Riegert, Second Vice-President.

**Carried**

**No action required**

#### 6.1.2. Trustees

R. Roughley moved and G. Boivin seconded that the Trustees for 1989-90 be: D.E. Bright, Treasurer (until Jan. 1, 1991) and R. Footitt (after Jan. 1, 1991); A.B. Ewen, Scientific Editor; V. Behan-Pelletier, Scientific Editor (*Memoirs*); C.H. Craig and R.H. Elliott, Assistant Scientific Editors; R. Aiken, Bulletin Editor (until Jan. 1, 1991) and F. Hunter, Bulletin Editor (after Jan. 1, 1991); and R. West, Secretary.

**Carried**

**No action required**

#### 6.1.3. Committees and Representatives

J. McNeil moved and P. Riegert seconded that the Governing Board approve the list of committees and representatives as prepared by the President and further that the Governing Board will accept the President's appointees to the remaining positions to be filled.

**Carried**

**No action required**

### 6.2 Budget

D.E. Bright presented the budget for 1991.

J. McNeil moved and L. Gilkeson seconded that the budget as amended be accepted.

**Carried**

**No action required**

## 7. New Business

### 7.1 News of members in the *Bulletin*

The Board encouraged that a section be set aside in the *Bulletin* to present news of ESC members.

**Action: J. Laing/F. Hunter**

### 7.2. ESC profits to travel grants

P. Kevan presented the 1990 report from the Entomological Society of Ontario.

P. Kevan moved and J. McNeil seconded that the ESO Report be accepted.

**Carried**

**No action required**

## 8. Next Meeting

The next meeting of of Governing Board will be held on October 19, 1991 at 0900 hours at the Ramada Renaissance, Montreal, Quebec. If necessary, the meeting will continue on October 20, 1991.

**Action: Secretary**

## 9. Adjournment

The meeting was adjourned by President J.E. Laing at 1310 hours on a motion by P. Kevan, seconded by R. Roughley.



## **Minutes**

### **40th Annual General Meeting**

Banff Centre, Banff, Alberta

October 9, 1990

President J. N. McNeil called the meeting to order at 1600 hrs. There were 69 members in attendance.

#### **1. Notice of Meeting**

Notice of meeting was published in the March and June 1990 issue (22:1 & 2) of the *Bulletin*

#### **2. Proxies**

No proxies were registered

#### **3. Additions to the Agenda and Approval of the Agenda**

There were no amendments to the agenda. J.A. Shemanchuk moved and P.W. Riegert seconded that the agenda be accepted.

**Carried**

#### **4. Deceased Members**

A moment of silence was observed in memory of Gerald Lanier, Malcolm Neary, Cecil Twinn, Roger Garneau and Hsien-Hua Cheng.

#### **5. Minutes of the 39th Annual General Meeting**

J.A. Shemanchuk moved and L. Gilkeson seconded that the minutes of the 39th Annual General Meeting as printed in the March 1990 issue (Vol. 22:1) of the *Bulletin* be adopted.

**Carried**

#### **6. Business Arising from Previous Minutes**

There was no business arising from previous Minutes.

#### **7. Report from the Governing Board**

President J.N. McNeil presented a report on behalf of the Governing Board and summarized the participation of the ESC in the activities of the CFBS. The report from the Governing Board and regular updates of the involvement of the ESC with the CFBS will be published in the *Bulletin*. J. Laing moved and G. Gerber seconded that the President's Report be accepted.

**Carried**

**No action required**

##### **7.1. Changes to Standing Rules**

R. West moved and G. Gerber seconded that the following Standing Rules be adopted  
Standing Rule IV 2 (a). Change to "Expenses for transportation incurred by members of the Board and Trustees in order to attend meetings of the Board shall be reimbursed by the Society, in whole or in part, if deemed necessary. These expenses shall not exceed excursion rates by air transportation".

of the Board and Trustees in order to attend meetings of the Board may be reimbursed by the Society, in whole or in part, under unusual circumstances. Approval of these expenses is made by Executive Council. Application for approval of these expenses shall be made to the President prior to the meeting of the Board".

**Carried**

**Action: Standing Rules Committee**

**8. Auditor's Report**

D.E. Bright presented the Auditor's Report for 1989 as published in the September 1990 issue of the *Bulletin*.

Moved by L. Gilkeson and seconded by R. Lamb that the Auditor's Report be accepted.

**Carried**

**No action required**

**9. Elections Committee Report**

R. West read the Elections Committee report. Those elected were:

Second Vice-President:

P.W. Riegert

Director-at-Large:

G. Boivin

K.W. Richards

Fellowship Committee:

E.E. Lindquist, FESC

L. Safranyik, FESC

**10. Installation of Officers**

The President called on D.C. Eidt, retiring Past-President, to escort P.W. Riegert, Second Vice-President to the dias. President J.N. McNeil turned the gavel over to J.E. Laing as incoming President of the Entomological Society of Canada. The new President accepted the gavel and thanked the members for the honour of being President. The new President thanked J.N. McNeil, outgoing President; D.E. Bright, outgoing Treasurer; and R.B. Aiken, outgoing *Bulletin* Editor for their services to the Society. J.N. McNeil and D.E. Bright were presented with service awards; a service award will be given later to R. Aiken who was absent.

**11. Appointment of Auditor**

D.E. Bright moved and D.A. Craig seconded that McCay, Duff and Company be retained as auditors for 1990.

**Carried**

**Action: Standing Rules Committee**

**12. Resolutions**

President J.E. Laing asked H.V. Danks to present the resolutions on behalf of the Entomological Society of Canada.

Resolutions:

Whereas the 1990 Joint Annual Meeting of the Entomological Society of Canada and the Entomological Society of Alberta have met under the banner "Hexapodoxa '90" at the Banff Centre in Banff, Alberta, October 7-10, 1990, and

Whereas there has been a full and interesting meeting of lectures, symposia and papers, and

Whereas the program has been planned with care and concern for those attending, and

Whereas there has been ample opportunity provided for social interaction, and visits to Banff and vicinity,

Be it resolved that the Entomological Society of Canada and the Entomological Society of Alberta express their sincere thanks to the Organizing Committee for their hard work and skill in arranging a most worthwhile and entertaining program, and

Be it further resolved that the two Societies express their thanks to the Management and Staff of the Banff Centre for their courteous assistance during the meeting.

Moved by H.V. Danks and seconded by R. Canning that the report of the Resolutions Committee be accepted.

**Carried**

**No action required**

14. New Business

There was no new business

15. Notice of the 41st Annual General Meeting

The 41st Annual General Meeting will be held at the Ramada Renaissance in Montreal, Quebec, on October 22, 1991. The time of the meeting will be announced in the March 1991 issue of the *Bulletin* (23).

16. Adjournment

President J.E. Laing adjourned the 40th Annual General Meeting at 1630 hours on a motion by J. Shemanchuk seconded by G. Gerber.

---



## ARTICLES

### Gold Medal Address

#### **Fool's Gold: The Fallacy of Government Funding of Research or Why do we do research?**

Stephen S. Tobe

Let me begin by thanking the Entomological Society of Canada, its Executive and its Nominations and Selection Committees for this great honour. It is indeed a pleasure to join the illustrious group of previous Gold Medal recipients, including my friend, colleague and former supervisor Ken Davey and current collaborator, bon vivant and drinking buddy Jeremy 'T-Shirt' McNeil. I must also thank my scientific collaborators, past and present, including graduate students, post-docs and research associates for their enormous and vital contributions to the overall success and progress of the research program of my laboratory. Although I do not intend to mention them all, my long-standing collaborator Barbara Stay of the University of Iowa and my more recent collaborator, Davis Schooley now of the University of Nevada must be acknowledged, as must the contributions of recent graduate students, Richard Aucoin, John Dale, and Rory McQuiston and present graduate students, Lindsay King and Qi Ding as well as post-docs Rick Ruegg, Aslam Khan, Koichiro Yagi, Michel Cusson and research associate Charlie Thompson and my secretary Cheryl Smith Macrae. All of these individuals have provided important input and assistance and have solved, in their own ways, essential parts of the puzzle.

I must also express my gratitude to the Natural Sciences and Engineering Research Council of Canada and my peers who served on various grant selection committees over the years for their generous (by Canadian standards) funding of my research over the past 16 years; it is this long-standing funding of my research program which is responsible for my presence here today (not to mention the understanding of my long suffering friend and spouse, Martha). Because of this, I feel that it is appropriate to devote my talk this afternoon to a perspective on the Canadian scientific research scene and its future.

Let me begin by noting that the Fool's Gold in my title in no way refers to the Gold Medal which I am receiving this afternoon. Nor is it a comment on the individuals or the Society who selected me for this honour. Some here might say that rather, it is an appropriate label for me...if the shoe fits...but we will leave that for another day. Many of you may also be wondering why my talk apparently has two titles. In fact, there is only one title and the two phrases simply refer to the two different sides of the coin. The problem is the same, however. Scientific research in this country is in serious trouble and we are in imminent danger of becoming an irrelevant scientific backwater.

Scientific research in this country is in crisis...this situation exists in part because of problems at NSERC, within NSERC, and with the Federal Government; this ultimately can be translated into the public perception of science and scientists. I would like to spend a bit of time discussing what these problems might be and the fundamental source of the problems. I would like to begin by relating a story that recently appeared in the *Financial Times* and which directly applies to our crisis in research in Canada. Apparently, there is a Russian parable currently circulating in the Soviet Union which provides an amusing if not chilling view of the public perception of President Gorbachev and his policies. It seems that a railway train carrying a cross-section of the populace was making its way across the barren steppes and abruptly came to a stop. Apparently, there were no railway ties under the tracks ahead. Lenin, the driver at the time, told the passengers that they must work together to find wood to prop up the rails. That

done, the train carried on, only to encounter the same problem again. By this time, the driver was Stalin, who instructed his bodyguards to shoot as many passengers as necessary and use their bodies for railway ties. This accomplished, on went the train, only to encounter yet another gap in the rail ties. The driver in control at this time was Krushchev. He had the surviving passengers take the railway ties from behind the train and move them in front until the gap was filled. On went the train, but once again, a gap in the rails appeared. Brezhnev was now at the controls and he called the passengers together and instructed them to draw the blinds, to rock from side to side as if they were moving and to twiddle their thumbs. Brezhnev told the passengers that they would then be too busy to worry about what was happening outside. However, the travellers became bored by this rocking and twiddling and when they looked up, they found that Brezhnev had been replaced by Gorbachev. Gorbachev declared that there was now going to be a complete change of strategy...Exhorted Gorbachev, "Draw the blinds, open the windows and — all together now— shout: HELP!"

It does not take too much imagination to see the application of this parable to the changes in the scientific community and the research enterprise in this country over the past 20 or 30 years. Although I am sure that there would be disagreement over exactly when the good times ended, with scientists working in relative harmony, and when the beast turned inward, consuming itself, as in the Stalinist era, there is no doubt that this has occurred. How many good scientists have gone unfunded or had their grants reduced to insignificant (and inoperable) levels because of the underfunding of the system. How many students, both graduate and undergraduate, have been turned off by a system that guarantees them no future but only a constant battle over an ever decreasing sprinkle of crumbs from the government's table. It is an ancient strategy—divide and conquer—and the government has been very successful at keeping the scientific community in turmoil and disarray, feeding on its own, that only recently have scientists finally realized the gravity of the situation. Unfortunately, NSERC and many of us in this room have been reluctant participants in the cannibalism. It has taken the realization that our best students are no longer entering science but are turning to business, commerce and, heaven forbid, the humanities, because they see a future in these disciplines. But it is not only our best students—it is all students. The statistics are very clear on this—we are witnessing a mass exodus of students from science, not only in this country but across the continent. It is this lesson that has finally caused the scientific community to take notice. Scientists can no longer clone themselves to guarantee the future of the scientific enterprise in this country. We have to go back to square one, to examine the problems with our perception of science, with the public perception of science, with student perception of science and finally with the government perception of science. But at what stage are we in our Russian parable? Have we stopped wringing our hands and rocking back and forth and saying "Woe is me"? Perhaps. Have we decided that it is time for action? Perhaps. But, nonetheless, we certainly have not progressed beyond the Gorbachev stage. We are raising our collective voices. But to what end and for whose ears?

It is not my intention today to exhort you or depress you or lecture to you or complain to you. We all know what must be done. We know that the public perception of science must be changed, if Canada is to remain/become a participant in the technological revolution. We all know that we must make science more attractive to students at all levels. We all know that we must make greater efforts to interest more females in science at all levels. We all know that we must convince our governments that science and technology is a major instrument for change and that future commerce will depend on our ability to produce and compete, using these tools, in a global economy. And equally important, we must convince ourselves that it is appropriate and necessary for us, as scientists, to spend our time not only doing research but also engaging in the other activities I have just mentioned.

But all of this having been said, why do we as scientists feel that we must engage in research? What is it about research that fascinates and intrigues us? In this audience, this is a rhetorical question—clearly because it is the very essence of science. The scientific process is based on hypothesis, observation and



inquiry. But why do we spend an inordinate amount of our time endeavouring to get funds to carry out this process. And exactly what do governments and the public think we do as scientists? There is no doubt that in some circles, we are perceived as parasites and general layabouts. There is also no question that governments perceive scientists (and academics in general) as trouble-makers, constantly vying for an ever larger portion of the shrinking financial pie, for the sake of universities, education and research. How ignoble of us! However, the question that is never asked by the politicians is not what we might do with the extra money that we are unlikely to receive, but rather why do we as scientists bother to do research? Wouldn't many of us in this room, as tenured professors or secured employees of government, be better off doing our teaching or our administration and forgetting all about research. We certainly would have more time to spend with our families and friends and more time to pursue other avocations. So why do we bother? The road to a research career is filled with disappointment, frustration and aggravation. But it is also filled, to use the vernacular of the 60's, with the most incredible highs that one experiences in life—the thrill of discovery, of hypothesis, of learning, of personal satisfaction. But are we to sell our souls to government for these moments of personal highs? This is the problem—simply because we as scientists derive an enormous amount of personal satisfaction from our vocations, we are treated as door mats, as objects of derision and fear and as parasites of society. But, I reiterate, the question that politicians simply do not ask is why would anyone devote their life to research. We here know the answer—but it is improbable that a politician would. And that is my message for today—if we are to see science survive and flourish in this country, we, all of us, are obligated to make every possible effort to educate our politicians and in turn, the general public, to the importance of science. We simply must...if not, we are truly destined to become a scientific, cultural and social backwater.

We must begin by admitting that yes, we all derive enormous personal satisfaction from our work. Yes, we like to get out of bed in the morning (which few other individuals in the working force ever seem to experience), and yes, 99% of the time, we would not change our position with anyone else anywhere. But we cannot allow the personal satisfaction we derive from our pursuit of science to distort or obstruct the importance of our work to the future of this country. In saying that, I am not exaggerating the significance of our contributions or dealing in melodrama. We are all important people here, and perhaps the first message we need to digest is that we have a vital job to perform for this country. But unfortunately, when dealing with politicians, they are convinced that they are doing me and you some kind of favour, as part of their political largesse, by providing money to do research. I ask that you think about this for a moment. What kind of perverse logic demands that by performing an essential service for society, and humanity in general, you are told that you exist in an ivory tower, that your work is irrelevant, that you are a societal parasite, and that you are indeed privileged to be receiving any funding from governmental sources. We in this society do have our priorities confused. It seems that the shoe is really on the wrong foot!

I do not know who will succeed Gorbachev, nor does anyone in this room. And so, we do not know how the Russian parable will ultimately be resolved, if ever. Parables have a way of not being resolved, by definition. However, I do know that our collective voices and cries for help are falling upon deaf ears and that the scientific enterprise has no priority in Ottawa. And the shifting emphasis to social awareness and to social programs, as has recently occurred in Ontario as a result of the election of an NDP government, raises concerns about the role that science and technology might be expected to play in such so-called “kinder, gentler” societies. Hopefully, the scientific enterprise will not find itself in direct conflict with social or environmental programs. Because in the present climate, science will be the loser. However, we, all of us, must be mindful of such changes and potential conflicts and must be prepared to adapt, without compromise, to these pressures. As Groucho Marx said in one of his early movies “I have principles. If you don't like these, I have others”. Science has been inherently a



conservative and individual process. However, the face of science has changed over the past ten years, with much of the research now being done collaboratively in large or small groups. This is a fundamental change in the individualistic nature of science. Perhaps it is also now necessary to shed some of the conservative nature of the scientific process and to be more prepared to adapt to changing social pressures. If not, scientists may well become an endangered 'species'.

---

---

### **Ewen-Leech Laws of Publication**

We offer here, for consideration by all, the results of some serious deliberations (at least 5 minutes). These Laws, although not guaranteeing rapid publication, may go a long way towards having your manuscript considered favourably — or not. The format, of course, is crudely cribbed from the many books of Murphy's Laws (Price Stern Sloan Publishers, Inc., Los Angeles, CA).

#### *The Universal Definition*

The editor is always right. Mis-informed, perhaps, inexact, stubborn, ignorant, fickle, even abysmally stupid, but always right.

#### *The First Law of Explanations*

When you really don't understand what is going on, cite "unpublished data" to support whatever position you take.

#### *The Either/or Principle*

When you are short on data, make the title as long as possible.

#### *Addendum*

When you don't have enough replicates, confuse the reader with acronyms, abbreviations, and contractions.

We may add to these Laws, sometime. We would prefer to assemble those sent to us, so don't be bashful. Of course, we will give full credit for all suggestions — unless they are particularly good and then we just might steal them. Send your contributions to Ewen or Leech, but don't expect acknowledgements.

---

---

### **L'Insectarium accueille son 300 000<sup>e</sup> visiteur:**

Le baromètre du succès de l'Insectarium n'en finit pas de grimper. Depuis la venue de la 200 000<sup>e</sup> visiteuse, 63 jours se sont écoulés et...un 300 000<sup>e</sup> visiteur, une famille de touristes allemands, vient de franchir les tourniquets de ce musée unique en Amérique. Depuis son ouverture, plus de 1 500 personnes par jour jouent, découvrent et apprivoisent le monde des insectes.

C'est avec joie et fierté que Georges Brossard et son équipe ont accueillis la famille Luenendonk, des résidents de la ville d'Unteregg, située 100 km à l'ouest de Munich. Pour Georges Brossard, initiateur du projet et fondateur de l'Insectarium, c'est une preuve de plus que son projet "insense", avait toute sa raison d'être et qu'il avait raison d'y croire. "Tant de personnes de toutes nationalités, de tout âge, de tout milieu qui ressortent enchantées et qui reviennent... que peut-on désirer d'autre, comme

témoignage du succès de l'Insectarium?"

Thomas, Waltraud et leurs enfants Jonas et Lisa ont été honoré selon la "tradition", encore jeune, dans l'histoire de l'établissement. Invités à signer le Livre d'or de l'Insectarium, ils ont ensuite reçu quelques présents dont une magnifique affiche laminée, des livres d'entomologie, des spécimens souvenirs etc.

Mais la surprise que leur réservait l'équipe de l'Insectarium n'avait d'égal que la découverte qui les attendait: une visite particulière du laboratoire d'élevage avec les insectes qui venaient d'être capturées lors d'une chasse en Arizona.

Ainsi cette famille est devenue le premier public à toucher, contempler, découvrir les scorpions géants du désert, les ténébrions, les uropyges, les dynastes, les veuves noires, les grillons, les scolopendres géants, les araignées sauteuses, les phasmes, les mygales et autres spécimens vivants qui viennent s'ajouter à la grande famille de l'Insectarium. Tout comme les milliers de personnes qui pourront bientôt admirer ces nouvelles acquisitions, ils étaient fascinés, éblouis, le petit Jonas bien impressionné, devant ces merveilles inusitées.

Les richesses de l'Insectarium augmentent, le public n'a pas fini d'en avoir plein la vue, l'Insectarium n'a pas fini de devenir le plus beau, le plus intéressant des musées sur les insectes de la Terre!

L'Insectarium est ouvert tous les jours de 9 h à 18 h. Renseignements: 872-8753

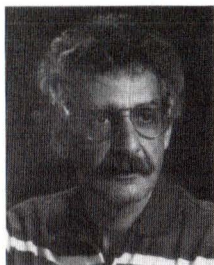
---

---

## PERSONALIA/PERSONNALITÉS

### Entomological Society of Canada Gold Medal for Outstanding Achievement in Canadian Entomology

**Dr. Stephen S. Tobe**



The 1990 recipient of the Entomological Society of Canada's Gold Medal for Outstanding Achievement in Canadian Entomology is Dr. Stephen Solomon Tobe, Department of Zoology, University of Toronto. In presenting him this Award the Society recognizes his pioneering studies in insect physiology and his contributions to the Canadian scientific community.

Stephen was born in Niagara-on-the-Lake, Ontario, Canada in 1944, where he completed both his elementary and secondary education. He obtained his B.Sc. from Queens University in 1967 and completed an M.Sc. at York University in 1969. He received his Ph.D. from McGill University in 1973 and spent two years as a postdoctoral fellow at the University of Sussex, U.K. before accepting a faculty position in the Zoology Department at the University of Toronto in 1974.

Dr. Tobe has developed an exceptional research programme studying the regulation of insect and crustacean endocrine glands, particularly those involved in the production of sesquiterpenoid compounds such as juvenile hormone, methyl farnesoate and farnesoic acid. He has examined the roles of hormone binding and catabolic processes in the degradation of endocrine products, as well as the regulation of hormone production by the endocrine glands. His most recent research has focussed on the peptides regulating the production of juvenile hormone. To date four such regulators have been isolated, identified and synthesised and the intercellular modes of action of the compounds are presently being



investigated. The next step will be studies on the regulation of expression of the genes encoding these peptides, as well as the processing of the peptides.

Recently, Dr. Tobe has been asked to write a *Citation Classic* article by the publishers of *Current Contents* for his two 1974 papers, published with G.E. Pratt, on the radiochemical assay for juvenile hormone production. This work was carried out during Stephen's postdoctoral fellowship at the University of Sussex. These papers have been cited several hundred times by researchers in the field, as this radiochemical assay has become the standard procedure for the measurement of juvenile hormone production in both insect corpora allata, and more recently crustacean mandibular organs. The papers have had a significant impact on the field of arthropod endocrinology since this assay permitted, for the first time, the direct measurement of juvenile hormone production by the corpora allata from individual insects. This process has thus allowed the correlation of physiological and behavioural events, both in terms of reproduction and metamorphosis, with juvenile hormone production (with a view to elucidating the role of juvenile hormone in these processes). More recently, this assay was central to the isolation and identification of the allatostatins, the peptides responsible for the inhibitory regulation of juvenile hormone production in cockroaches.

To date Dr. Tobe has published over 110 scientific papers, and has been asked to write 17 book chapters in important collective works. Furthermore, Stephen has been an invited speaker at 36 national and international meetings; one of the most recent being the opening plenary speaker at the XVIII International Congress of Entomology in Vancouver in 1988.

The excellent quality of Prof. Tobe's research has been recognized by his peers. In 1982 he received an E.W.R. Steacie Memorial Fellowship by NSERC, the first entomologist to be given this prestigious award. In the same year the Entomological Society of Canada chose him as the recipient of the C. Gordon Hewitt Award. In 1987 he was elected Fellow of the Royal Society of Canada. The high esteem the scientific community has for Dr. Tobe's research programme is also reflected in the fact that scientists from Canada, China, France, Germany, Israel, Japan, the Netherlands, the United Kingdom and the United States have chosen his laboratory as the place to spend their sabbatical leave or undertake post doctoral training. This reputation is bound to increase in the years to come, as Dr. Tobe's laboratory is part of the recently funded Network of Centres of Excellence in Biotechnology for Insect Pest Management.

Dr. Tobe has played an active role in the academic community at the University of Toronto, where he is now a full professor. He has taught several undergraduate courses and established a reputation as a dynamic professor. Not surprisingly, Stephen has also been involved in training students; he has directed four M.Sc. and three Ph.D. students, as well as eleven undergraduate research projects and five undergraduate NSERC summer scholars. At the present time there are three graduate students working towards degrees in Prof. Tobe's laboratory. Stephen also believes that scientists have a responsibility with respect to public awareness, and in this capacity has made many appearances on both radio and television, often to talk about his favourite hexapod, the cockroach.

Dr. Tobe continues to serve the Canadian scientific community in a number of different ways. He served as guest editor of *Insect Biochemistry* (1987) and associate editor of the *Canadian Journal of Zoology* from 1979-1984 and presently serves on the editorial boards of the *Journal of Insect Physiology*, *Life Science Advances*, *Series A: Endocrinology and Physiological Entomology*. In addition he is called upon regularly to serve as a referee for numerous international journals, as well as a reviewer for a number of national and international granting agencies. Prof. Tobe recently served on the NSERC Animal Biology committee for three years, which he chaired in 1988-1989. Stephen has also been active in the affairs of different Societies, serving as Chair of the Membership Committee and Bulletin Editor for the CSZ, as well as Director of the Entomological Society of Ontario. He organized the 1986 international JH IV meeting at Niagara-on-the-Lake and was a member of the committee for the International



Conference on Endocrinological Frontiers in Physiological Insect Ecology that was held in Poland in 1987. Presently he serves as a member of the ESC Science Policy Committee and Secretary-Treasurer of the International Federation of Comparative Endocrinological Societies.

There is no question that Dr. Tobe has made major contributions to many facets of our Science and the Entomological Society of Canada is proud to recognize his accomplishments by awarding him the 1990 Gold Medal for Outstanding Achievement in Canadian Entomology.

## **La Société d'Entomologie du Canada La Médaille d'Or**

**Dr. Stephen S. Tobe**

Le récipiendaire 1990 de la Médaille d'Or de la Société d'Entomologie du Canada pour contribution exceptionnelle à l'entomologie canadienne est le Dr. Stephen Solomon Tobe du département de Zoologie de l'Université de Toronto. En lui décernant ce prix, la Société reconnaît son œuvre originale dans le domaine de la physiologie des insectes et ses contributions à la communauté scientifique canadienne.

Stephen est né à Niagara-sur-le-lac, Ontario, Canada en 1944, où il completa ses études primaires et secondaires. Il a obtenu un B.Sc. de l'Université Queens en 1967, une maîtrise de l'Université York en 1969 et un Ph.D. de l'Université McGill en 1973. Il a aussi complété deux années post-doctorales à l'Université de Sussex en Angleterre avant d'entrer en fonction au département de Zoologie de l'Université de Toronto en 1974.

Le Dr. Tobe a développé un programme de recherche de très haute qualité dans le domaine du contrôle des glandes endocrines chez les insectes et les crustacés et en particulier celles impliquées dans la production des sesquiterpénoides dont l'hormone de liaison et les processus cataboliques de la dégradation des produits endocriniens ainsi que le contrôle de la production d'hormone par les glandes endocrines. Ses plus récents travaux ont porté sur les peptides impliqués dans le contrôle de la production d'hormone juvénile. Jusqu'à maintenant quatre de ces agents régulateurs ont été isolés, identifiés et synthétisés et leurs modes d'action intercellulaire sont présentement à l'étude. La prochaine étape portera sur la régulation de l'expression des gènes qui codent pour ces peptides.

Récemment, les éditeurs de *Current Contents* lui ont demandé d'écrire un article *Citation Classic*, pour ses deux papiers publiés en 1974, en collaboration avec le Dr. G.E. Pratt, sur l'essai radiochimique pour la production d'hormone juvénile. Ce travail a été réalisé alors qu'il était étudiant postdoctoral à l'Université de Sussex. Ces articles ont été cités plusieurs centaines de fois par les chercheurs de son domaine et cet essai est devenu la méthode couramment utilisée pour mesurer la production d'hormone juvénile soit au niveau des corps allates des insectes ou soit, tel que démontré récemment, au niveau des organes mandibulaires des crustacés. Ces articles ont eu une grande influence dans le domaine de l'endocrinologie des arthropodes, du fait que l'essai radiochimique permettait pour la première fois de mesurer la production d'hormone juvénile par les corps allates d'un insecte pris individuellement. Ce procédé analytique a permis d'établir des rapports entre la production d'hormone juvénile et les processus physiologiques et comportementaux associés à la reproduction et la métamorphose. C'est aussi grâce à cet essai qu'il fut possible d'isoler et d'identifier les allatostatines, soit les peptides responsables de l'inhibition de la production d'hormone juvénile chez les blattes.

Jusqu'à maintenant le Dr. Tobe a publié plus de 110 articles scientifiques et a écrit 17 chapitres de livres figurant dans d'importants ouvrages collectifs. De plus, Stephen a été conférencier invité à 36

congrès nationaux et internationaux. Son plus récent discours est celui qu'il a prononcé lors de l'ouverture de la XVIII<sup>e</sup> Conférence Internationale d'Entomologie à Vancouver, en 1988.

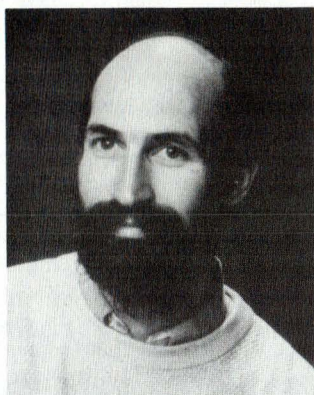
L'excellente qualité de la recherche du Prof. Tobe a été reconnue par ses pairs. En 1982, il fut le premier entomologiste à recevoir du CRSNG, le prestigieux E.W.R. Steacie Memorial Fellowship. Au cours de la même année, la Société d'Entomologie du Canada lui décerna le prix C. Gordon Hewitt et en 1987, il fut nommé Compagnon de la Société Royale du Canada. L'estime que la communauté scientifique porte à la recherche du Dr. Tobe est bien évidente si on en juge par les nombreux chercheurs du Canada, de la Chine, de la France, de l'Allemagne, d'Israël, du Japon, des Pays-Bas, de l'Angleterre et des États-Unis, qui sont venus dans son laboratoire pour y compléter une année sabbatique ou un stage post-doctoral. Cette réputation s'agrandira sûrement au cours des prochaines années puisque son laboratoire fait maintenant partie des Centres d'Excellence en Biotechnologie pour le contrôle des ravageurs.

Le Dr. Tobe a joué un rôle actif au sein de la communauté académique de l'Université de Toronto, où il est maintenant professeur titulaire. Il a enseigné plusieurs cours sous-gradués et il est reconnu comme étant un professeur dynamique. Il n'est pas surprenant que Stephen ait été impliqué dans la formation des étudiants gradués: il a dirigé 4 M.Sc et 3 Ph.D. ainsi que 11 projets de recherche réalisés par des sous-gradués et 5 par des étudiants d'été, boursiers du CRSNG. Trois étudiants gradués poursuivent présentement leurs études dans son laboratoire. Stephen est l'un de ceux qui croit que les scientifiques doivent sensibiliser le public à la science. A cet effet, il a, à plusieurs reprises, fait des interventions soit à la radio soit à la télévision, au sujet surtout de son hexapode favori, la blatte.

Le Dr. Tobe continue de rendre services à la communauté scientifique. Depuis 1987, il est éditeur invité pour la revue *Insect Biochemistry* et de 1979 à 1984, il a été éditeur associé du Journal Canadien de Zoologie. Présentement, il est membre du comité éditorial de *Journal of Insect Physiology*, *Life Sciences Advances*, *Series A: Endocrinology*, et de *Physiological Entomology*. De plus, il est souvent en demande comme lecteur pour plusieurs journaux internationaux ainsi que pour des agences internationales et nationales pourvoyeuses de fonds de recherche. Le Prof. Tobe a fait partie du comité de Biologie Animale du CRSNG pendant trois années et est devenu président de ce même comité en 1988-1989. Stephen s'est aussi impliqué dans les activités de différentes sociétés scientifiques. Il fut président du comité d'adhésion et Éditeur du Bulletin de la SCZ, ainsi que directeur de la Société d'entomologie de l'Ontario. Il a organisé le IV Congrès International de HJ, tenu à Niagara-sur-le-lac en 1986, et a été membre du comité de la Conférence Internationale sur les Frontières Endocrinologiques de l'Écophysiologie de l'insecte tenue en Pologne, en 1987. Présentement, il est membre du comité des politiques scientifiques de la SEC et secrétaire-trésorier de la Fédération Internationale des Sociétés d'endocrinologie comparée.

Il ne fait pas de doute que les réalisations du Dr. Tobe ont été très importantes pour l'avancement de notre Science et la Société d'Entomologie du Canada est fière de reconnaître ses mérites en lui décernant la Médaille d'Or 1990 pour sa contribution exceptionnelle à l'entomologie canadienne.





## C. Gordon Hewitt Award

### Bernard Roitberg

Dr. Bernard Roitberg has excelled in research, teaching, and service to the discipline and profession of entomology.

His research into plant-insect interactions is unusual in its blend of solid theory melded with well-conducted empirical studies, and for its mixture of basic and applied perspectives. Dr. Roitberg is equally at home with a mathematical model as he is with devising pest management strategies against fruit flies. He is well-respected by his colleagues for this diversity, and for his skills and intuitive understanding of insect natural history. His achievements are clear from his exemplary list of publications: 35 refereed papers in consistently high-quality journals as well as numerous book chapters and reviews. His recent publication of one article in each of the top-ranked journals, *Nature* and *Science*, in 1987 is remarkable evidence of the excellent quality of his work. His ability to collaborate with others, also evident from the publication list, is another noteworthy aspect of his record. Further, his work on foraging strategies of fruit flies and parasitic insects has attracted considerable national and international attention, not only for its novel descriptions of foraging behaviour, but also because of its importance in pest management.

Dr. Roitberg's achievements in other areas are also considerable. As a teacher since 1982 at Simon Fraser University, his courses are considered to be full of content and exciting. They consistently draw high enrollments and receive excellent evaluations. He is currently supervising 8 graduate students, and has served on 25 supervisory committees, further evidence of his commitment to teaching. Four of his students have won "Best Paper" awards from the Entomological Society of B.C.

Bernie has served as Acting Director of the S.F.U. Pest Management Program, and has been involved in organizing numerous meetings of societies in which he is a member. His skill as a lecturer is evident from the large number of lectures he has been invited to give all across the world, both at scientific meetings and for University audiences. He scored another "double-header" for Canadian Entomology in 1988, by being invited as a speaker in two Symposia at the XVIII International Congress of Entomology in Vancouver.

Bernie has also served entomological societies in numerous capacities, including terms as President of the Entomological Society of B.C. and a Director of the E.S.C., as well as being an Associate Editor of *The Canadian Entomologist*. A final measure of the high regard of his colleagues is the extent to which he has been used as a reviewer; his record shows an extraordinary range of manuscript and grant reviewing for someone at his career level; he was even asked to review two tenure cases while still an Assistant Professor.

Dr. Bernard Roitberg is a young entomologist of outstanding accomplishment, and is a most worthy recipient of the C.G. Hewitt Award.

---



## Le prix C.Gordon Hewitt

### Dr. Bernard Roitberg

Monsieur Bernard Roitberg excelle dans la recherche, dans l'enseignement et dans l'exercice de sa profession d'entomologiste.

Fait remarquable, sa recherche portant sur les interactions entre les plantes et les insectes allie connaissances théoriques sans faille et études empiriques menées avec compétence. Bernard réussit à intégrer de façon harmonieuse les principes fondamentaux de la science et leurs applications. Il a autant de facilité à utiliser un modèle mathématique qu'à élaborer des stratégies de lutte contre les drosophiles. Cette polyvalence lui attire le respect de ses collègues qui admirent sa compétence en histoire naturelle des insectes et la connaissance intuitive qu'il en a.

Ses réalisations sautent aux yeux lorsqu'on prend connaissance de ses publications qui comprennent 35 articles revus par un comité de lecture et parus dans les périodiques les plus prestigieux ainsi que des chapitres d'ouvrages fort nombreux qu'il a rédigés sans oublier des compte rendu de livres. La parution récente de deux de ses articles dans les périodiques de grande réputation, *Nature* et *Science*, en 1987, souligne de façon remarquable l'excellence de son travail. Son aptitude à collaborer avec les autres dont témoigne sa liste de publications est un autre aspect digne de mention.

En outre, ses travaux sur les stratégies de recherche de nourriture et d'hôte des drosophiles et des insectes parasites ont soulevé un intérêt considérable dans la communauté scientifique nationale et internationale non seulement en raison des descriptions inédites du comportement de recherche des insectes étudiés mais également à cause de l'importance de ces données pour la lutte biologique.

Monsieur Roitberg s'est illustré dans d'autres secteurs d'activités. Professeur à l'université Simon Fraser depuis 1982, il a la réputation d'offrir des cours très denses qui soulèvent l'enthousiasme des étudiants. Le nombre d'inscriptions est toujours élevé et les évaluations de ses étudiants sont excellentes. Il dirige actuellement 8 étudiants de deuxième et troisième cycles; il a de plus été membre de 25 comités de thèses, ce qui montre son engagement profond pour l'enseignement. Quatre de ses étudiants ont reçu le prix du "meilleur article scientifique" par la Société d'entomologie de la Colombie-Britannique.

Bernard a été directeur intérimaire d'un programme de l'université Simon Fraser créé pour lutter contre les ravageurs; il a de plus organisé plusieurs rencontres pour des sociétés dont il est membre. Il est un conférencier recherché comme en fait foi le grand nombre de conférences qu'il a été invité à donner partout dans le monde, soit lors de rencontres de sociétés savantes ou encore à l'intention d'auditoires universitaires. Il a signé un double exploit pour l'entomologie canadienne en 1988, en étant invité comme conférencier à deux colloques tenus lors du XVIIIe Congrès international d'entomologie à Vancouver.

Bernard a également occupé plusieurs postes au sein de sociétés d'entomologie, dont celui de président de la Société d'entomologie de la Colombie-Britannique et celui de directeur de la Société d'entomologie du Canada, en plus de cumuler la fonction de rédacteur adjoint pour *The Canadian Entomologist*. L'ultime preuve de l'estime que lui vouent ses collègues est le nombre de fois qu'on a fait appel à ses services pour réviser des articles. Sa feuille de route met en relief l'extraordinaire diversité des sujets d'articles qu'il a révisés, en plus de demandes de subventions sur lesquelles il s'est penchées, tout ceci par un chercheur ayant de nombreuses années devant lui. Il a même été appelé à examiner deux demandes de titularisation et ce alors qu'il était encore professeur adjoint.

Monsieur Bernard Roitberg est un jeune entomologiste dont les réalisations sont à tous égards remarquables et à ce titre il mérite amplement l'honneur qui lui échoit, celui de récipiendaire du prix C.G. Hewitt.



**Philip S. Corbet**

As noted in the *June Bulletin* (22[2]: 107), Dr. Philip S. Corbet retired from the University of Dundee in 1990. He and his wife Mary live in Edinburgh. His daughter Katarina attends school in the same city.

Phil Corbet was born in 1929 in West Malaysia, and received his early education in New Zealand and England. His university studies were completed at Reading (B.Sc.) and Cambridge (Ph.D.; Supervisor Prof. [now Sir Vincent] Wigglesworth), and he later qualified for the degrees of D.Sc. (Reading 1962) and Sc.D. (Cambridge 1976).

Phil has had a long, distinguished and varied career, holding positions in equatorial Africa (East African Freshwater Fisheries Research Organization and East African Virus Research Institute in Uganda, 1954-1962), Canada (Entomology Research Institute and Belleville Research Institute of Agriculture Canada, and the University of Waterloo, 1962-1974), New Zealand (University of Canterbury and Lincoln College, 1974-1980), and Britain (University of Cambridge visiting professor 1979, and University of Dundee, 1980-1990).

His career has been characterized by an extraordinary range of interests and by remarkable productivity. Phil is the author or co-author of well over two hundred scientific publications, including several books and major review papers. Major emphases in his work are on the biology of dragonflies and the biology of mosquitoes, with these and other concerns being underpinned by interest in rhythmic and periodic patterns. However, his many studies of seasonal and daily patterns of insect development and behaviour in dragonflies and mosquitoes are supplemented by contributions on taxonomy, morphology, epidemiology, reproductive physiology, arctic microclimate, and even the ecology of fishes and crocodiles.

Key insights into insect biology and ecology resulted from these studies. For example, research on the seasonal regulation of emergence in dragonflies led to the recognition of two ecological categories of emergence ("spring species" and "summer species"), achieved in different ways, that have been widely used as a reference point by later authors. Two books on dragonflies, *Dragonflies* (Corbet, Longfield and Moore 1960, intended for a general audience) and *A Biology of Dragonflies* (Corbet 1962, a more specialized volume), integrated considerable information on the group in very helpful ways. He completed the detailed treatment of Canadian dragonflies started by E.M. Walker (Walker and Corbet 1975, *The Odonata of Canada and Alaska, vol. III*). Another book, *The Ecology and Behaviour of Dragonflies*, is in preparation.

Seminal analysis of daily and seasonal periodicities in aquatic insects include a major review paper on temporal patterns of emergence and many research reports treating tropical, temperate and arctic insects: applications of these concepts about periodicity led to detailed and informative studies of arctic microclimates. Phil Corbet realized the great importance to insects of the amelioration of ground surface conditions produced in the high arctic by the absence of a "nocturnal" temperature inversion, and he summarized this and other important lessons in a major review of the microclimate of terrestrial and aquatic organisms in the arctic (*Acta arctica* 18, 1972).

Detailed studies on east African mosquitoes also produced biological and ecological information that was of great value for medical entomology. Further understanding of mosquito biting patterns and virus vector relationships were obtained, and methods to assess parous condition, and thus the status of individual adults in relation to vector capability, were developed. At the opposite extreme of latitude, in the Canadian high arctic, studies of mosquitoes showed fascinating features of phenology and biology. Thus, a specialized mode of ovarian development (facultative autogeny) was identified, apparently



related to the unpredictable supply of hosts. Oviposition patterns are precisely cued to temperature, so that eggs are laid in the warmest sites that first become free of snow in spring, ensuring early hatch.

Along with his specific studies of insect biology, Phil is interested in wider aspects of science, and in 1974 he moved to New Zealand to pursue this interest in depth, developing a resource management program at the newly established Joint Centre for Environmental Sciences (University of Canterbury and Lincoln College) that enhanced environmental education, and analyzed the energy costs of agriculture. He published several reviews on such themes as integrated control, pest management and energy use.

During his career, Phil's wide knowledge has been put to good use in teaching students, as an invited lecturer, and in particular as a member of the faculty at the University of Waterloo, at the University of Canterbury, and at the University of Dundee. His broad expertise was well recognized by those who invited him to present papers or write scientific reviews (38 items), review books (22), serve as external examiner for doctorate degrees (candidates in 15 different institutions), and so on.

Phil's abilities are also reflected by his responsibilities in the organizations where he worked. For part or all of his tenure, he was Director of the Research Institute at Belleville, Chairman of the Department of Biology at the University of Waterloo, Director of the Joint Centre for Environmental Sciences at Canterbury, and Head of the Department of Biological Sciences at Dundee. Similarly, he held important responsibilities in various professional societies, such as the Entomological Society of Canada (see below), the Entomological Society of New Zealand, and the International Odonatological Society, and participated on several dozen national and international expert committees and other bodies.

Members of the Entomological Society of Canada will remember Phil's contributions to the Society in the 1960's and 1970's, culminating in his effective term as president (1971-1972). The ESC recognized his achievements with the award of the Gold Medal for outstanding achievement (1974) [see *Bull. ent. Soc. Can.* 6(1):2] and the Fellowship (1977). Phil received many other awards, both research grants and professional recognition. For example, he is a Fellow of the Royal Society of Edinburgh, and an elected member of honour of the International Odonatological Society.

Phil is not only an excellent scientist. He participated fully in the professional community, and has been a member of no less than 32 professional societies and interest groups. In his scientific endeavours, he was able to collaborate successfully with many people: more than 50 different co-authors appear in his scientific publications. Those who were fortunate enough to work alongside him profited from both scientific and personal exposure. As a scientific colleague, Phil is organized and meticulous, with an incisive mind. In response to a complex question, for example, he might pause for a long while, but just as the questioner began to wonder if he had been heard, Phil would deliver the equally complex paragraph that he had composed in reply. At a personal level, too, Phil treated any colleague or visitor, student and senior scientist alike, with great grace and generosity.

Despite his retirement, Phil is able to continue with his work: he is an Emeritus Professor at the University of Dundee, and an Honorary Fellow at the University of Edinburgh; he has received an Emeritus Fellowship from the Leverhulme Trust for 1990-1992. This allows him to pursue further studies on dragonflies, his first love, and on mosquitoes, and he will doubtless add other papers to the many already published and in press. All those who know Philip Corbet will wish him a happy and productive retirement.

H.V. Danks





## Mark Duane McGregor

1936-1990

Mark McGregor died April 4, 1990 of an apparent heart attack while testing western pine shoot borer pheromone near Athol, Idaho. At the time, he was employed as U.S. field representative for Phero Tech, Inc. of Vancouver, B.C., Canada.

Mark was born February 1, 1936 in Grace, Idaho. He graduated from Weber High School, Ogden, Utah and studied entomology at Utah State University, where he received his B.S. degree in 1959 and M.S. in 1961. His thesis dealt with factors that influence populations

of *Dendroctonus ponderosae* Hopk., which he studied in the Dixie National Forest, Utah.

While a student, he worked during the summers of 1957-1960 with the Division of Forest Insect Research, Intermountain Forest and Range Experiment Station, Ogden, Utah. In 1961, he was appointed Research Entomologist with that division. In July of that year, he transferred to the Division of Timber Management, where for six years he surveyed and evaluated forest insect populations and provided technical advice to agencies regarding control methods. During that time he investigated and published on several new insect problems encountered in the region. Included were articles on the aspen leaf-tier, *Sciaphila duplex* (Walsingham); white fir needleminer, *Epinotia meritana* Heinrich; pinon sawfly, *Neodiprion eduliculus* Ross; and the sugar pine tortrix, *Choristoneura lambertiana* (Busck).

In April, 1967, he moved to Missoula, Montana, where he became Leader, Bark Beetle Management Group, in the Forest Service's Northern Region. By then vast, unmanaged lodgepole pine stands, resulting from earlier wildfires, had grown to maturity and were being ravaged by mountain pine beetles. Many issues arose among resource managers, the public, and researchers. Mark did much to lessen that turmoil. He received Certificates of Merit in 1982 and 1985 for his innovative approaches to resource management and for his international reputation as an authority on integrated bark beetle management.

Although he was thoroughly occupied with the biological, ecological and social aspects of the surging mountain pine beetle populations, Mark, nonetheless, kept involved with other concerns. I recall his continuous help during field testing of the Douglas-fir beetle antiaggregative pheromone (MCH) to prevent populations from breeding to outbreak levels in wildfelled trees. Often, he would drive from Missoula to the lower Clearwater River drainage in Idaho, arriving well ahead of me, notwithstanding the much shorter distance in my favor. That study began in 1972 and continued for eleven years, during which several difficult developmental steps were accomplished. Because of his involvement throughout, this technology proceeded smoothly to successful pilot testing in 1983 — the final test of efficacy required for registration.

In 1986, he resigned from the Forest Service to accept employment with Phero Tech, Inc. As U.S. representative, he worked in many northern states conducting field trials, such as with the western pine shoot borer pheromone, and assisting with the correct use of the company's products. In that capacity, his skills and knowledge were in great demand. He also provided invaluable ideas for improved design and use strategies of pheromone products.

He was a member of the Entomological Society of America, Entomological Society of Canada, Entomological Society of British Columbia, and the Western Forest Insect Work Conference. He served in the Army Reserve, 96th Military Police Squadron from 1954-1962, and was a volunteer Reserve Deputy in the Missoula County Sheriff's Department from 1977 until his death.

He participated actively in the Mormon Church and was devoted to his family. He is survived by his wife, a son, a daughter, his parents, a brother, and four grandchildren.

Malcolm Furniss  
Moscow, Idaho



## Murray Glen Maw

Murray Maw retired on 31 January 1987 after 37 years in entomology with Agriculture Canada.

Murray was born at McKay's Corners, near Chatham, Kent County, Ontario, on 5 August 1925. He attended the Public School at McKay's Corners and High and Vocational School at Ridgetown, Ontario. He had a flair for art - he inherited his artistic ability from his mother - and won several prizes for his water-colour paintings.

In 1945, Murray served in Holland and Germany with the Essex Scottish Regiment of the Canadian Army and as Education Director (Cpl.) in the Highland Light Infantry during the occupation in 1946. After the war he attended the University of Western Ontario, initially enrolled in General Science (pre-medicine) but transferred to Honours Biology in 1948. He obtained his B.Sc. (Hons. Biol.) in 1951.

Murray first worked as a student assistant at the Dominion Parasite Laboratory, Belleville, Ontario, during the summer of 1950, investigating larch sawfly and larch casebearer parasites. He returned as a Technical Officer in 1951 to incept studies of the parasites of the spruce budworm and initiated a series of four publications with illustrations of the immature stages of dipterous parasites of this pest. In 1952 and 1953 he spent approximately three months each year at the Forestry Field Station, Cedar Lake, north of Vermilion Bay, Ontario, collecting spruce budworm larvae and studying their parasites under field conditions.

In 1954, he attended Oxford University (England) where, for thesis purposes, he compiled a history of infestations of the larch sawfly in Britain. He returned to the Belleville laboratory - then called the Institute for Biological Control - in 1956 and enrolled in a Master's program at Queen's University, Kingston, Ontario. His thesis research, under the guidance of A.S. West, concerned atmospheric electricity as it affected the flight of insects, mainly mosquitoes. He obtained his M.Sc. (Entomology) in 1960.

The summers of 1964 and 1965 were spent at the Canada Agriculture Research Station, Lethbridge, Alberta, where he studied the responses of mosquitoes to electrostatic forces. In 1963, at the meetings of the North Central Branch, Entomological Society of America at Purdue, Indiana, Murray was a keynote speaker on atmospheric electricity as it affected insect behaviour.

Murray was also involved in studies of the autocidal control of mosquitoes - including the sterile insect release method - in co-operation with Peter Belton, and later with Garth Bracken. When the Belleville Institute was closed in 1972, he, together with Peter Harris and Diether Peschken, transferred to the Canada Agriculture Research Station, Regina, Saskatchewan. Here they joined the Section dealing with the biological control of weeds.

Murray examined weeds in Saskatchewan to determine what insects attacked them and compiled a reference collection for each weed. This work included studies on bladder campion, mullein, prickly pear cactus, bindweed, leafy-spurge, green foxtail, scentless camomile, Canada thistle and sow thistle. He drew the illustrations for Brenda Frick's series on the biologies of Canadian Weeds, including blue burr and leafy spurge.

The Entomological Society of Saskatchewan was served by him as Vice-President and President in 1974-1976. He was Acting Superintendent of the Experimental Farm, Indian Head, Saskatchewan, in 1984-1985, and Acting Director of the Research Station, Regina, Saskatchewan, during part of that same period. He published 35 scientific papers and nine other publications.

When working at the Dominion Parasite Laboratory, Murray met Miss Ruth Paine from Point Anne,



Ontario. They were married in April 1954. Four sons graced this marriage: Eric (computer technician), Peter (geologist and aircraft mechanic), Timothy (electrical engineer) and Ian (air force armourer). They have one grand-daughter, Karen.

In addition to his research, Murray was active in Eastminster United Church in Belleville, as a Sunday School teacher and superintendent, and Elder. He served with the Boy Scouts of Canada as a Leader of the Cubs, Scouts and Venturers for 15 years and as District Commissioner for two years. He was a co-founder of the Quinte Gem and Mineral Club and a member of the Quinte Stamp Club, Quinte Field Naturalists and the Royal Canadian Legion. After moving to Regina, Murray continued to serve in the United Church, in the Sunday School and as Chairman of the Christian Education and several other committees.

More recently he has served, together with his wife Ruth, as a volunteer for Extendicare (care for the aged) and in the Allan Blair Cancer Clinic. He is a regular tutor for Literacy Volunteers of America, a resource person for the Prairie Christian Training Centre and a Director and founding member of the Native Heritage Foundation of Canada.

Murray and Ruth have always been very friendly and unselfish people. We with them many more happy and healthy years of community service surrounded by their many appreciative friends.

Alfred P. Arthur  
Saskatoon, Sask.

---



Alfred Pibus Arthur

Alf began as a summer student in 1949 at the Dominion Parasite Laboratory in Belleville, Ontario where he later became a research officer. While in Belleville, Alf studied the behaviour of parasites and their host relationships, including kairomones. During his time there, he received the Centennial Medal for his community work and, together with Murray Maw, founded the Quinte Gem and Mineral Club. For many years he taught Sunday School in the Baptist church.

He was transferred to the Saskatoon Research Station in 1972, where he continued his work in biological control, including research on the use of *Bacillus thuringiensis* on oilseed insects.

The interspecific behaviour of the bertha armyworm parasitoid, *Banchus flavescens* (Cresson) and the exotic *Microplitis mediator* (Haliday) were the focus of Alf's research in recent years. This work has led to a release program of *M. mediator* to enhance the control effected by the native *B. flavescens*.

Alf is the author or co-author of more than 45 refereed publications, two pheromone patents and more than 50 proceedings, reports, and technology transfers. He also contributed a chapter on "Host Acceptance by Parasitoids" in the book *Semiochemicals, Their Role in Pest Control*. He was an invited speaker several times at meetings in the United States. To acknowledge his contributions, two insect species have been named in his honour. The braconid parasitoid, *Bassus arthurellus* Sharkey and Arthur's sunflower moth *Cochylus arthuri* (Dang) were discovered by Alf when he was studying sunflower pests in southeastern Saskatchewan.

Alf served as Vice-President of the E.S.S. in 1980, and as President the following year. He has also served on the following committees: Teaching of Entomology at Sask. Universities (1982, 1983), the Proceedings in 1973, and the Honours and Awards Committee in 1980, 1983-1985 and 1989. Alf is an ardent stamp collector and proud grandfather of nine grandchildren.

All his colleagues and friends wish him a happy retirement.

---

John Doane



## Décès de Roger Garneau

M. Roger Garneau est décédé le 5 juin dernier à Charlesbourg en banlieu de Québec. Je reprend ici quelques éléments biographiques préparés par le Dr. J.-G. Pilon en 1977. Né le 15 mars 1912 à Plessisville au Québec, M. Garneau a obtenu son baccalauréat ès arts du Séminaire de Québec en 1934. Il a ensuite étudié pendant deux ans à la Faculté de Théologie de l'Université Laval. M. Garneau a travaillé pour le Ministère de l'Agriculture du Québec de 1938 jusqu'en 1976. Au laboratoire de Granby, il a travaillé sur la biologie de la pyrale du maïs, de la punaise terne et du perceur du houblon. Il a par la suite oeuvré à la Division des Inspections, puis à la Division d'entomologie et enfin à la Section pesticide et application des lois de la protection des plantes.

Au cours de sa carrière, M. Garneau a été secrétaire-trésorier de la Société de protection des plantes du Québec de 1960 à 1975, et secrétaires-trésorier de la Société d'entomologie du Québec de 1962 à 1974. Il a été président de la SEQ en 1997. Pour souligner sa contribution à l'entomologie québécoise, la SEQ le nommait membre honoraire en 1979. Il laisse dans le deuil sa femme et ses trois enfants.

Charles Vincent

---

---

## NEWS OF ORGANIZATIONS / NOUVELLES DES ORGANISATIONS

### International Commission on Zoological Nomenclature

Applications published in the Bulletin of Zoological Nomenclature

The following applications were published 28 September 1990 in the *Bulletin of Zoological Nomenclature* 47(3). Comment or advice on these applications is invited for publication in the *Bulletin* and should be sent to the Executive Secretary, I.C.Z.N., British Museum (Natural History), Cromwell Road, London, SW7 5BD, U.K.

#### Case 2720 - *Dalla* Mabille, 1904(Insecta, Lepidoptera): proposed conservation

Stephen R. Steinhauser, L.D. Miller & Jacqueline Y. Miller, Allyn Museum of Entomology, The Florida Museum of Natural History, 3621 Bay Shore Road, Sarasota, Florida 34234, U.S.A.

Charles A. Bridges, 502 West Main Street, Apt, 308, Urbana, Illinois 61801, U.S.A.

**Abstract.** The purpose of this application is to conserve the name *Dalla* Mabille, 1904 for a hesperid (skipper) butterfly genus by suppression of the seldom used senior subjective synonym *Eumesia* Felder and Felder, [1867].

#### Case 2712 - *Calliphora vicina* Robineau-Desvoidy, 1830 (Insecta, Diptera): proposed conservation of the specific name.

Knut Rognes, Stavanger Lærhogskole, Postboks 2521 Ullandhaug, N-4004 Stavanger, Norway

**Abstract.** The purpose of this application is to give precedence to the specific name *Calliphora vicina* Robineau-Desvoidy, 1830, a cosmopolitan bluebottle fly now widely known under this name. The name is threatened by *Musca carnivora* Fabricius, 1794, a senior synonym, but unused since its proposal. The fly is often referred to as *Calliphora erythrocephala* (Meigen, 1826), but this specific name is a junior primary homonym.

The following Opinions were published on 28 September 1990 in Vol. 47, Part 3 of the *Bulletin of Zoological Nomenclature*.

Opinion 1616 *Ptochus* Schönherr, 1826 (Insecta, Coleoptera): *Ptochus procellus* Boheman in Schönherr, 1833 confirmed as the type species.

Opinion 1617 *Rosema* Walker, 1855 (Insecta, Lepidoptera): given precedence over *Zelica* Hübner, [1825] and *Rhogalia* Hübner, [1825]

Opinion 1618 *Protocalliphora* Hough, 1899 (Insecta, Lepidoptera) and its type species *Musca azurea* Fallén, 1817: usage conserved by the designation of a replacement lectotype. (Insecta, Coleoptera): names conserved.

Opinion 1555 *Euribia jaceana* Hering, 1935 (currently *Urophora jaceana* :Insecta, Diptera): specific name given preference over *Euribia conyzae* Hering, 1933.



## PUBLICATIONS

### Book Reviews

Gupta, A.P. (ed.). 1990. *Morphogenetic hormones of arthropods, Volume I, Part I. Discoveries, syntheses, metabolism, evolution, modes of action, and techniques*. Rutgers University Press, New Brunswick and London. xii + 531 pp. Hardcover. \$(U.S.) 125.

This book, the first of three volumes, is part of the series that Professor Gupta has organized and edited over the past 15 years under the umbrella title *Recent Advances in Comparative Arthropod Morphology, Physiology and Development*. It represents the first attempt to bring together 'under one roof' knowledge of juvenile hormones (JHs) and JH-like compounds and ecdysteroids of arthropods, especially the non-insectan forms. In his Preface Professor Gupta notes that the intent of this volume was not to duplicate the material covered in the two volumes on insect endocrinology in the multivolume series edited by Kerkut and Gilbert (1985) but rather to emphasize 'the morphogenetic hormones in Aquatic and Terrestrial Chelicerata, Crustacea, and Myriapoda'. Neurosecretory cells and their products have been excluded from consideration on account of their being covered extensively elsewhere.

The volume contains 13 chapters, 3 of a general nature (including 2 dealing with methodology), 5 that consider the morphogenetic hormones of non-insectan arthropods, and 5 that deal with insect JHs and ecdysteroids. Chapter 1, written by Gupta himself, contains a phylogenetic survey of the morphogenetic hormones of arthropods with speculation as to their possible evolution. In Chapter 2 Borst and Laufer offer a detailed account of the recent (1987) discovery that the JH-like compound, methyl farnesoate, is produced by the mandibular glands of Crustacea. Bonaric and Juberthie, in Chapter 3, deal with the evidence for and effects of JH-like compounds in terrestrial chelicerates (Arachnida), while in Chapter 4 Lachaise discusses the synthesis and effects on molting of JH-like compounds in Crustacea and Chelicerata. This short chapter is undoubtedly the weakest of the entire book being largely repetitive of the material in the previous two chapters; it could easily have been omitted without loss. The biosynthesis, titer regulation, and transport of JH in insects are discussed by Goodman in Chapter 5. Though the information is clearly presented, it is not especially novel, each of these aspects of JH having been reviewed independently at least once during the last 5 years. Similar comments can be applied to Roe and Venkatesh's review of the 'metabolis' (i.e., inactivation) of JHs (Chapter 6). Krishna Kumaran, in Chapter 7, purports to deal with the modes of action of JHs at cellular and molecular levels. The author claims that 'For an understanding of the mode of action of JH at the cellular and molecular levels, all the diverse effects of JH on insect life have to be taken into consideration'. He then proceeds to ramble, usually beginning at an elementary level, through an array of topics including caste determination, diapause, flight and migratory behavior without ever seriously dealing with the cellular and molecular action of JH. Indeed, he himself states (p. 209) 'The cellular and molecular mechanisms underlying JH-induced flight behavior...are not known'. Only the final section of Krishna Kumaran's chapter focusses directly on the topic. Jegla, in Chapter 89, gives a good account of the evidence for ecdysteroids as molting hormones in chelicerates, crustaceans and myriapods, apart from a slight tendency to be overly detailed with respect to the methodology used. Again, however, the author has been allowed to wander beyond the boundaries set by the title and so preempts to some extent Lachaise's detailed review of the synthesis, metabolism, and effects on molting of ecdysteroids in these groups (Chapter 9). In Chapter 10 Thompson *et al.* deal thoroughly with the regulation of insect molting hormone titers by means of bioconversion. Conjugation of the hormones appears to be especially important as it provides, on the one hand a means of decreasing the titer of free hormone while, on the other, a method for storing



hormone for later release and titer increase. In contrast to Krishna Kumaran's chapter, Chapter 11 by Kaeuser *et al.* is a focussed account of the cellular/molecular mode of action of molting hormones in insects. Though emphasising that receptor-mediated control of gene activity is still the strongly favoured mode of action of ecdysteroids, the authors are at pains to point out that (1) there are alternate hypotheses and (2) several observed effects of ecdysteroids cannot be explained by the classical model. The last two chapters deal with methods for identifying and quantifying JH and related compounds (Baker, Chapter 12) and ecdysteroids (Lafone and Beydon, Chapter 13). Both are well written, critical accounts of the various techniques available for analysing these molecules. The book contains a taxonomic index (that would have been improved by cross-referencing common and scientific names) and a subject index.

A general criticism of the entire text is the poor standard of editing. There is repetition of information both within and between chapters, a feature that could have largely been avoided by giving more guidance to authors. Many chapters contain a largish number of spelling and/or grammatical errors. The legends to several figures and captions to several tables are either inaccurate or incomplete. Perhaps indicative of the overall lack of care with which the volume seems to have been assembled are the misspelling of 'Comparative' (p. ii) in the title of the series and of 'Morphogenetic' in the book's title (p. xi), the inaccurate running head in the middle (p. 341) of the chapter by Thompson *et al.* ('Methods' instead of 'Metabolism'), and the six spelling errors (including one in the title) in the announcement of the contents of Part I at the end of the book.

The book will be of interest to researchers and teachers in the area of comparative invertebrate endocrinology. Its strengths are the compilation of knowledge of the morphogenetic hormones of the non-insectan arthropods and, thereby, the demonstration of the major gaps in our knowledge of these groups relative to that of Insecta. However, the book's high cost (\$[US]125) and its narrow scope may well restrict its appearances on the bookshelves of private individuals.

#### Reference

Kerkut, G.A. and Gilbert, L.I. 1985. *Comprehensive Insect Physiology, Biochemistry, and Pharmacology*. Pergamon Press, Oxford.

Cedric Gillott  
University of Saskatchewan  
Saskatoon, Saskatchewan

---

---

Ewing, A.W. 1989. *Arthropod Bioacoustics: neurobiology and behaviour*. Comstock Publishing Associates, Cornell University Press, Ithaca, N.Y. 260 pp. Hardcover, US \$35.00

This book presents an account of the physiology and behaviour associated with insect sound signals. Its title may be considered a bit misleading, for there are only minimal references to non-insectan arthropods (pistol shrimp, fiddler crabs, spiders). But so far as insects are concerned it is a well-organized, and balanced overview of the field, offered with some particularly well-chosen illustrations, and written in a straightforward style. In contrast with another recent publication, largely overlapping on this topic (Huber *et al.*, *Cricket Behaviour and Neurobiology*), it treats the behavioural ecology of insect sounds with some success. And again, refreshingly in contrast to the other book, it is the view of a single author rather than a compendium of articles by experts: the benefit of one capable author being, as in this instance, greater coherence.

Although most examples appear to have been chosen with care, the modest size of this volume means that much has been left out. The book does not provide therefore a definitive statement on the

total information that is available. And much that is included would have benefitted from more exposition. Sometimes where concepts or experiments are complex the shortness of the account can challenge a reader's comprehension (e.g. an experiment re: resolution of time of arrival differences in grasshoppers by Helversen p. 165). There is also some distortion of the historical sequence in which aspects of this field have become known.

The organization of the book might be described as traditional. There is an introductory chapter on the physical basis of sound communication. This is particularly useful for its explanation of the difference between near and far field which I have not seen so clearly set out previously, and for a discussion of the propagation of vibrations. Next are two chapters dealing with the mechanisms by which sounds are produced and heard. As a logical extension of these two topics there follow two chapters dealing with the neural basis of sound reception and then of sound generation. Ewing then turns his attention to the functions of sound signals: briefly, since relatively little is known about sounds in predator-prey contexts, and then elaborately, chapters on the function of calling songs and the role of songs in courtship and aggressive behaviour. As one might expect he deals very effectively with the significance of *Drosophila* sound signals. He ends with a chapter on the genetics and evolution of insect songs.

There is a chapter describing bioacoustic techniques, a brief, effective glossary of bioacoustic terms and a sketch of the taxa involved. (Though I can't agree that the European favorite common name "bush crickets" is an inherently better term for Tettigoniidae than katydids!) Some minor errors in spellings and citations were detected but the book is well-edited.

I think this book will be especially valuable for beginning graduate students, contemplating the field and needing effective access to the literature. In this regard it is too bad that the author does not provide a treatment of the directions that might best be taken by future research. For those wishing an abstracted, accessible and coherent view of the field, this is exactly what you get. The major sin of this worthwhile book is that there is not enough of it.

Glenn Morris  
University of Toronto (Erindale College)  
Mississauga, Ont.

---

*Zoological Catalogue of Australia, Volume 6, Ephemeroptera, Megaloptera, Odonata, Plecoptera, Trichoptera.* 1988. Bureau of Flora and Fauna, Australian Government Publishing Service, Canberra. 316 p. US \$29.95

This is the sixth volume, the third dealing with insects, of an ambitious series of catalogues meant to cover the entire Australian fauna. The five small orders united in this volume form a natural ecological assemblage, since they are all predominantly aquatic and tend to interest the same group of entomologists and ecologists.

The format is of necessity uniform for the whole series and represents no doubt a compromise. For each section, an introductory chapter summarizes the taxonomical status of each order and family, provides some ecological information, and lists the main references. Then follows a systematic list of species, containing the reference to the original description, data on the type material and type locality, synonymy, distribution, and ecology. The emphasis is clearly systematic, but ecological references are provided when available. A taxonomic index is provided in the appendix for each of the orders. The only information I found lacking concerned iconography and I would have appreciated knowing whether and where illustrations of the species were available and of what stages.



In all, this is a most useful and critical compendium of the taxonomy of these orders which will prove indispensable to freshwater biologists in Australia, as well as to entomologists the world over who are interested in these orders. It gives an overview of the Australian fauna, stressing both its uniqueness and its relationships with other continental faunas.

Each section is written by specialists, all active and respected in their field: Ephemeroptera by Ian Campbell, Megaloptera by G. Theischiger and W.W.K. Houston, Odonata by W.W.K. Houston and J.A.L. Watson, Plecoptera by Frances B. Michaelis and Cathy Yule, and Trichoptera by Artus Neboiss.

The book is clearly presented, on good quality paper, and in a strong binding. This is perhaps unduly luxurious for a catalogue which will probably be dated in a few years, and such an expensive production will, I fear, hinder the preparation of an updated edition. Also, key references which apply to a large number of species are repeated *in extenso* in the listing of each species, thus requiring considerable space.

One cannot but be envious of the Australians for the existence of the Australian Biological Resources Study which is responsible for the production of the Catalogue. Undoubtedly, the fauna of Australia is unique and of interest to most biologists. Yet, other countries, including our own, would much benefit by a similar endeavour.

Another cause of envy is that many of the headwater species of Australian rivers, often the most interesting element of any freshwater fauna, do not appear to be in the same danger of extinction as they seem to be everywhere else. How many of us could write such optimistic lines as do Theischinger and Houston: "the upper reaches of many streams are now in National Parks or in State Forests and the immediate future of species in these areas seems secure" (p. 23).

This volume honours both the authors who produced it and the country and government which sponsored it.

P.P. Harper  
Université de Montreal

---

Larsen, T.B. 1990. *The Butterflies of Egypt*. Apollo Books/The American University in Cairo Press. Svendborg, Denmark. 112 pp. Hardcover. Danish kroner 240. (Available from Apollo Books, Lundbyvej 36, DK-5700 Svendborg, Denmark).

This book summarizes information on the species of butterflies recorded from Egypt, and treats that information especially from a biogeographic viewpoint.

The book considers the ecological subdivisions of the country, the history of research on butterflies there, and the distribution of Egyptian butterflies within the country (according to the ecological subdivisions) and more widely. The largest part of the book comprises a systematic list, with comments on distribution, status, and the biology of the species. Here, the swallowtail butterfly usually known as *Papilio machaon saharae* Oberthur is raised to species rank as *P. saharae*. Eight excellent colour plates illustrate the species together with five of the seven main ecological areas of the country.

Egypt is primarily an arid country and only 58 species of butterflies have been reported there. It is bounded by moister regions in the eastern Mediterranean, North Africa, and the Afrotropical region, and indeed most of the species are found only on its eastern, western and southern borders. Many of the species therefore are not fully integral to the country (numerous migrants are identified). There is a core of eremic (desert species) - about one fifth of the total - but substantial Palearctic, Afrotropical and Paleotropical elements also occur.



Despite the relatively small number of species treated, this book will be useful to students of the Lepidoptera of the Middle East, and will also be of interest to biogeographers.

H.V. Danks  
Canadian Museum of Nature  
Ottawa, Ontario

---

P.W. Oman, W.J. Knight & M.W. Nielson. 1990. *Leafhoppers (Cicadellidae): a bibliography, generic check-list and index to the world literature 1956-1985*. CAB International Institute of Entomology, Wallingford, Oxon OX10 8DE, U.K. 368 pp. £49.50 (US \$86.50 Americas only).

The justly famous Metcalf *Bibliography of the Cicadelloidea* was published in 1964. Why is it necessary to have another bibliography on the same group of insects?

The bibliographic and cataloguing efforts of Z.P. Metcalf came to an end in 1955. After his death, when finally assembled and published through the efforts of Virginia Wade Burnside, the bibliography was already out of date although immensely useful. It contained 6,687 references in a group that had 1,392 genus-group names and 13,305 species-group names.

The recent catalogue adds more than 7,000 titles to a family that had an additional 55 subfamilies and tribes, 1,084 genera and nearly 8,000 species by 1985. The bibliography is supplemented by a synopsis of leafhopper research from 1942 (since Metcalf's first indexed bibliography), a check-list of family and genus-group names since 1955, a check-list of recent papers dealing with taxonomic changes within genera, subject indices to recent literature, and listings of generic names wrongly assigned to the Cicadellidae, of genera with misidentified type-species, and of names placed by the ICZN on their official lists of valid and invalid names.

The need for this volume is exemplified by Dlabolo 1982a, a paper ostensibly on Issidae but with a new leafhopper genus name created in the middle of the text.

This valuable working tool is well crafted and thoroughly researched. Primary taxonomic listings are best represented; I could find only 4 omissions (Cunningham & Ross 1960, Ramakrishnan 1985, Remas Lenicov 1982, Zachvatkin 1945c). Other literature, less easily obtained through literature searches, is less thoroughly represented: at least 75 titles were missed and there are another 60 references available to papers on faunas and disease vectors that probably include leafhopper data. Strangely, only a single reference is included to papers published in the Auchenorrhyncha Newsletter *Tymbal* and many additional references can be found in No. 11 of that journal. The additional references I have will be published in a subsequent issue of *Tymbal*.

The one blatant error in the text is the claim that B.P. Beirne was one of "the principal taxonomic workers...in the United States" instead of a minor contributor to the Canadian faunal studies.

There are a few minor irritants in the format of the text. It is camera-ready computer printout, without hyphenation, which results in some very major gaps in the lines. On page 8 where a multiplicity of Ahmeds with the same initial letter makes it necessary to spell names out in full, a different type face for the surname would have reduced the visual confusion. Cross-references to multiple spellings and multiple surnames would have eliminated the need to look up (for example) de Remas Lenicov under D, L and R. Russian names are sometimes transliterated exactly (Dubovskij instead of Dubovsky) and at other times as the authors themselves spell them (Emeljanov instead of Jemel'janov or Yemel'janov). Some of the subject indices are far too lengthy for easy use. "Bionomics", for example, contains 537 references and runs in an uninterrupted column for more than a page. And finally, the crude illustration

on the cover does not inspire one to purchase this otherwise excellent work.

K.G.A. Hamilton  
Biosystematics Research Centre, Ottawa

---

---

Baker, R.R. and P.E. Dunn (eds.) 1990. *New direction in biological control: alternatives for suppressing agricultural pests and diseases*. UCLA Symposia on Molecular and Cellular Biology, New Series, Vol. 112. Alan R. Liss Inc., New York. 837 pp. Hard cover. \$(U.S.) 180.00.

This symposium was planned by the Biological Control Working Group, which attempted to coordinate and integrate the contributions of the symposium participants by holding a pre-symposium workshop. This procedure was designed to make each symposium paper the product of the minds of the whole group as well as of the presenter. The workshop succeeded in that the papers are of generally excellent quality, but less so in the integration of papers into a comprehensible overview of the subject.

The preface notes the drastic reduction of Federal R & D budgets for agriculture during the last decade in the U.S.A. (the same applies to Canada) and cites the appropriateness of this symposium because of the coincidence of a crisis in agriculture and the emergence of powerful tools provided by the development of biotechnology. The emphasis on biotechnology in biocontrol gives the reader some excellent assessments of the status, problems and prospects of approaches (mainly microbial insecticides and mycoherbicides). Other papers give detailed descriptions of biological mechanisms that are potentially useful for biocontrol and those for which the authors make somewhat tenuous argument that if we knew more about this particular basic mechanism it might be useful in biological control.

Reading the 61 papers in this volume is a mind-stretching exercise. The subject matter ranges from the integration of theory and practice in the biocontrol of insects, pathogens and weeds to the description of research on basic biological mechanisms that may be useful to explain current practices or to develop new approaches.

The papers are organized into the following sections:

- I. Foundations of Biological Control
  - A. Broad Perspectives.
  - B. Biological Control of Pest Insects
  - C. Biological Control of Plant Pathogens
  - D. Biological Control of Weeds
  - E. Development of Biocontrol Agents for Agriculture
  - F. Plant Management in Biological Control
- II. Enhancing Mechanisms of Biocontrol
  - A. Insect Host-Parasite Interactions
  - B. *Bacillus thuringiensis* Delta-endotoxin
  - C. Applications of Biotechnology
  - D. Interactions of Biological Control Agents within Plants
  - E. Antagonism Exterior to Plant
  - F. Application of Strategies for Enhancement



An excellent paper by James R. Cate (Biological control of pests and diseases: integrating a diverse heritage) not only clarifies the sources of differing views and approaches to biocontrol but also identified a conceptual framework against which all new approaches should be considered. This paper discusses the divergence of opinion as to what is included in biological control, particularly as to whether or not breeding of plants for resistance is biological control. This volume generally excludes the subject except for transgenic plants resistant to viruses, and the use of insecticidal crystal proteins from B.t. in transgenic crops. The potential of biotechnology as an aid to classical plant breeding for resistance should have been covered. The other emphasis in this volume is exposed by Robert R. Schmidt (Investigation of mechanisms: the key to successful use of biotechnology). Many of the papers explore and review research on molecular and metabolic mechanisms that may have potential for use in biocontrol programs.

The papers on biological control of insect pests include: biological insecticides (14 papers); classical introductions, inoculations, and augmentation (10 papers); and basic studies of biological mechanisms (4 papers). The biological insecticide papers discuss baculoviruses, fungi, and a whole section on B.t. delta-endotoxin. The coverage is good, ranging from current practices, through formulation and marketing problems and opportunities to the use of biotechnology to improve these bioinsecticides and expand their use. An emphasis on ecological approaches has long been a characteristic of the biological control of insect pests. This emphasis comes through in papers on the potential role of theory and models, particularly for classical introduction problems but also in relation to the use of bioinsecticides and the adaption of biotechnology. Donald R. Strong (Interface of the natural enemy and environment) has a message that should be heeded by all advocates of a biotechnology that they believe will lead to a breakthrough in biocontrol. "Transgenic techniques per se are not biocontrol and ecologically naive schemes of implanting transgenic toxin genes can engender evolution of pest resistance to the toxins...only with integration into an ecological framework can transgenic techniques contribute to biocontrol".

The papers on basic studies of mechanisms all explore their topic in detail (parasitoid progeny allocation, parasite effects on host development, immunosuppression, molecular biology of the *Camponotus pennsylvanicus* polydnavirus) but do not make a convincing case that these research areas will lead to new directions in biological control.

Only 5 papers on the Biological Control of Weeds are included and these are almost entirely on bioherbicides. There are comprehensive reviews of the problems, limiting factors, conflicts and strategies associated with the use of bioherbicides, that parallel those dealing with bioinsecticides. The review of allelopathy is good but it fails to support the claim made in the title that it is "A Viable Weed Control Strategy". It appears to be, however, a potentially useful approach that needs development.

The inclusion of "Discussion" papers is useful addition to the volume that allows the exposure of different views on: the evaluation of planned introductions; the influence of the soil environment on insect and plant pathogens; biological control in closed biospheres; application of biotechnology to the systematics and monitoring of biocontrol agents; enhancement of sustainable agriculture as related to biocontrol; roles for public and private sector scientists in developing pest-resistant crops. There is a subject index to the volume. Typographical errors are not abundant but the quality of the reproduction of the papers is uneven.

This volume has many excellent features and is certainly worth reading and consulting by graduate students, biocontrol practitioners and biotechnologists. As one might expect from one of the UCLA Symposia on Molecular and Cellular Biology, the "New Directions in Biology" are strongly biased toward biotechnology, and does not evaluate opportunities in other areas. Nevertheless, I recommend it to your attention.



The price is high for a book produced from texts "submitted in a form suitable for direct publication" and will certainly cause students to hope that the library purchases a copy.

W.J. Turnock  
Agriculture Canada, Winnipeg.

---

---

### Book Notice

Evans, P.D. and V.B. Wigglesworth (Eds). 1990. *Advances in insect physiology*. Vol. 22. Academic Press, London, Toronto, etc. 403 pp. Hardcover. US \$51

Detailed reviews included in this 1990 volume are: GABA receptors of insects, by D.B. Sattelle (114 pages, 400 references, 8 tables, 36 figures; dealing with the neurotransmitter molecule  $\gamma$ -aminobutyric acid); Molecular and genetic approaches to neurotransmitter and neuromodulator systems in *Drosophila*, by L.L. Restifo and K. White (105 pp., 425 refs, 2 figs); Genetics of biological rhythms in *Drosophila*, by J.C. Hall and C.P. Kyraicou (78 pp., 195 refs, 4 tabs, 5 figs, including one (2 pages) in colour); and Insect hemolymph proteins, by M.R. Kanost, J.K. Kawooya, J.H. Law, R.O. Ryan, M.C. Van Heusden and R. Ziegler (98 pp., 552 refs, 2 tabs, 4 figs). Literature citations in this series continue to include the full titles of papers. A detailed subject index completes the volume.

---

---

## POSITIONS AVAILABLE/EMPLOIS DISPONIBLES

### Mount Allison University Department of Biology

Applications are invited for appointments of individuals capable of teaching some of the following courses; Introductory Animal Biology, Animal Development, Introductory Plant Biology, Plant Population Biology, Genetics, Evolution and selected upper level courses in the candidate's field of expertise. An applicant will normally hold a graduate degree in Biology. Duties include undergraduate teaching and the ability to supervise student research projects. Subject to budgetary approval, the positions will be filled July 1, 1991. The 1990-91 salary range for Lecturer is \$28,019 to 40,319 and for Assistant Professor is \$34,169 to 48,008. An application should include a curriculum vitae, a list of courses to which the candidate could contribute, names of three referees and should be sent to:

Dr. Robert G. Thompson, Head  
Department of Biology  
Mount Allison University  
Sackville, New Brunswick E0A 3C0

The closing date for receipt of applications is February 1, 1991. Priority will be given to Canadian Citizens and Landed Immigrants, and U.S. Citizens are also encouraged to apply under the provisions of the Free Trade Agreement. Applications from both men and women are welcomed.

**University of Manitoba  
Department of Entomology  
Assistant Professor**

Applications are invited for a tenure-track position in entomology, at the rank of Assistant Professor, effective 1 July 1991. The Department is seeking a candidate with a Ph.D. in entomology, or a closely related field, with training in apiculture and insect pollination and with an interest in crop protection. The candidate would be expected to develop basic and applied research programs relating to the pollination of commercial crops using bees and possibly other insects. Further, the candidate would be expected to develop interdisciplinary research programs in pollination and/or crop protection and seek competitive extramural research grants and other sources of funding to support such research. Candidates must have a very strong commitment to teaching at the undergraduate and graduate levels. Teaching would include undergraduate courses in applied or introductory entomology, apiculture and, in time, an undergraduate and a graduate course in the candidate's speciality area. The University of Manitoba encourages applications from qualified women and men, including members of visible minorities, aboriginal people, and persons with disabilities. The University provides a smoke-free work environment. In accordance with Canada Immigration requirements, priority consideration will be given to Canadian citizens or permanent residents. Candidates are to state their research goals in a covering letter, and to submit a curriculum vitae, one set of reprints and the names of three referees to:

Dr. R. A. Brust, Head,  
Department of Entomology,  
University of Manitoba,  
Winnipeg, Manitoba  
Canada R3T 2N2

Telephone: 204-474-6020  
FAX: 204-275-0402

---

# SCHOLARSHIPS AND GRANTS / BOURSES D'ÉTUDES ET SUBVENTIONS

## Entomological Society of Canada Postgraduate Awards 1990

### Invitation for Applications

The Entomological Society of Canada will offer two postgraduate awards of \$2,000 each to assist students beginning graduate study and research leading to an advanced degree in entomology. The awards will be made on the basis of high scholastic achievement.

*Eligibility* - The successful applicants must be either Canadian citizens or landed immigrants with Bachelor's degrees from Canadian universities. Applicants must begin their first year of postgraduate studies between 15 June 1990 and 31 December 1991. The studies and research must be carried out at a Canadian university. Each award is conditional upon certification by the Department Head that successful applicants have been accepted into the first year of a program of study and research for an advanced degree with full graduate status. A student who was unable to gain admission or enters graduate school as a qualifying candidate is not eligible to receive an award.

*Method of Application* - Applicants should submit a properly completed form, with support documents, in accordance with the instructions printed on the application form. Applications must be received by the Secretary of the Society no later than **14 June 1991**.

*Process of Selection and Award Presentation* - Applications will be reviewed by a committee of the Society and announcement of the two winners will be made at the annual meeting of the Society and each winner will receive a certificate. Payment of the award will be made in October, 1991.

### Regulations

*Earnings from Other Sources* - Award holders are permitted, under normal circumstances, to demonstrate, instruct or assist in non-degree related research for a maximum of 200 hours per annum, provided that the Head of their Department considers it desirable and that it does not hinder the progress of their studies. Apart from these assistantships, award holders will devote their full time to study and research and will not undertake any paid work during the school term. They may hold other awards and scholarships.

*Transfers* - Awards are made on the condition that the winners engage in a program of graduate studies and research for an advanced degree in entomology in Canada. Students, who after receiving the award, wish to change their graduate program or transfer to a foreign university may be asked to decline the award. Any change in the course of study, department or university in which an award winner is registered requires prior approval of the Scholarship Committee. A request for permission to transfer must be supported by statements from Heads of Departments.

*Additional Allowances* - The award stipends are all-inclusive. There is no provision for additional grants by the Society for any purpose. Additional grants, for example, to attend meetings, pay course fees, meet publications costs, etc., will not, under any circumstances, be authorized.

All communications regarding these awards, including requests for applications, should be addressed to:

Dr. R. West, ESC Secretary,  
Newfoundland Forestry Centre,  
P.O. Box 6028,  
St. John's, Nfld. A1C 5X8



## La Société d'entomologie du Canada Bourses pour Étudiants Post-Gradués 1990

### Avis

La Société d'entomologie du Canada offrira deux bourses d'un montant de \$2,000 chacun pour aider des étudiants qui entreprennent des études post-graduées et des recherches en vue de l'obtention d'un diplôme d'études supérieures en entomologie. Les bourses seront accordées aux étudiants et étudiantes en raison des seuls critères de réussite académique.

**Éligibilité** - Les candidats doivent être canadiens ou résidents reconnus du Canada et détenir un baccalauréat d'une université canadienne. Les candidats doivent obligatoirement avoir débuté leur première année d'études post-graduées entre le 15 juin 1990 et le 31 décembre 1991, et effectuer leur étude et recherche dans une université canadienne. Les bourses ne seront accordées que lorsque les directeurs de Département auront certifié que les candidats choisis sont inscrits en première année d'un programme d'études supérieures, et ce avec tous les privilèges rattachés au statut d'étudiant gradué. Un étudiant qui n'a pu être admis à une École des Gradués, on qui s'inscrit en vue de compléter l'obtention de crédits, n'est pas éligible pour recevoir une bourse.

**Procédure** - Les candidats devront soumettre leur candidature à l'aide du formulaire approprié et y joindre tous les documents requis. Les demandes devront être reçues par le Secrétaire de la Société au plus tard le **14 juin 1991**.

**Sélection et remise des bourses** - L'analyse des candidatures se fait par un comité de la Société, et l'annonce des récipiendaires se fera à la réunion annuelle de la Société où ils recevront un certificat. Le paiement de la bourse aura lieu en 1991.

### Règlements

**Autres sources de revenus** - Un boursier pourra normalement donner des séances de cours ou des démonstrations et être auxiliaire de recherche jusqu'à un maximum de 200 heures par année, en autant que le Directeur de son département considère cela profitable et que ces tâches additionnelles ne nuisent pas au progrès de l'étudiant. Sauf pour ces assistances, un boursier devra consacrer tout son temps à ses études et recherches et n'accepter aucune autre rémunération. Il peut cependant jouir d'une autre bourse ou d'un prix.

**Transferts** - Les bourses sont accordées sous condition que les boursiers entreprennent des études graduées en vue de l'obtention d'un diplôme en entomologie au Canada. Les boursiers qui décideront de changer de champs d'études, ou transférer dans une université hors du Canada peuvent se voir retirer leur bourse. Après acceptation de la bourse, tout changement de programme d'études, de département ou université devra recevoir à préalable l'approbation du Comité de la Bourse de la SEC. Une telle demande doit être accompagnée de documents provenant des Directeurs des départements concernés.

**Frais supplémentaires** - Une bourse consiste en une somme d'argent total. En aucun cas la Société n'accordera de montant supplémentaire. Des frais additionnelles pour, par exemple, assister aux réunions scientifiques, payer des frais de cours, défrayer des coûts de publications, etc., ne seront autorisés sous aucune considération.

Toute correspondance relative aux bourses, incluant les demandes de formulaires doit être adressée à:

Dr. R. West, secrétaire SEC,  
Newfoundland Forestry Centre,  
P.O. Box 6028,  
St. John's, Nfld. A1C 5X8

# **Entomological Society of Canada Graduate Research-Travel Grants**

## **Invitation for Applications**

### **Preamble**

To foster graduate education in entomology, the Entomological Society of Canada will offer two research-travel grants, awarded annually on a competitive basis. The intent of these grants is to help students increase the scope of their graduate training. These grants, up to a maximum of \$2,000, will provide an opportunity for students to undertake a research project or to do course work pertinent to their thesis subject that could not be carried out at their own institution.

### **Eligibility**

To be eligible, a student must:

- 1) be enrolled as a full-time graduate student
- 2) be an active member of the Entomological Society of Canada

### **Format of the Application Form**

The application form will be in the format of a grant proposal, where the applicant will provide the following information:

- 1) the subject of the thesis
- 2) a pertinent review of the literature in the field
- 3) a concise presentation of the status of the ongoing thesis research
- 4) a description of the research or course work to be undertaken, clearing indicating a) the relevance to the overall goal of the thesis, b) an explanation of why such work cannot be carried out at the student's own university and c) the justification of the site where the research/course work will be carried out.
- 5) a budget for the proposed project
- 6) anticipated dates of travel and date on which grant money is needed.

The application form should also be accompanied by:

- 1) an up-to-date C.V.
- 2) a supporting letter from the senior advisor
- 3) When appropriate, a support letter from the scientist or Department Head at the institution where the applicant wishes to go.

### **Evaluation Procedure**

The scientific merit of each application will be evaluated by a committee that has the option of sending specific projects out for external review by experts in the field. A constructive written report, underlining the positive and negative aspects of the proposal, will be returned to the applicant.

### **Timetable and Application Procedure**

Application forms, which may be obtained from the Secretary of the Society, must be completed and returned to the Secretary of the Society by **15 February 1991**.

The committee will evaluate all applications by 30 April 1991 and determine if, and to whom, grants will be awarded. The successful applicants will be informed immediately, thereby providing sufficient time for students wishing to start in the fall to make necessary arrangements. Grants must be used in the 12 months following the award.



Recipients must provide a short final report, as well as a detailed list of expenses, in the three months that follow the trip. Any money not spent must be returned to the Society.

---

---

**La Société d'entomologie du Canada**  
**Allocations de Voyage pour Étudiants Gradués**

**Appels pour Allocations**

**Préambule**

Afin de promouvoir les études graduées en entomologie, la Société d'Entomologie du Canada offrira deux bourses de voyage associées à la recherche. Celles-ci seront décernées annuellement sur une base compétitive. Le but de ces bourses est de permettre aux étudiants gradués d'élargir les horizons de leur formation. Les bourses, d'une valeur maximale de \$2,000 permettront à des étudiants de réaliser un projet de recherche, ou de suivre des cours pertinents à leur sujet de thèse qui ne pourraient pas être entrepris dans leur propre institution.

**Eligibilité**

Afin d'être éligible, l'étudiant doit:

- 1) être inscrit à temps plein comme étudiant gradué
- 2) être un member actif de la Société d'Entomologie du Canada

**Format du Formulaire de Demande**

Le formulaire d'application sera dans le style d'une demande d'octroi et l'étudiant devra fournir l'information suivante:

- 1) le sujet de la thèse
- 2) une revue de la littérature pertinente au domaine d'étude
- 3) une présentation concise du statut du projet de recherche en cours
- 4) une description de la recherche ou des cours qui seront entrepris, indiquant clairement a) la pertinence vis-à-vis les objectifs généraux de la thèse, b) les raisons pour lesquelles ce travail ne peut être entrepris à l'université où l'étudiant est inscrit, et c) une justification concernant le choix de l'endroit où la recherche/les cours seront entrepris
- 5) un budget pour le projet proposé
- 6) dates prévues pour le voyage et date à laquelle la bourse sera requise.

L'application devra aussi être accompagnée de:

- 1) un C.V. complet mis-à-jour
- 2) une lettre de recommandation du directeur de thèse, et
- 3) Lorsqu'appropriée, une lettre d'appui d'un administrateur de l'institution où le candidat désire aller.

**Evaluation**

La valeur scientifique de chaque application sera évaluée par un comité qui aura l'option d'envoyer des demandes spécifiques pour évaluation par un lecteur externe, expert dans le domaine. Un rapport écrit, contenant une critique constructive, faisant ressortir les aspects positifs et négatifs de l'application, sera retourné à chaque candidat.



### **Echéances et Procédures**

Les formulaires d'application, qui peuvent être obtenus du Secrétaire de la Société, doivent être remplis et retournés pour le **15 février 1991** au Secrétaire de la Société.

Le comité évaluera toutes les applications pour le 30 avril 1991 et déterminera si, et à qui, les bourses seront décernées. Les candidats choisis seront informés immédiatement, cela afin d'allouer suffisamment de temps pour les préparatifs nécessaires à un départ possible à l'automne. La bourse doit être utilisée dans les 12 mois suivant son octroi.

Les récipiendaires devront préparer un court rapport final, en plus d'une liste détaillée de leurs dépenses, dans les trois mois suivant le voyage. Tout argent non dépensé devra être remis à la Société.

---

### **Smithsonian Research Fellowships in History, Art and Science**

The Smithsonian Institution announces its Research Fellowships for 1991-92 in History, Art and Science. Smithsonian Fellowships are awarded to support independent research in residence at the Smithsonian in association with the research staff and using the Institution's resources. Predoctoral and postdoctoral fellowship appointments for six to twelve months and graduate student appointments for ten weeks are awarded. Proposals for research in the biological sciences (animal behaviour and pathology, ecology, environmental studies, evolutionary biology, marine biology, natural history, paleobiology, systematics and tropical biology) may be made.

Applications are due 15 January 1991. Stipends supporting these awards are: \$26,000 per year plus allowances for senior postdoctoral fellows; \$21,000 per year plus allowances for postdoctoral fellows; \$13,000 per year plus allowances for predoctoral fellows; \$3,000 for graduate students for the ten-week tenure period. Pre-, post- and senior postdoctoral stipends are prorated on a monthly basis for periods less than one year.

Awards are based on merit. Smithsonian Fellowships are open to all qualified individuals without reference to race, colour, religion, sex, national origin, age or condition of handicap of any applicant. For more information and application forms, please write:

Smithsonian Institution,  
Office of Fellowships and Grants,  
7300 L'Enfant Plaza,  
Washington, D.C.  
U.S.A. 20560

Please indicate the particular area in which you propose to conduct research and give the dates of degrees received or expected.

---

### **Smithsonian Minority Internship Program**

Internships, offered through the Office of Fellowships and Grants, are available for periods of nine to twelve weeks during the summer, fall, and spring. Minority undergraduate and graduate students are invited to apply. The appointment carries a stipend of \$250 per week for undergraduate and \$300 per week for graduate students, and provides a travel allowance. For applications and deadline information, please write: Smithsonian Institution, Office of Fellowships and Grants, Suite 7300, 955 L'Enfant Plaza, Washington, D.C. 20560.

## UPCOMING MEETINGS / RÉUNIONS À VENIR

*Twenty-sixth Canadian Symposium on Water Pollution Research*, 14 February 1991, Canada Centre for Inland Waters, Burlington, Ontario.

CONTACT: Beverly Pasian or William Holton, Conference Management, Canadian Association on Water Pollution Research and Control, c/o The Wastewater Technology Centre, 867 Lakeshore Rd., P.O. Box 5050, Burlington, Ontario L7R 4A6 (Tel: 416-336-4588, FAX: 416-336-4765)

*North American Forest Insect Work Conference*, 25 - 28 March 1991, Denver, Colorado - "Getting Ready for the 21st Century"

CONTACT: D.C. Allen or L. P. Abrahamson, College of Environmental Science & Forestry, State University of New York, Syracuse, N.Y., U.S.A. 13210-2778 (315-470-6742)

*43rd International Symposium on Crop Protection*, 7 May 1991, State University of Ghent, Belgium

CONTACT: Prof. Dr. ir. D. Degheele, Faculty of Agricultural Sciences, Coupure links 653, B-9000 Ghent, Belgium,

*Coleoptera Larvae Workshop*, 2 - 8 June 1991, Bishop Museum, Honolulu, Hawaii.

CONTACT: Tina Kuklenski, Department of Entomology, Bishop Museum, P.O. Box 19000-A, Honolulu, Hawaii 96817-0916 (FAX: 808-841-8968).

*Queen's University Sesquicentennial Program*, 7 - 8 June 1991, Kingston, Ontario - Planet Earth - Problems and Prospects.

CONTACT: Dr. J.H. Spencer, Department of Biochemistry, Queen's University, Kingston, Ontario K7L 3N6. (Tel: 613-545-2494, FAX: 613-545-6612)

*11th International Symposium on Chironomidae*, 12 - 14 August 1991, Amsterdam, The Netherlands.

CONTACT: Drs. F. Heinis, M & W Aquasense, P.O. Box 41125, 1009 EC, Amsterdam.

*First International Crop Science Congress*, 14 - 22 July 1992, Iowa State University, Ames, Iowa.

CONTACT: K. Frey, Chair, First International Crop Science Congress, Agronomy Department, Iowa State University, Ames, Iowa 50011 U.S.A.



## MISCELLANEA / DIVERS

### Editor's Notes

As you are probably aware from earlier notices in this issue, I am resigning as Bulletin Editor. There is nothing negative in this - I am going on sabbatical in 1991-92 and will be out of the country. I have been editing the Bulletin for five years now and it is perhaps time for new blood. The new Bulletin Editor is Fiona Hunter, presently at the Department of Zoology at Brandon. Fiona will be working in MS-DOS format so that all of you who have IBM compatible computers can send material to her on disk. I cannot stress the importance of this too much. The production of the Bulletin is accelerated with the more material that comes in on disk.

Editing this tome has been rewarding, infuriating, interesting, frustrating but rarely dull. I was checking back issues on my shelf and noticed, to my surprise, how much the *Bulletin* has grown. In 1987, the whole volume had 100 pages - the 1990 volume has 232. This growth is, in large part, a measure of increased activity and involvement by members of the Society. In the face of problems facing science in this country, let's keep the trend of increasing involvement going.

I have not done this Bulletin alone. A few people deserve to be publicly thanked. When I took over the *Bulletin*, the late Harold Madsen was President of the Society. Harold gave a great deal of help and encouragement and his untimely passing left a gap in this Society. Donna Giberson acted as editorial assistant, finishing up last minute details of production. She learned first-hand that the Ewen-Leech dictum (p. 203) that editors can be "misinformed..., inexact, stubborn, ignorant, fickle, even abysmally stupid" had some truth to it. I don't think she would agree that they are always right. Jeremy McNeil has given a great deal of help, support and friendship (and always sent material on disk!!). Our printer - Ray Hignell - did a lot of unheralded work that benefitted this Society in showing ways we could keep costs of production and mailing down. He deserves a great vote of thanks. Finally, Al Ewen has given much needed support, encouragement, perspective and irreverence. I learned that editors flock together like most other social outcasts!!

-30-

Ron Aiken



ENTOMOLOGICAL SOCIETY OF CANADA  
LA SOCIÉTÉ D'ENTOMOLOGIE DU CANADA

Executive Council - Conseil Exécutif

**President / Président**

J.E. Laing  
Department of Environmental Biology  
University of Guelph  
Guelph, Ont. N1G 2W1  
(519-824-4120)

**First Vice President / Premier Vice-Président**

R. Ring,  
Department of Biology,  
University of Victoria,  
Victoria, B.C. V8W 2Y2  
(604-721-7104)

**Second Vice President / Second Vice-Président**

P. Riegert,  
Department of Biology,  
University of Regina,  
Regina, Sask.  
(604-721-7104)

**Past President / Président sortant**

J.N. McNeil  
Département de biologie  
Université Laval  
Québec, Qué. G1K 7P4  
(418-656-2999)

Trustees - Fiduciaires

**Treasurer/ Trésorier**

R. Footitt,  
393 Winston Ave.,  
Ottawa, Ont. K2A 1Y8  
(613-725-2619)

**Secretary / Secrétaire**

R. West  
Newfoundland Forestry Centre  
P.O. Box 6028  
St. John's, Nfld. A1C 5X8  
(709-772-2386)

**Scientific Editor/Editeur Scientifique  
The Canadian Entomologist**

A.B. Ewen  
107 Science Crescent  
University of Saskatchewan  
Saskatoon, Sask. S7N 0X2  
(306-975-7080)

**Memoirs**

V. Behan-Pelletier  
Biosystematics Research Institute  
Agriculture Canada  
Ottawa, Ontario K1A 0C6

**Bulletin Editor/Editeur du Bulletin**

F. Hunter  
Department of Zoology  
Brandon University  
Brandon, Man. R7A 6A9  
(204-727-9608)

**Assist. Scientific Editors/Assists. de l'éditeur scientifique**

C.H. Craig  
R.H. Elliott

Directors-Administrateurs

**Directors-at-Large:** B. Roitberg(1991), J. Hollebone(1991), L. Gilkeson (1992), D. Quiring(1992)

**Regional Directors /Directeurs régionaux :** J. McLean(E.S.B.C.), A. McClay(E.S.A.), J. Doane(E.S.S.), M. Galloway (E.S.M.), M.K. Sears (E.S.O), C. Vincent(S.E.Q.), E.A. Osgood(A.E.S.)

Contributions and correspondence regarding the Bulletin should be sent to the Bulletin Editor. / Faites parvenir vos contributions au Bulletin ou votre correspondance à l'Editeur du Bulletin

Inquiries about subscriptions and back issues should be sent to the Entomological Society of Canada, 393 Winston Ave., Ottawa, Ont. K2A 1Y8. / Pour tout renseignement sur l'abonnement ou les numéros passés, prière de s'adresser à la Société d'entomologie du Canada, 393 Ave. Winston, Ottawa, Ont. K2A 1Y8

**THE DEADLINE FOR THE NEXT ISSUE, VOL. 23(1), IS FEBRUARY 1, 1991**

**LA DATE LIMITE POUR RECEVOIR VOS CONTRIBUTIONS  
POUR LE PROCHAIN NUMERO (VOL. 23(1)) EST LE 1 FEBRUAR 1991**

## **OFFICERS OF AFFILIATED SOCIETIES**

---

### **Entomological Society of British Columbia**

President	D. Raworth
President-Elect	J. Constantine
Secretary-Treasurer	K. Millar, R.R. 3, Duncan, B.C. V9L 1X1
Editor (Journal)	R. Ring
Regional Director to E.S.C.	J. McLean

### **Entomological Society of Alberta**

President	B. Schaber
Vice-President	D. Langor
Secretary	R. Linowski, P.O. Box 1305, Brooks, Alta. T0J 1J0
Treasurer	G. Hilchie
Editor (Proceedings)	G. Evans
Regional Director to E.S.C.	A. McClay

### **Entomological Society of Saskatchewan**

President	D. Peschken
Vice-President	M. Erlandson
Treasurer	G.B. Neill
Secretary	O. Olfert, Agriculture Canada, 107 Science Cres., Saskatoon, Sask. S7N 1X0
Editor (Proceedings)	K. Roney
Regional Director to E.S.C.	J. Doane

### **Entomological Society of Manitoba**

President	R.J. Lamb
President-Elect	R. Westwood
Secretary	N.D.G. White, Agriculture Canada Research Station, 195 Dafoe Rd., Winnipeg, Man. R3T 2M9
Treasurer	G.H. Gerber
Editor (Proceedings)	A.P. Wiens
Regional Director to E.S.C.	M.M. Galloway

### **Entomological Society of Ontario**

President	J. Cunningham
President-Elect	M.K. Sears
Secretary	S. Smith, Faculty of Forestry, Univ. of Toronto, Toronto, Ont. M5S 1A1
Treasurer	R.S. MacDonald
Editor (Proceedings)	P.G. Kevan
Regional Director to E.S.C.	P.G. Kevan

### **Société d'entomologie du Québec**

Président	P. Therrien
Vice-président	D. de Oliveira
Secrétaire	M. Mailloux, 472 rue Maissoneuve, St.-Jean-sur-Richelieu, Qué. J3B 1G2
Trésorier	C. Bouchard
Editeur(Rev. d'ent. du Qué.)	D.J. Lewis
Représentant à la S.E.C.	C. Vincent

### **Acadian Entomological Society**

President	G. Boiteau
Vice-President	C. Nigam
Secretary-Treasurer and Editor	S.B.N. Smith, 1536 Lincoln Rd., Fredericton, N.B. E3B 4X2
Regional Director to E.S.C.	E.A. Osgood