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June - juin, 1992

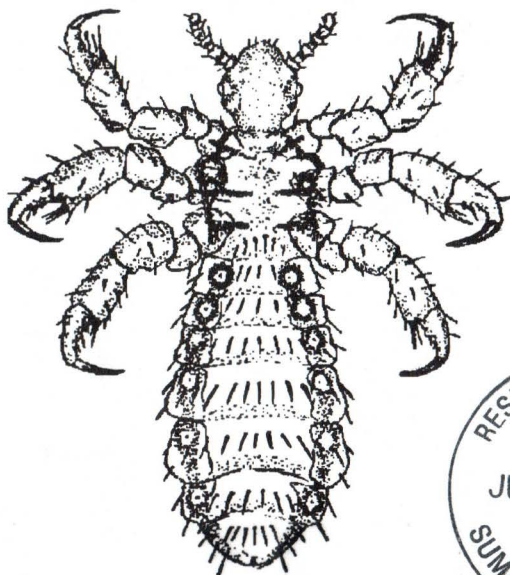
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# BULLETIN



ENTOMOLOGICAL SOCIETY OF CANADA  
LA SOCIÉTÉ D'ENTOMOLOGIE DU CANADA

ENTOMOLOGICAL SOCIETY OF CANADA  
LA SOCIÉTÉ D'ENTOMOLOGIE DU CANADA

BULLETIN

VOL 24(2) - June / juin, 1992

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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 E.S.C. at:  
Pour renseignements sur l'abonnement ou les numéros passés, prière de s'adresser à la S.E.C.:

Entomological Society of Canada  
393 Winston Ave.  
Ottawa, Ontario  
K2A 1Y8

## CHANGE OF ADDRESS

On July 1, 1992  
the Editor of the *Bulletin* will be moving!  
Please send all future correspondence  
concerning the *Bulletin* to:

Dr. Fiona F. Hunter  
*Bulletin* Editor  
Department of Biological Sciences  
Brock University  
St. Catharines, Ontario  
L2S 3A1

Tel. (416) 688-5550 Ext. 3394  
Fax. (416) 682-9020

The deadline for submissions to be included  
in the next issue (Vol. **24(3)**)  
is **August 1, 1992**

La date limite pour recevoir vos contributions pour  
le prochain numero (Vol. **24(3)**)  
est le **1 août, 1992**

# SOCIETY BUSINESS / AFFAIRES DE LA SOCIÉTÉ

## Meeting Notices 42nd Annual General Meeting

The Annual General Meeting of the Entomological Society of Canada will be held at the Delta Bessborough Hotel in Saskatoon, Saskatchewan on September 29, 1992.

Matters for consideration for this meeting or for the Governing Board Meeting to be held at the Delta Bessborough Hotel in Saskatoon, Saskatchewan on September 26, 1992 (and, if necessary, on September 27) should be sent to the Secretary, Dr. Rick West.

## 42 Réunion Générale Annuelle

La Réunion Générale Annuelle de la Société d'Entomologie du Canada aura lieu à l'Hôtel Delta Bessborough à Saskatoon, Saskatchewan le 29 septembre, 1992.

La Conseil de Direction sa réunira le 26 septembre, 1992 (et peut-être le 27 septembre) à l'Hôtel Delta Bessborough à Saskatoon, Saskatchewan. Tous sujets pour être considérés doivent être soumis au secrétaire, Dr. Rick West.

Dr. Rick West, Secretary ESC  
Forestry Canada, Newfoundland and Labrador Region  
P.O. Box 6028  
St. John's, Newfoundland  
A1C 5X8  
Fax. 709-772-2576.

## President's Update

The Executive Council held its midterm meeting recently in Ottawa and the following are some of the highlights, and low points, of that meeting. The financial state of the Society is not as buoyant as was reported last year at the same time by John Laing. There was a considerable deficit in last year's budget (1991) and there is projected deficit for this year also. The reasons for this are manifold and some cost-cutting measures are being adopted. The principal areas of financial pressure on the Society, however, are in our publication costs and in direct support for CFBS membership. The Finance Committee along with the Publications Committee, therefore, have been asked to investigate ways to increase revenues and reduce costs of our publications. With respect to CFBS, we are now half-way through our 3-year trial membership period and we will be asked to vote on continued membership in that organization at the 1993 annual meeting in Sault Ste. Marie. In anticipation of that event I have asked Jeremy McNeil, in collaboration with Ian Smith, to prepare a document which will outline the pros and cons of retaining membership in CFBS, this to be published in an upcoming issue of the *Bulletin*.

The Resolution concerning "Study of biodiversity of terrestrial arthropods" which was passed at the AGM in Montreal last October was sent to the Prime Minister, 6 other cabinet ministers, 10 presidents of universities, 13 directors of museums and 2 others, all of whom have a mandate for or an interest in insect biodiversity. I received 12 replies from the total 32, most of which (with one exception!) were

supportive. However, they were supportive in a broad, nebulous way and I am not yet certain if anything has been achieved. Ah well, the seed of concern for insect biodiversity/systematics has been sown. The Resolution will be published in an up-coming issue of "Canadian Biodiversity", edited by Don McAllister of the Canadian Museum of Nature.

The book on *Diseases and Pests of Vegetable Crops in Canada* is in the final stages of production. The Executive Council approved a motion to print 8000 copies of the English version, begin with the French translation (by Christine Thériault) and, in due course, print 3000 copies of the French version. Publication of the English version is now expected to be in the Fall of 1992. A very comprehensive Marketing Committee Report from co-chairs Lloyd Dossdall of the ESC and Marilyn Dykstra of the CPS was submitted and approved by the Executive Council. This forms the basis for marketing the book and identifying prospective buyers. On behalf of the Society I thank Lloyd Dossdall and other members of the committee for a difficult job well done.

The Biological Resources Division (BRD) of the Centre for Land and Biological Resources Research (CLBRR) and its Advisory Committee are convening a Workshop on Systematics to be held June 16-17 in Ottawa at the University of Ottawa. The purpose of this Workshop will be to reach agreement among government departments, universities, industry and professional societies regarding the future role and responsibilities of the federal government and other agencies in systematics in relation to research, collections, training, and services in entomology, botany, mycology and other relevant subjects. The focus will be on identifying areas that can be best dealt with on a cooperative or collaborative basis. The Entomological Society of Canada, as a "major stakeholder", has been invited to participate in this Workshop and I will be nominating two representatives to attend on our behalf. I hope that any fruitful discussions and reports resulting from the Workshop will be printed in future issues of the *Bulletin*.

Two publications of the ESC have come to fruition in the past year. First is the Membership List which includes not only addresses and phone numbers but also FAX numbers and E-MAIL addresses where available. If you have any changes or have spotted any inaccuracies, please report then to Alex McClay, Chair of the Membership Committee. Second is the "Entomologists of B.C." by Paul Riegert, which now complete the series on historical profiles of entomologists of Western Canada.

Arrangements for the Joint Annual Meeting of the ESC and ESS in Saskatoon on 27-30 September 1992 are progressing smoothly and, as you should have noticed in the March 1992 issue of the *Bulletin* (Vol. 24(1)), the scientific program looks very varied and exciting. I have been informed by the Local Arrangements Committee that if interest warrants, a 5K run along the banks of the South Saskatchewan River will be organized. So please bring your running shoes. A quick mental review of our membership reminds me that I should also ask the Local Arrangements Committee to prepare the cardiac unit of the local hospital for this event!

Finally, I would like to take this opportunity to thank the many people who unstintingly gave of their time and energy to further the aims of the Society. I would especially like to thank the Chairs of Committees who have to collate information and opinions from a wide variety of people across our great, wide country - and still submit their reports on schedule! It has made my life as President of the Society relatively easy, so far.

Richard A. Ring  
President

**Call for Nominations  
Achievement Awards Committee**

**Gold Medal for Outstanding Achievement in Canadian Entomology  
and  
The C. Gordon Hewitt Award**

Members of the Society are invited to nominate individuals whom they regard as eligible for these awards (for the year **1993**). Nominations should be sent in an envelope marked "Confidential" to the following address:

Achievement Awards Committee  
Entomological Society of Canada  
393 Winston Avenue  
Ottawa, Ontario  
K2A 1Y8

and should comprise: (1) the name and address of the nominee(s); (2) a statement of relevant achievements; and (3) the name of the nominator and at least one seconder. To be considered by the Achievement Awards Committee, nominations must bear a postmark no later than **November 30 1992**.

The following conditions govern these awards:

1. Outstanding contributions should be judged on the basis of

(a) superior research accomplishment either as a single contribution or as a series of associated endeavours and which may be either in entomology or a related field where the results obtained are of great consequence;

or

(b) dedicated and fruitful service in the fields of Society affairs, research administration or education.

2. No more than one of each award shall be granted per year but, where circumstances warrant, more than one individual may be mentioned in a single award.

3. Recipients need not be members of the Society providing their contribution is judged to have a major impact on entomology in Canada.

4. The award may be granted on different occasions to the same recipient but for different contributions to entomology in Canada.

5. Nominees for the C. Gordon Hewitt Award must be less than 40 years of age throughout the calendar year in which the award is both announced and awarded.

## Comité des décorations

### Médaille d'Or pour Contributions Exceptionnelle à l'Entomologie Canadienne et Prix C. Gordon Hewitt

La Société invite les membres à lui faire parvenir les noms des personnes qu'ils considèrent éligibles à ces deux prix. Veuillez envoyer vos nominations (pour l'année 1993) au:

Comité des décorations  
La Société d'entomologie du Canada  
393 Winston Avenue  
Ottawa, Ontario  
K2A 1Y8

dans une enveloppe portant la mention "Confidentiel". La nomination doit contenir: (1) le nom ainsi que l'adresse du (ou des) candidat(s) désigné(s); (2) un compte rendu des réalisations pertinentes; et (3) le nom du parrain et celui d'au moins une deuxième personne appuyant la mise en nomination. Pour être acceptées par le Comité les nominations devront porter un sceau postal d'au plus tard le **30 novembre 1992**.

Les conditions suivantes régissent le choix des récipiendaires de ces prix:

1. Les contributions exceptionnelles devraient être jugées dans le contexte

(a) d'un accomplissement hors par en recherche, soit comme résultat d'une seule contribution ou d'une série d'efforts reliés, réalisés dans le secteur entomologique ou tout autre domaine connexe et ayant abouti à des résultats de grande valeur

ou

(b) de service dévoué et fructueux au profit de la Société, de l'administration de recherche, ou de l'éducation.

2. Chaque prix ne sera décerné qu'une seule fois annuellement, quoique, les circonstances le justifiant, plus d'une personne pourront collectivement devenir récipiendaires d'un prix.

3. Les récipiendaires ne doivent pas nécessairement être membres de la Société en autant que l'on juge que leur contribution a exercé un impact majeur sur l'entomologie au Canada.

4. Chaque prix peut être décerné à différentes occasions au même récipiendaire mais pour différentes contributions à l'entomologie au Canada.

5. Le candidat désigné pour le prix C. Gordon Hewitt doit être âgé de moins de 40 ans pour toute la durée de l'année au cours de laquelle le prix est annoncé et décerné.

## Report of the ESC Representative to the CFBS

Last year at Kingston several Society representatives (including the ESC) underlined the necessity for a clear statement with respect to the structure and future goals of the CFBS. The representatives indicated that the members of their respective Societies must be able to see that they are obtaining "value for Money", given that most people look at it from a "what is in it for me" perspective. Dr. K. Keough, the past President of CFBS asked each Society to provide a description of what they expected from CFBS and from these comments prepared a list of questions to be considered at the Board meeting that was held in February of this year.

There was a strong wish that CFBS continue to hold an annual scientific meeting, and that different Societies be encouraged to participate as much as possible. This may be with a joint meeting or through the organization of symposia in subjects that they deem of interest to their particular discipline. It is of importance to note that the CFBS budget was itemized this year (and will continue to be in the future) and it was clear from the breakdown that the annual meeting was financially self-supporting but does not generate great profits. In the past the notion of profits arose due to the fact that the time/salaries of CFBS staff working on the preparation of the meeting were always lumped with general office expenses. When these are added as costs of preparing the meeting, profits are hard to find. This is not really a bad thing: (a) A self-supporting meeting adds no unwanted expenses to those member Societies that do not participate in this part of CFBS activities, and (b) these Societies are no longer open to the reproach that "the meeting generates profits subsequently used for other CFBS activities (e.g. science policy) and by not participating you are not carrying your weight". Overall, a large meeting could generate discussion between different disciplines and this should be considered desirable. Furthermore, meetings of this size are sufficiently large that they could generate media interest and thereby be a positive means of increasing public awareness of science. There are two general themes for the 1994 meeting at Montreal (Evolution; Biological Signals) and the 1995 meeting at Saskatoon (Neurobiology; Chemical Ecology) where ESC members could play an active role in the preparation of symposia, alone or with other Societies, such as Zoology, Botany and Genetics.

There is little question that Science Policy and Public Awareness of Science are high priority to all member Societies and it is the firm intention of CFBS to maintain a high profile in both areas. While it is not always easy to pinpoint concrete accomplishments (lobbying is an ongoing process) the CFBS has been active in areas such as the funding of granting agencies (the Minister gave all three granting agencies 4%, not holding them to the 3% ceiling) and CLERP (the long term ecosystems project in which entomologists are playing an active role). Furthermore, given that insects now appear to be included under the mantle of the animal rights activists (Insect collections not being accepted in certain science fairs), the CFBS animal rights committee may be of considerable importance to us in the future. At present Clement Gauthier works 3.5 days a week as Science Policy Officer of the CFBS, and with the increased activities of the enlarged CFBS his services could be used full time. This, however, would require additional funds and we all know that any increases in dues would not be well received in many quarters. The CFBS executive has been negotiating with the ACMC (Association of Canadian Medical Colleges) for several years with respect to a possible coalition. This idea of a coalition was pleasing to both: for the ACMC it would meet all their lobbying needs yet cost considerably less than setting up their own independent lobbying organization; for CFBS the infusion of funds would reduce CFBS's financial load and permit them to hire Clement full time. Furthermore, at the time when the negotiations started CFBS was made up only of Societies with biomedical interests and the information obtained for the CFBS was in many cases the same that ACMC required. At the meeting in February, Dr. Howard Dickson



presented a project for a coalition of CFBS, ACMC and PMAC (Pharmaceutical Manufacturers Association of Canada) and then left this for discussion by the Board. Various Societies, including the ESC, noted that if such a coalition were to be formed considerable care must be given to ensure that biological concerns outside the medical sciences are not placed on the back burner. In general, it was felt that such a coalition could be beneficial as long as CFBS was assured that the needs of all their constituent Societies were met. The Board then suggested that the Executive go back to negotiating with ACMC, following the suggestions brought up during the discussion. This was done and it was decided to enter into a coalition for a three year trial period. Clement will be hired for the extra 1.5 days and as much of the work he will be doing for the coalition he would be covering for the CFBS in any case, we should actually gain by his full time presence. Furthermore, Clement will be the Executive Director of the coalition for the three years, and he has assured all non-medical Society representatives that the biological issues will not be given short shift. The ACMC and PMAC must place their financial contributions in the CFBS account at the beginning of each year, so even if they decide to withdraw the CFBS will not be left "holding the financial bag" in that fiscal year. In addition, there is an opt-out clause for all coalition members, which I see as leverage for the non-medical Member Societies in CFBS. If we believe that our needs are not being met, then we ask CFBS to exercise the opt-out clause. Should they refuse, then we withdraw from the Federation. It should be noted that throughout the negotiations the ACMC have conceded on all points when CFBS did not agree with their proposals, and in the final analysis (when the costs of all coalition activities are accounted for) there will be at least an additional 20K in the CFBS budget. Hopefully this will ensure that there are no additional fee hikes in the near future. I should also note here that CFBS is still looking for ways to streamline things and thereby reduce costs. They are presently negotiating with the University of Ottawa for space, as this would be cheaper than the present office on Booth Street. While nothing has materialized yet, CFBS does have access to a number of U. of O. services that reduce costs (payroll facilities, group purchasing power). It was also accepted at the last board meeting that only a sub-committee of the Programme Committee would meet in February; given that all the costs of this meeting are covered by CFBS there will be a saving of several thousand dollars.

As a personal observation, I find the very negative opinions being expressed by several directors of the CSZ, a Society to which I belong, disturbing. The general theme, one echoed by several of our own members, is one of cost. Recently, an ESC member sent our Secretary a copy of a letter he had written to a CSZ councilor, expressing his indignation "at paying exorbitant increases" that "are unjustified and should not be tolerated" as he "can see little material advantage for the university academic/researcher from the kind of politicking and lobbying that the proponents of such a merger (joining the CFBS) were advocating". Perhaps this individual thinks the fact that 39% of all faculty up for renewal at NSERC in 1992 received a lower amount than the previous grant, despite the ever rising cost to research is acceptable. Martin Adamson (Zoology, UBC) wrote in the winter bulletin of the C.S.Z. that students should not be expected to pay the CFBS levy as "they are not members of the profession" and he could not "in good faith ask students to join the Society when half of their fees go to a Federation that looks after the interests of a group to which they do not belong." Does he believe that NSERC's action to remove 88 postgraduate (or 44 postdoctoral fellowships) from the biological sciences and the fact that many positions in both Government and University are not being filled when someone retires are just inevitable actions that the scientific community must live with? If such items are not of interest to students that hope to make their careers in science, I do not know what is! The fact that "professional scientists" feel that an annual "two cases of beer equivalent" (or four bottles of reasonable wine for those like myself who have a preference for the grape) is too much to pay floors me. A strong voice for science in Ottawa, and throughout the country, is essential. The Federation has gained considerable credibility and is used

as a resource by many government agencies. Furthermore, this role will be even greater now that Science Council has been eliminated, an act that in and unto itself should clearly indicate to us the importance the powers-that-be place on science. It is true that there is no guarantee that CFBS will be able to have a major impact on policy but at least we can say we tried. The alternative is to sit back and do nothing, accept whatever happens and bitch about the fact that life "just ain't fair". The consolation of this approach is that with the money saved by not paying CFBS fees one can buy some beer to cry into! This is not my choice and I would urge all ESC members to support the efforts of CFBS in areas of public awareness and science policy.

Jeremy N. McNeil  
ESC representative to CFBS

### **Graduate research-travel grants**

Research travel grants, each of \$2000, have been awarded to Mr. R.A. Anderson of the Department of Entomology, University of Manitoba and to Mr. E.R. Lima of the Department of Biology, Laval University.

Mr. Anderson is currently in a Ph.D. programme studying the blood feeding success of mosquitoes. He will use the award to travel to Florida to sample a different species of mosquito that is a vector of the St-Louis Encephalitis Virus (SLEV).

Mr. Lima is working towards a Ph.D. on the sex pheromone of the fall armyworm. Mr. Lima will use the award to travel to the laboratory of Dr. J.G. Millar of the Department of Entomology of the University of California at Riverside. He expects to perform experiments on sex pheromone using techniques developed in this department.

### **Bourses de voyages associées à la recherche**

Des bourses de voyages de \$2000 chacune ont été octroyées à M. R.A. Anderson du Département d'Entomologie de l'Université du Manitoba et à M. E.R. Lima du Département de Biologie de l'Université Laval.

M. Anderson est inscrit à un programme de Doctorat portant sur le comportement de prise de nourriture chez les moustiques. Il compte utiliser cette bourse pour se rendre en Floride pour échantillonner une espèce de moustique vecteur du virus de l'encéphalite de St-Louis (SLEV).

M. Lima complète un Doctorat sur la phéromone sexuelle de la légionnaire d'automne. M. Lima utilisera sa bourse pour se rendre au laboratoire du Dr. J.G. Millar du Département d'Entomologie de l'Université de Californie à Riverside. Il prévoit effectuer des expériences sur cette phéromone sexuelle en utilisant des techniques mises au point dans ce département.

**JOINT ANNUAL MEETING of THE ENTOMOLOGICAL SOCIETY OF CANADA and  
THE ENTOMOLOGICAL SOCIETY OF SASKATCHEWAN**

**Saskatoon, 27-30 September 1992  
Delta Bessborough**

**Saturday, 26 September 1992**

9:00 - 17:00 Board Meeting - E.S.C.  
20:00 - 23:00 President's Reception for the Board

**Sunday, 27 September 1992**

17:00 - 21:00 Registration  
19:00 - 20:00 Students meet the Board  
21:00 - 24:00 Wine & Cheese Reception

**Monday, 28 September 1992**

8:00 - 14:00 Registration  
9:00 - 12:00 Opening Ceremonies  
E.S.C. Awards  
Heritage Lecture  
10:00 - 17:00 Exhibits  
13:00 - 17:00 Symposium: "The Role of Entomology in Sustainable Agriculture" - K. Pivnick  
13:00 - 17:00 Poster Session  
19:00 - 21:00 Round Table: "Regulation of Natural Enemies for Use in Biological Control" - J. Laing  
19:00 - 21:00 Slide Show and Discussion: "The World of Nature - A Closer Look at Insects" - Tom Webb - Photographer

**Tuesday, 29 September 1992**

9:00 - 12:00 Workshop: "Integrated Pest Management of *Brassica* Crops" - G. Gerber  
9:00 - 12:00 Workshop: "Integrated Pest Management in Livestock Entomology" - T. Lysyk  
9:00 - 12:00 Scientific Communications  
10:00 - 17:00 Exhibits  
13:00 - 16:00 Workshop: "Economic Thresholds" - N. Holliday  
13:00 - 17:00 Scientific Communications  
16:00 - 18:00 E.S.C. Annual General Meeting  
18:30 Banquet

**Wednesday, 30 September 1992**

9:00 - 12:00 Forum: "Biological Control of Insects, Weeds and Diseases" - R. Makowski  
9:00 - 12:00 Workshop: "Aquatic Insects - What Makes a Good Environmental Impact Study?" - D. Lehmkuhl  
9:00 - 12:00 Scientific Communications  
9:00 - 12:00 E.S.S. Annual General Meeting  
12:00 - 15:00 E.S.C. Governing Board Luncheon Meeting

**For further information please contact:**

Peter Mason (Chairman)  
Agriculture Canada, Saskatoon Research Station  
107 Science Place  
Saskatoon, Saskatchewan S7N 0X2  
Tel: (306) 975-7014/Fax: (306) 242-1839

Ken Pivnick (Scientific Program; Symposium: "The Role of Entomology in Sustainable  
Agriculture")  
Agriculture Canada, Saskatoon Research Station

Julie Soroka (Local Program)  
Agriculture Canada, Saskatoon Research Station

John Doane (Finance)  
Agriculture Canada, Saskatoon Research Station

Dennis Lehmkuhl (Workshop: "Aquatic Insects - What Makes A Good Environmental  
Department of Biology Impact Study?")  
University of Saskatchewan  
Saskatoon, Saskatchewan S7N 0W0  
Tel: (306) 966-4408/Fax: (306) 966-4461

Neil Holliday (Workshop: "Economic Thresholds")  
Department of Entomology  
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Winnipeg, Manitoba R3T 2N2  
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George Gerber (Workshop: "*Brassica* Integrated Pest Management")  
Agriculture Canada Research Station  
195 Dafoe Road  
Winnipeg, Manitoba R3T 2M9  
Tel: (204) 983-1460/Fax: (204) 983-4604

Tim Lysyk (Workshop: "Integrated Pest Management in Livestock Entomology")  
Agriculture Canada Research Station  
Box 3000, Main  
Lethbridge, Alberta T1J 2W1  
Tel: (403)327-4561/Fax: (403)382-3156

John Laing (Round Table: "Regulation of Natural Enemies for Use in  
Department of Environmental Biology in Biological Control")  
University of Guelph  
Guelph, Ontario N1G 2W1  
Tel: (514)824-4120/Fax: (519) 837-0442

Roberte Makowski (Forum: "Biological Control of Insects, Weeds and Diseases")  
Agriculture Canada Research Station  
P.O. Box 440  
Regina, Saskatchewan S4P 3A2  
Tel: (306) 780-7402/Fax: (306) 780-7453

RÉUNION CONJOINTE de LA SOCIÉTÉ D'ENTOMOLOGIE DU CANADA et de LA  
SOCIÉTÉ D'ENTOMOLOGIE DE LA SASKATCHEWAN

Saskatoon, 27-30 septembre 1992  
Delta Bessborough

**Samedi, 26 septembre 1992**

9h00 à 17h00 Réunion d'affaires, conseil d'administration de la S.E.C.  
20h00 à 23h00 Réception de la Président pour le conseil d'administration

**Dimanche, 27 septembre 1992**

17h00 à 21h00 Inscription  
19h00 à 20h00 Rencontre des étudiants avec le conseil d'administration  
21h00 à 24h00 Réception de cocktails

**Lundi, 28 septembre 1992**

8h00 à 14h00 Inscription  
9h00 à 12h00 Cérémonies d'ouverture  
Décorations de la S.E.C.  
Allocution du héritage  
10h00 à 17h00 Exhibits  
13h00 à 17h00 Symposium: "Le Rôle d'Entomologie dans l'Agriculture Soutenable" -  
K. Pivnick  
13h00 à 17h00 Session de posters  
19h00 à 21h00 La table ronde: "La Régulation des Ennemis Naturels Utilisés en Contrôle  
Biologique" - J. Laing  
19h00 à 21h00 Présentation et discussion de diapositives: "Le Monde de la Native - Une  
Perspective des Insectes de Plus Près" - Tom Webb - Photographer

**Mardi, 29 septembre 1992**

9h00 à 12h00 Atelier: "La Lutte Intégrée des Insectes des Plantes Cultivée du Genre  
*Brassica*" - G. Gerber  
9h00 à 12h00 Atelier: "La Lutte Intégrée des Insectes de Bétail" - T. Lysyk  
9h00 à 12h00 Communications scientifiques  
10h00 à 17h00 Exhibits  
13h00 à 16h00 Atelier: "Les Seuils Economiques" - N. Holliday  
13h00 à 17h00 Communications scientifiques  
16h00 à 18h00 Assemblée générale annuelle de la S.E.C.  
18h30 Banquet

**Mercredi, 30 septembre 1992**

9h00 à 12h00 Forum: "Le Contrôle Biologique des Insectes, des Mauvaises Herbes, et  
des Pathogènes" - R. Makowski  
9h00 à 12h00 Atelier: "Les Insectes Aquatiques - Qu'est-ce qu'une Bonne Étude  
d'Impact Environmental?" - D. Lehmkuhl  
9h00 à 12h00 Communications scientifiques  
9h00 à 12h00 Assemblée générale annuelle de la S.E.S.  
12h00 à 15h00 Réunion de dîner, conseil d'administration de la S.E.C.

**Pour plus d'Informations veuillez entrer en contact avec:**

Peter Mason (Président)  
Agriculture Canada, Saskatoon Research Station  
107 Science Place  
Saskatoon, Saskatchewan S7N 0X2  
Tel: (306) 975-7014/Fax: (306) 242-1839

Ken Pivnick (Programme scientifique; Symposium: "Le Rôle d'Entomologie dans l'Agriculture  
Agriculture Canada, Saskatoon Research Station Soutenable")

Julie Soroka (Programme local)  
Agriculture Canada, Saskatoon Research Station

John Doane (Finance)  
Agriculture Canada, Saskatoon Research Station

Dennis Lehmkuhl (Atelier: "Les Insectes Aquatiques")  
University of Saskatchewan  
Saskatoon, Saskatchewan S7N 0W0  
Tel: (306) 966-4408/Fax: (306) 966-4461

Neil Holliday (Atelier: "Les Seuils Economiques")  
Department of Entomology  
University of Manitoba  
Winnipeg, Manitoba R3T 2N2  
Tel: (204) 474-6024/Fax: (204) 275-0402

George Gerber (Atelier: "La Lutte Intégrée de *Brassica*")  
Agriculture Canada Research Station  
195 Dafoe Road  
Winnipeg, Manitoba R3T 2M9  
Tel: (204) 983-1460/Fax: (204) 983-4604

Tim Lysyk (Atelier: "La Lutte Intégrée du Bétail")  
Agriculture Canada Research Station  
Box 3000, Main  
Lethbridge, Alberta T1J 2W1  
Tel: (403)327-4561/Fax: (403)382-3156

John Laing (La Table Ronde: "La Régulation des Enemis Naturel Utilisés en Contrôle  
Department of Environmental Biology Biologique")  
University of Guelph  
Guelph, Ontario N1G 2W1  
Tel: (514)824-4120/Fax: (519) 837-0442

Roberte Makowski (Forum: "Le Contrôle Biologique des Insectes, des Mauvais Herbes, et  
Agriculture Canada Pathogènes")  
P.O. Box 440  
Regina, Saskatchewan S4P 3A2  
Tel: (306) 780-7402/Fax: (306) 780-7453

JOINT ANNUAL MEETING OF THE ENTOMOLOGICAL SOCIETY OF CANADA AND THE  
ENTOMOLOGICAL SOCIETY OF SASKATCHEWAN

Saskatoon, 27-30 September 1992

REGISTRATION FORM

Check one: Regular  or Student

Name: \_\_\_\_\_ Title: \_\_\_\_\_  
Last First Initial

Address: \_\_\_\_\_  
\_\_\_\_\_

City: \_\_\_\_\_

Province/State: \_\_\_\_\_

Postal code: \_\_\_\_\_ Telephone: \_\_\_\_\_ (FAX): \_\_\_\_\_

Registration, fees, figures are in \$ Cdn (Including banquet ticket and G.S.T.). Late registration (after 15 August 1992) add \$15.00 to each fee. Please make cheques payable to "1992 ESS/ESC Joint Meeting".

Registration, regular	\$100	_____
Registration, student	\$60	_____
Registration, accompanying	\$50	_____
_____	TOTAL	_____

ACCOMODATIONS: A limited number of rooms have been set aside at the Delta Bessborough Hotel for the conference. Rates for those making reservations prior to August 28, 1992 are as follows: single or double occupancy \$75. Please make your own reservations through: Delta Bessborough, 601 Spadina Crescent East, Saskatoon, Saskatchewan, Canada S7K 3G8 Telephone: (306) 244-5521 Reservations: 1-800-268-1133 (toll free).

Please return this form and registration fees to:

Dr. J. Soroka  
Joint Meeting 1992, E.S.C.-E.S.S.  
Agriculture Canada Research Station  
102 Science Place  
Saskatoon, Saskatchewan, Canada, S7N 0X2

RÉUNION CONJOINTE DE LA SOCIÉTÉ D'ENTOMOLOGIE DU CANADA ET DE LA SOCIÉTÉ  
D'ENTOMOLOGIE DE LA SASKATCHEWAN

Saskatoon, 27 - 30 septembre, 1992

FORMULAIRE D'INSCRIPTION

Indiquez: Régulier  ou Etudiant

Nom: \_\_\_\_\_ Titre: \_\_\_\_\_  
nom de famille prénom initiales

Adresse: \_\_\_\_\_

Ville: \_\_\_\_\_

Province/Etat: \_\_\_\_\_

Code postal: \_\_\_\_\_ Téléphone: \_\_\_\_\_ (FAX): \_\_\_\_\_

Frais d'inscription en \$Can. (Incluant les frais de banquet et de la T.P.S.) Inscription tardive (après le 15 août 1992) ajoutez \$15.00. Prière d'écrire les cheques au nom de: "1992 ESS/ESC Joint Meeting".

Frais d'inscription, régulier \$100 \_\_\_\_\_

Frais d'inscription, étudiant \$60 \_\_\_\_\_

Frais d'inscription, conjointe \$50 \_\_\_\_\_

\_\_\_\_\_  
Nom du conjointe TOTAL \_\_\_\_\_

**LOGEMENT:** Un nombre limité de chambres ont été réservées à l'Hôtel Delta Bessborough pour la réunion. Les taux pour ceux réservant avant le 28 Août, 1992 sont les suivants: occupation simple ou double \$75. Prière de faire vos réservations directement auprès de: l'Hôtel Delta Bessborough, 601 Spadina Crescent East, Saskatoon, Saskatchewan, Canada S7K 3G8 Téléphone: (306) 244-5521 Réservations: 1-800-268-1133 (sans frais).

Veuillez retourner ce formulaire ainsi que les frais d'inscription à:

Dr. J. Soroka  
Réunion conjointe 1992, S.E.C.-S.E.S.  
Station de Recherches, Agriculture Canada  
107 Science Place  
Saskatoon, Saskatchewan, Canada, S7N OX2



JOINT ANNUAL MEETING OF THE ENTOMOLOGICAL SOCIETY OF CANADA AND  
THE ENTOMOLOGICAL SOCIETY OF SASKATCHEWAN

Saskatoon, 27-30 September

SUBMITTED PAPER, STUDENT PAPER AND POSTER PRESENTATION REPLY FORM

Please return to:

Dr. Ken Plivnick  
Joint Meeting 1992, E.S.C.-E.S.S.  
Agriculture Canada Research Station  
107 Science Place  
Saskatoon, Saskatchewan, Canada, S7N 0X2

Deadline: Postmarked on or before June 30, 1992

Title (not to exceed 15 words): \_\_\_\_\_  
\_\_\_\_\_

Author's Name(s): \_\_\_\_\_  
\_\_\_\_\_

Institution and Address: \_\_\_\_\_  
\_\_\_\_\_

To be presented by: \_\_\_\_\_

Abstract (not to exceed 50 words):

Form of presentation desired (check one):

Regular

President's Prize\*

Oral presentation of 12 minutes plus 3 minutes discussion

Poster Presentation

Projection Equipment: A Kodak Carousel projector and an overhead projector will be available for each session. Slides should be provided in a carousel. Please contact the program chairman if equipment is required.

\*Students are eligible for the President's Prize if they meet the following criteria: (1) They must be enrolled in a graduate degree program or have graduated from the program less than six (6) months prior to the meeting; 2) they must be registered at the Meeting; 3) they must be the principal investigator and sole author of the paper.

RÉUNION CONJOINTE DE LA SOCIÉTÉ D'ENTOMOLOGIE DU CANADA ET DE LA SOCIÉTÉ  
D'ENTOMOLOGIE DE LA SASKATCHEWAN

Saskatoon, 27 - 30 septembre, 1992

FORMULAIRE DE PARTICIPATION: COMMUNICATIONS ORALES RÉGULIAR ET ETUDIANT, ET  
COMMUNICATIONS POSTERS

Veillez retourner à:

Dr. Ken Plivnick  
1992 ESS/ESC Joint Meeting  
Agriculture Canada Research Station  
107 Science Place  
Saskatoon, Saskatchewan, Canada, S7N 0X2

Date limite: au plus tard le 30 Juin 1992

Titre (maximum de 15 mots): \_\_\_\_\_  
\_\_\_\_\_

Auteur(s): \_\_\_\_\_  
\_\_\_\_\_

Organisme et adresse: \_\_\_\_\_  
\_\_\_\_\_

Présenté par: \_\_\_\_\_

Résumé (maximum de 50 mots):

Format de présentation (ne cocher qu'un choix):

Régulier      Le Prix du Président

Communication orale de 12 min. et de 3 min. de discussion

Présentation d'un Poster

Équipement audio-visuel: un projecteur Kodak pour diapositives de 35 mm et un rétroprojecteur seront disponibles à chaque session. Veuillez contacter le responsable du programme si vous avez besoin d'équipement additionnel.

Les étudiants sont éligibles pour le Prix du Président s'ils satisfont les critères suivants: 1) Ils doivent être inscrits dans un programme d'étude post-graduée ou avoir gradué d'un tel programme dans les six (6) mois précédent la Réunion Conjointe; 2) Ils doivent être inscrits à la Réunion Conjointe; 3) Ils doivent être le chercheur principal et le seul auteur de la communication.

# MC CAY, DUFF & COMPANY

CHARTERED ACCOUNTANTS

JOHN W. FRANKLIN, C.A.  
THOMAS W. HOWARTH, C.A.  
BRYAN E. SULLIVAN, C.A.  
ALBERT G. MONSOUR, B.ADMN., C.A.  
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ROBERT D. SHANTZ, B.MATH., C.A.

CONSULTANT - ELDREN E. McCONNELL, C.A.

330 McLEOD ST.  
OTTAWA, ONT.  
K2P 2C5  
(613) 236-2367  
1 (800) 267-6551  
FAX: 236-5041


## AUDITORS' REPORT

To the Members of  
Entomological Society of Canada.

We have audited the balance sheet of the Entomological Society of Canada as at December 31, 1991 and the statements of income, equity and changes in financial position for the year then ended. These financial statements are the responsibility of the Society's management. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with generally accepted auditing standards. Those standards require that we plan and perform an audit to obtain reasonable assurance whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation.

In our opinion, these financial statements present fairly, in all material respects, the financial position of the Society as at December 31, 1991 and the results of its operations and the changes in its financial position for the year then ended in accordance with generally accepted accounting principles.



Chartered Accountants.

Ottawa, Ontario,  
February 28, 1992.

**Balance Sheet as at December 31, 1991**

ASSETS		
GENERAL FUND	1991	1990
CURRENT		
Cash	\$ 56,568	\$115,630
Accounts receivable	50,653	24,237
Accrued interest receivable	7,364	7,615
Prepaid expenses	<u>10,547</u>	<u>5,864</u>
	125,132	153,346
INVESTMENTS (note 2)	<u>244,775</u>	<u>275,075</u>
	<b>369,907</b>	<b>428,421</b>
ENDOWMENT FUND		
Cash	11,855	8,026
Accrued interest	975	975
Investments (note 2)	<u>38,900</u>	<u>38,900</u>
	<b>51,730</b>	<b>47,901</b>
BUILDING FUND		
Fixed asset (note 3)	<b>242,800</b>	<b>242,800</b>
	<b>\$664,437</b>	<b>\$719,122</b>
LIABILITIES		
GENERAL FUND		
CURRENT		
Accounts payable	\$ 25,804	\$ 28,145
Deferred revenue	<u>125,884</u>	<u>127,920</u>
	<b>151,688</b>	<b>156,065</b>
EQUITY		
GENERAL FUND	218,219	272,356
ENDOWMENT FUND	51,730	47,901
BUILDING FUND	<u>242,800</u>	<u>242,800</u>
	<b>512,749</b>	<b>563,057</b>
	<b>\$664,437</b>	<b>\$719,122</b>

**Statement of Equity for the year ended December 31, 1991**

GENERAL FUND		
BALANCE - BEGINNING OF YEAR	1991 \$272,356	1990 \$501,142
Appropriation from (to) Building Fund	(1,512)	(247,085)
	270,844	254,057
Net revenue (expenditure) for the year	(52,625)	18,299
BALANCE - END OF YEAR	<b>\$218,219</b>	<b>\$272,356</b>
ENDOWMENT FUND (note 4)		
BALANCE - BEGINNING OF YEAR	\$47,901	\$43,603
Interest income for the year	4,685	5,098
Page charges and reprints	(856)	(800)
	<u>3,829</u>	<u>4,298</u>
BALANCE - END OF YEAR	<b>\$51,730</b>	<b>\$47,901</b>
BUILDING FUND (note 5)		
BALANCE - BEGINNING OF YEAR	\$242,800	\$ -
Appropriation from General Fund	1,512	247,085
Net rental revenue (expenditure) for the year (schedule)	(1,512)	4,285
BALANCE - END OF YEAR	<b>\$242,800</b>	<b>\$242,800</b>

## Statement of Changes in Financial Position for the year ended December 31, 1991

	<u>1991</u>	<u>1990</u>
CASH PROVIDED BY (USED FOR)		
OPERATING ACTIVITIES		
Cash from operations		
Net revenue (expenditure) for the year		
- General Fund	(\$ 52,625)	\$ 18,299
Net revenue for the year - Endowment Fund	3,829	4,298
Net revenue (expenditure) for the year		
- Building Fund	( 1,512)	( 4,285)
	( 50,308)	18,312
Items not involving cash		
- loss on sale of investments - General Fund	-	480
Net change in non-cash working capital		
balances related to operations - General Fund		
- (increase) decrease in accounts receivable	( 26,416)	13,814
- (increase) decrease in accrued interest		
receivable	251	1,045
- (increase) decrease in prepaid expenses	( 4,683)	( 2,628)
- increase (decrease) in accounts payable	( 2,341)	7,392
- increase (decrease) in deferred revenue	( 2,036)	2,105
- increase (decrease) in due to		
Scholarship Fund	-	( 2,288)
- (increase) decrease in accrued interest		
receivable - Endowment Fund	-	( 450)
	( 35,225)	18,990
INVESTING ACTIVITIES		
Purchase of investments - Endowment Fund	-	( 23,000)
Proceeds on disposal of investments		
- General Fund	30,300	89,420
Purchase of fixed asset - Building Fund	-	( 242,800)
	<u>30,300</u>	<u>( 176,380)</u>
INCREASE (DECREASE) IN CASH POSITION		
DURING THE YEAR		
	( 55,233)	( 138,598)
Cash position - beginning of year	<u>123,656</u>	<u>262,254</u>
CASH POSITION - END OF YEAR	<u>\$ 68,423</u>	<u>\$123,656</u>
CASH POSITION		
Cash - General Fund	\$ 56,568	\$115,630
Cash - Endowment Fund	<u>11,855</u>	<u>8,026</u>
	<u>\$ 68,423</u>	<u>\$123,656</u>

## Statement of Revenue and Expenditure

	BUDGET <i>Can Ent</i>	ACTUAL <i>Can Ent</i>	BUDGET <i>Memoirs*</i>
<b>REVENUE</b>			
Regular memberships	\$22,000	\$20,505	\$2,000
Student memberships	1,800	1,780	-
Sustaining memberships	-	-	-
Subscriptions	96,266	91,573	48,134
Reprints	14,500	16,732	-
Page charges	30,000	32,335	25,000
Back issues	4,000	5,081	-
Sales of <i>Memoirs</i>	-	-	4,000
Sales of Arctic Arthropods and Bibliography	-	-	-
Gain on currency exchange	-	-	-
Miscellaneous	-	-	-
	<b>168,566</b>	<b>168,006</b>	<b>79,134</b>
<b>EXPENDITURE</b>			
Publishing and mailing costs	94,000	102,687	63,000
Reprint costs	7,800	11,195	-
<i>Bulletin</i> publishing and mailing	-	-	-
Salaries and benefits	58,217	55,416	21,455
Editor's expenses	5,000	3,638	3,000
Office	2,000	4,248	1,000
Professional fees	1,800	1,650	-
Prizes, awards, brochure, etc.	-	-	-
Graduate research/travel scholarship	-	-	-
Honoraria	1,209	1,209	400
Committees:			
Insect Common Names	-	-	-
Science Policy	-	-	-
Other	-	-	-
Support of other organizations	-	-	-
Annual Meeting:			
Grant	-	-	-
Honorees	-	-	-
Governing Board:			
Interim meeting	-	-	-
Annual meeting	-	-	-
Other meetings	-	-	-
President's discretionary expenses	-	-	-
General	-	-	-
	<b>170,026</b>	<b>180,043</b>	<b>88,855</b>
<b>REVENUE (EXPENDITURE) FOR THE YEAR</b>			
<b>FROM OPERATIONS</b>	(1,460)	(12,037)	(9,721)
Interest on investments	-	-	-
Gain (loss) on sale of investments	-	-	-
	-	-	-
<b>NET REVENUE (EXPENDITURE) FOR THE YEAR</b>	<b>(\$1,460)</b>	<b>(\$12,037)</b>	<b>(\$9,721)</b>

for the year ended December 31, 1991

ACTUAL <i>Memoirs*</i>	BUDGET SOCIETY	ACTUAL SOCIETY	1991 BUDGET	1991 ACTUAL	1990 ACTUAL
\$1,990	\$22,000	\$20,505	\$46,000	\$43,000	\$45,475
-	1,800	1,780	3,600	3,560	3,760
-	200	-	200	-	200
45,787	-	-	144,400	137,360	142,188
-	-	-	14,500	16,732	17,257
33,425	-	-	55,000	65,760	47,478
-	-	-	4,000	5,081	3,998
13,696	-	-	4,000	13,696	4,643
-	500	265	500	265	390
-	-	1,194	-	1,194	1,107
-	4,000	3,320	4,000	3,320	7,527
<b>94,898</b>	<b>28,500</b>	<b>27,064</b>	<b>276,200</b>	<b>289,968</b>	<b>274,023</b>
96,980	-	-	157,000	199,667	122,555
-	-	-	7,800	11,195	7,958
-	21,800	13,935	21,800	13,935	15,840
20,423	12,304	11,712	91,976	87,551	90,492
2,183	-	-	8,000	5,821	7,518
2,124	2,000	4,248	5,000	10,620	16,057
-	1,800	1,650	3,600	3,300	3,100
-	1,400	1,156	1,400	1,156	1,455
-	4,000	3,806	4,000	3,806	4,000
400	2,416	2,416	4,025	4,025	3,625
-	1,000	1,044	1,000	1,044	-
-	2,000	-	2,000	-	142
-	500	-	500	-	-
-	17,900	13,434	17,900	13,434	3,027
-	4,000	4,000	4,000	4,000	4,000
-	3,000	1,585	3,000	1,585	1,259
-	2,900	3,573	2,900	3,573	2,417
-	8,000	7,284	8,000	7,284	12,551
-	1,500	730	1,500	730	2,181
-	3,000	889	3,000	889	1,355
-	-	1,247	-	1,247	544
<b>122,110</b>	<b>89,520</b>	<b>72,709</b>	<b>348,401</b>	<b>374,862</b>	<b>300,076</b>
(27,212)	(61,020)	(45,645)	(72,201)	(84,894)	(26,053)
-	36,000	32,269	36,000	32,269	44,832
-	-	-	-	-	(480)
-	<b>36,000</b>	<b>32,269</b>	<b>36,000</b>	<b>32,269</b>	<b>44,352</b>
<b>(\$27,212)</b>	<b>\$25,020</b>	<b>\$13,376</b>	<b>\$36,201</b>	<b>\$52,625</b>	<b>\$18,299</b>

\* and other publications

## Notes to Financial Statements - December 31, 1991

### 1. SIGNIFICANT ACCOUNTING POLICIES

(a) Revenues and expenses are recorded on the accrual basis, whereby they are reflected in the accounts in the period in which they have been earned and incurred respectively, whether or not such transactions have been finally settled by the receipt or payment of money.

(b) Furniture and equipment purchases are expensed in the year of acquisition, except for the building which has been capitalized. No depreciation is being taken on the building.

(c) Entomological Society of Canada is incorporated without share capital under Part II of the Canada Companies Act and is a non-taxable organization.

### 2. INVESTMENTS

GENERAL FUND	1991	1990
Bonds, at cost (market value 1991- \$262,850; 1990 - \$272,275)	\$244,775	\$275,075
ENDOWMENT FUND		
Bonds, at cost (market value 1991- \$44,208; 1990 - \$40,515)	\$38,900	\$15,900

### 3. FIXED ASSET

Land and building, at cost	\$242,800	\$242,800
----------------------------	-----------	-----------

### 4. ENDOWMENT FUND

The direction of the bequest, by which this fund was founded, states that without imposing any legal obligation, hope is expressed that the principal will not be eroded and that the income will be utilized to aid in the publication of *The Canadian Entomologist*.

### 5. BUILDING FUND

This fund was created through an appropriation from the General Fund to recognize the expenses of the building independent of operational expenditures.

## Schedule of Rental Revenue (Expenditure) for the year ended December 31, 1991

	1991 BUDGET	1991 ACTUAL	1990 ACTUAL
REVENUE			
Rental income	\$8,640	\$6,700	\$ -
EXPENSES			
Insurance	350	352	344
Property taxes	4,100	4,066	2,012
Repairs and maintenance	920	2,457	857
Utilities	<u>1,760</u>	<u>1,337</u>	<u>1,072</u>
	<u>7,130</u>	<u>8,212</u>	<u>4,285</u>
NET RENTAL REVENUE (EXPENDITURE) FOR THE YEAR	\$1,510	(\$1,512)	(\$4,285)



# MC CAY, DUFF & COMPANY

CHARTERED ACCOUNTANTS

JOHN W. FRANKLIN, C.A.  
THOMAS W. HOWARTH, C.A.  
BRYAN E. SULLIVAN, C.A.  
ALBERT G. MONSOUR, B.ADMN., C.A.  
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FAX: 236-5041

## AUDITORS' REPORT

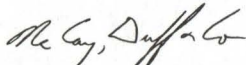
To the Members of  
Entomological Society of Canada -  
Scholarship Fund.

We have audited the balance sheet of the Entomological Society of Canada - Scholarship Fund as at December 31, 1991. This financial statement is the responsibility of the Fund's management. Our responsibility is to express an opinion on this financial statement based on our audit.

Except as explained in the following paragraph, we conducted our audit in accordance with generally accepted auditing standards. Those standards require that we plan and perform an audit to obtain reasonable assurance whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation.

In common with many charitable organizations, the organization derives a part of its revenue from cash donations, the completeness of which is not susceptible to satisfactory audit verification. Accordingly, our verification of this revenue was limited to the amounts recorded in the records of the organization and we were not able to determine whether any adjustments might be necessary to donation revenues, excess of revenue over expenditure, assets and equity.

In our opinion, except for the effect of adjustments, if any, which we might have determined to be necessary had we been able to satisfy ourselves concerning the completeness of donations referred to in the preceding paragraph, this financial statement presents fairly, in all material respects, the financial position of the Fund as at December 31, 1991 and the results of its operations for the year then ended in accordance with generally accepted accounting principles.



Chartered Accountants.

Ottawa, Ontario,  
February 27, 1992.

## Scholarship Fund - Balance Sheet as at December 31, 1991

### ASSETS

	<u>1991</u>	<u>1990</u>
<b>CURRENT</b>		
Cash	\$29,591	\$8,930
Accrued interest receivable	<u>1,209</u>	<u>1,113</u>
	30,800	10,043
<b>INVESTMENTS</b> (note 2)	<u>59,000</u>	<u>63,925</u>
	<b>\$89,800</b>	<b>\$73,968</b>

### EQUITY

<b>INCOME FUND</b>		
BALANCE - BEGINNING OF YEAR	\$18,842	\$15,237
Gain on sale of investment	75	-
Interest income	<u>7,591</u>	<u>7,605</u>
	26,508	22,842
Scholarship awards	<u>4,000</u>	<u>4,000</u>
BALANCE - END OF YEAR	22,508	18,842
<b>CAPITAL FUND</b>		
BALANCE - BEGINNING OF YEAR	55,126	49,717
Donations received	<u>12,166</u>	<u>5,409</u>
BALANCE - END OF YEAR	<u>67,292</u>	<u>55,126</u>
	<b>\$89,800</b>	<b>\$73,968</b>

## Notes to Financial Statement (Scholarship Fund) - December 31, 1991

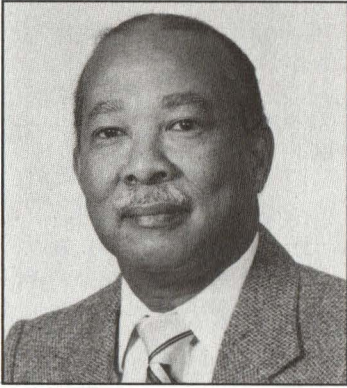
### 1. SIGNIFICANT ACCOUNTING POLICY

Revenues and expenses are recorded on the accrual basis, whereby they are reflected in the accounts in the period in which they have been earned and incurred respectively, whether or not such transactions have been finally settled by the receipt or payment of money.

### 2. INVESTMENTS

	1991	1990
Bonds, at cost (market value		
1991 - \$63,123; 1990 - \$64,501)	<b>\$59,000</b>	<b>\$63,925</b>

## MEMBERS IN THE NEWS



### Dr. Ozzie Morris - Retirement Notice

Dr. Ozzie Morris retired from Agriculture Canada in June 1991, although he continues to work 1/3 time on a contract that will be finished June 1992.

Dr. Morris completed his B.Sc. from Tufts University in Boston, received his M.A. from Boston University and his Ph.D. from Rutgers University. He did postdoctoral work in France with Institut National de la Recherche Agronomique and in Belgium at the Université Libre de Bruxelles.

He worked in Canada with the Departments of Forestry and Environment from 1960 to 1982. Initially, he worked in Victoria as an insect pathologist at the Pacific Forest Research Centre and then transferred to the Chemical Control Research

Institute in Ottawa to develop application technology for *Bacillus thuringiensis*. In 1978, he transferred to the Forest Pest Management Institute at Sault Ste. Marie, where he continued research on *B.t.*. In 1982 he left the forests of northern Ontario for the plains of Manitoba to work on microbial control of the crop insect pests at Agriculture Canada in Winnipeg. There he concentrated on developing indigenous *B.t.* strains with a view to commercial development. Dr. Morris was one of the Canadian pioneers in *B.t.* research and development.

Dr. Morris has received many honours during his career; Secretary, Society for Invertebrate Pathology; Editorial Board, Asia Life Sciences; Scientific Exchange with Czechoslovakia Academy of Science; Certificate of Appreciation from USDA for his contribution to the control of spruce budworm in Canada and the USA; Co-Chair Canada/USA *B.t.* Forestry Applications; Chair of the ESC Science Policy Committee Task Force on Microbial Insecticides. Also he has worked with IDRC for the past 6 years on *B.t.* technology transfer to developing countries.

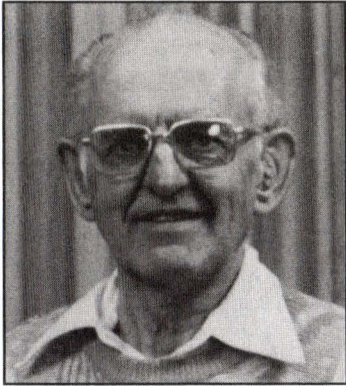
Once retired, Dr. Morris will consult on a part-time basis in microbial control of pests in agriculture, forestry, animal and human health at the national and international level. If you would like to get in touch with Dr. Morris he can be reached at 30 Sunbury Place, Winnipeg, MB, R3T 5B1, telephone (204) 261-1265.

Paul Fields  
Agriculture Canada  
Winnipeg, Manitoba

### Charles Vincent - winner of the Leon Provancher Prize

Charles Vincent, entomologist at the Agriculture Canada Research Station at Saint-Jean-sur-Richelieu, was awarded the Leon Provancher prize by the Entomological Society of Quebec in recognition of his contributions to Quebec entomology. Vincent was recognized at the joint meeting of the Entomological Society of Canada, Entomological Society of Quebec, and the Entomological Society of Ontario.

## IN MEMORY



### Bill Mason (1921-1991)

William Richardson Miles Mason died peacefully on December 24, 1991 after suffering a stroke several days earlier. Bill was born in Lucknow, India, on November 29, 1921. He joined the Systematic Entomology Unit of Agriculture Canada (later referred to as the Biosystematics Research Institute) on November 16, 1948.

Bill received his B.Sc. in 1942 from The University of Alberta where he studied under Prof. E. O. Strickland. During the war he was a navigator for the Royal Air Force and participated in many bombing missions over Germany. After the war, he attended Cornell University and received his Ph.D. in 1952.

Bill's scientific interests were centred on the systematics of the Braconidae and Ichneumonidae (Hymenoptera). Of his many scientific publications, perhaps the most significant is his revision of *Apanteles s.l.* (Mason, 1981), which included a reclassification of the Microgastrinae. This subfamily, with an estimated 15,000 to 25,000 species, is the most important group of Ichneumonoidea in the natural and biological control of insects.

Bill was editor of the Canadian Entomologist for three years in the early sixties; also during the sixties Bill was head of the Hymenoptera section of the Systematic Entomology Unit. He was an avid collector and headed or participated in more than 20 expeditions. His numerous forays to the arctic and his trips to Mexico and Nepal are especially important for the wealth of material that was collected. About 9% of the Hymenoptera in the Canadian National Collection was collected by Bill.

In 1986, after 38 years of service, Bill Mason retired. However, he still came to work daily, maintained a busy schedule and published regularly, even after a heart attack and by-pass surgery. Several of Bill's projects will be published posthumously. His contributions to the manual of the Hymenoptera of the world (due to be published this year) are outstanding since Bill was the principal author of the superfamily section which is the template for the remainder of the manual.

A good natured fellow, Bill was always willing to discuss any of a wide variety of subjects (entomology, climatology, classical music, theatre, etc.). He continually lifted the spirits of his friends and colleagues and is greatly missed.

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M.J. Sharkey  
CLBRR, Ottawa

# CONDOLENCES

We extend our condolences to the families, friends, and colleagues of the following deceased members of the Entomological Community:

**H.S. (Jim) Short** died November 27th 1991 in his 99th year. He worked for Plant Protection and was in charge of the gypsy moth survey in the eastern townships in the late 1920's.

**Mike Timonin** died shortly after his 91st birthday. He was a microbiologist interested in the chemistry of insects and was a frequent visitor at the old Chemical and Biology and the Biosystematics Research Institutes.

**Tom Silvers** died September 12th 1991 at the age of 68. He was the former Director at the (then) Northern Forest Research Centre.

From *Newsletter for Senior Entomologists and Associates* (Issue No. 7)

## NEWS OF ORGANIZATIONS

### International Commission on Zoological Nomenclature

Applications published in the *Bulletin of Zoological Nomenclature*

The following applications were published on 26 March 1992 in Vol. 49, Part 1 of the *Bulletin of Zoological Nomenclature*. Comment or advice on these applications is invited for publication in the *Bulletin of Zoological Nomenclature* and should be sent to the Executive Secretary, I.C.Z.N., c/o The Natural History Museum, Cromwell Road, London SW7 5BD.

Case 2798 ***Lincus Stål, 1867 (Insecta, Heteroptera): proposed conservation, and *L. croupius* Rolston, 1983: proposed conservation of the specific name***

L. H. Rolston

Department of Entomology, Louisiana Agricultural Experiment Station, Louisiana State University Agricultural Center, Baton Rouge, Louisiana 70803, U.S.A.

**Abstract.** The main purpose of this application is the conservation of the shield bug generic name *Lincus* Stål, 1867. (PENTATOMIDAE) by the suppression of the unused senior subjective synonym *Audinetella* Spinola, 1850. Species of *Lincus* are vectors of diseases of cultivated palms in South America caused by flagellates (*Phytomonas* sp.). One of these species is *L. croupius* Rolston, 1983, and the conservation of its specific name by the suppression of the unused subjective synonym *bipunctata* Spinola, 1850 is also proposed.

Case 2764 ***Acrolocha* Thomson, 1858 (Insecta Coleoptera): proposed conservation and *Coprophilus* Latreille, 1829: proposed designation of *Staphylinus striatulus* Fabricius, 1792 as the type species**

Margaret K. Thayer

Field Museum of Natural History, Roosevelt Road at Lake Shore Drive, Chicago, Illinois 60605, U.S.A.

**Abstract.** The purpose of this application is to conserve the usage of the names *Acrolocha* Thomson, 1858 and *Coprophilus* Latreille, 1829 for genera of rove beetles (STAPHYLINIDAE). *Acrolocha* is threatened by the senior objective synonym *Elonium* Leach in Samouelle, 1819, a name that has caused confusion because it has been used for two different taxa, *Acrolocha* and *Coprophilus* in the OMALIINAE and OXYTELINAE respectively. The usage of *Coprophilus* is maintained by the proposed designation of *Staphylinus striatulus* Fabricius, 1792 as the type species.

**Case 2782 *Carabus mollis* Marsham, 1802 (currently *Calathus mollis*; Insecta, Coleoptera): proposed conservation of the specific name**

B. Aukema  
Plant Protection Service, P.O. Box 9102, 6700 HC Wageningen, The Netherlands

M. L. Luff  
University of Newcastle upon Tyne, Newcastle upon Tyne, NE1 7RU, U.K.

**Abstract.** The purpose of this application is to conserve the specific name of the ground beetle *Carabus mollis* Marsham, 1802 by suppression of its unused senior homonym *Carabus mollis* Ström, 1768.

**Case 2796 *Helophorus* Fabricius, 1775 (Insecta, Coleoptera): proposed conservation of the original spelling**

R. B. Angus  
Department of Biology, Royal Holloway and Bedford New College, Egham, Surrey TW20 0EX

**Abstract.** The purpose of this application is to conserve the name *Helophorus* Fabricius, 1775 for an important genus of water beetle, originally spelt *Elophorus*. Illiger (1801) emended this to *Helophorus* and this spelling is now almost universally used. However, Illiger's emendation was unjustified and it is proposed to rule that *Helophorus* is the correct original spelling.

**Case 2776 *Meladema* Laporte, 1835 (Insecta, Coleoptera): proposed conservation**

Anders N. Nilsson  
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**Abstract.** The purpose of this application is the conservation of the name *Meladema* Laporte, 1835, for a genus of water diving beetles. It is threatened by *Scutopterus* Dejean, 1833, an unused senior synonym.

**Case 2733 *Mycetoporus* Mannerheim, 1831 (Insecta, Coleoptera): proposed designation of *Tachinus punctus* Gravenhorst, 1806 as the type species; proposed conservation of *Ischnosoma* Stephens, 1829; and proposed precedence of *Mycetoporus* over *Ischnosoma***

J. M. Campbell  
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**Abstract.** The purpose of this application is to designate *Tachinus punctus* Gravenhorst, 1806 as the type species of *Mycetoporus* Mannerheim, 1831 in accordance with universal understanding and usage. The genus, which is widespread in Europe, Siberia and North America, is included in the large family of rove beetles STAPHYLINIDAE. It is proposed that *Ischnosoma* Stephens, 1829 should also be conserved and that *Mycetoporus* should be given precedence over *Ischnosoma*.



The following Opinions were published on 26 March 1992 in Vol. 49, Part 1 of the *Bulletin of Zoological Nomenclature*

Opinion 1667. *Thalassochernes* Beier, 1940 (Arachnida, Pseudoscorpionida): *Chelifer taiereus* With, 1907 designated as the type species

Opinion 1669. *Dalla* Mabille, 1904 (Insecta, Lepidoptera): conserved

Opinion 1670. *Calliphora vicina* Robineau-Desvoidy, 1830 (Insecta, Diptera): specific name conserved

## PUBLICATIONS BOOK NOTICES

**Jansson, R.K. and K.V. Raman (Eds.). 1991. *Sweet Potato Pest Management: A Global Perspective*. Westview Press, Boulder, Colorado. xv + 458 pp. Hardcover. \$(U.S.) 85.00.**

This book consists of a number of chapters by different authors from around the world and addresses the management of pests of this crop such as the sweet potato weevil, wireworms, chrysomelid and flea beetles, vine borers, plant-parasitic nematodes, and aphid and whitefly vectors and their associated viruses. Particular attention is given to the sweet potato weevil complex, emphasizing their taxonomy and biological control. New data are presented on logistical control of sweet potato pests, and case studies are given of integrated pest management programs in developing countries. The authors also address the breeding of resistant cultivars and the socioeconomic problems of pest management.

**Owen, J. 1991. *The Ecology of a Garden*. Cambridge University Press, Cambridge, New York, Port Chester, Melbourne, Sydney. xii + 403 pp. Hardcover. Purchase price not given.**

This book is the result of a 15-year (1972-1986) study of the author's garden located in a suburb of the industrial city of Leicester in the Midlands of England. In total, 1,782 animal and 422 plant species were recorded, and the diversity, abundance, and yearly fluctuations of many animal groups were monitored. For species of insect orders that include Lepidoptera, Diptera, Hymenoptera, and Coleoptera, descriptions are given of their natural history, species diversity and abundance, annual and seasonal population fluctuations, breeding, and their status in Leicestershire. Similar information is provided for non-insect invertebrates and vertebrates. Results of this study lead Dr. Owen to suggest that with increasing despoliation of the countryside, suburban gardens will have considerable importance for the conservation of wildlife

**Pittaway, A.R. 1991. *Arthropods of Medical and Veterinary Importance: A Checklist of Preferred Names and Allied Terms*. C.A.B. International, Wallingford, Oxon, UK. 178 pp. Paperback. \$(U.S.) 28.50.**

This checklist is intended to provide a single reliable reference source of the important species and genera of arthropods in human and veterinary medicine. The checklist also includes names of the most important diseases transmitted by arthropod vectors, biological control agents used to control vectors, and important synonyms. The book is laid out with the name of the organism to the left (whether correct or incorrect), followed by the author of the species name. To the right is the family, order, or class name of the organism or the correct name if the name to the left is an incorrect synonym. In total, about 7,500 entries are included.

## BOOK REVIEWS

**Clifford, H.F. 1991. *Aquatic Invertebrates of Alberta*. The University of Alberta Press, Edmonton, Alberta. xii + 538 pp. Hard cover \$82.00 (Can.); soft cover \$72.00 (Can.).**

This book arose from a course on aquatic invertebrates taught by Clifford at the University of Alberta, and from collections made by students in that course.

The book covers all groups of multicellular invertebrate animals with aquatic representatives in Alberta (Porifera, Hydrozoa, Microturbellaria, Tricladida, Nematoda, Nematomorpha, Gastrotricha, Rotifera, Bryozoa, Oligochaeta, Hirudinea, Gastropoda, Pelecypoda, Tardigrada, Crustacea, Arachnida, and Insecta). For each group, and for each order of arthropod, there is a list of taxa reported from Alberta, a key, line drawings and/or photographs of representative taxa, brief notes on biology, life history and habitats, information on collection, preservation and identification, and references to more detailed taxonomic works and to relevant studies conducted in Alberta.

The keys are pictorial and are amply illustrated with line drawings showing key features. For the most part, Clifford has chosen characters that are easy to see and use (e.g. the separation of *Hyaella* from *Gammarus* by the presence of dorsal spines and the use of color patterns for distinguishing species of leeches). I find Clifford's keys easier to use than those in other aquatic invertebrate guides.

The level of identification varies from group to group. Most keys are to genus. However, for some of the smaller, better-known groups (e.g. sponges, triclads, and malacostracans) keys are to species. On the other hand, there is no key at all for freshwater nematodes, which are very poorly known. The lists of taxa reported from Alberta similarly vary in detail among groups. Most lists are of species or genera. Unfortunately, lists report only genera for insects (except for some families of hemipterans, for which species lists are given).

The accuracy of the keys and other information provided also appears to be very high. I have found only two, relatively small errors or omissions in the keys (although my expertise with many of the groups is limited). The mayfly (Ephemeroptera) genera *Leucrocuta* and *Nixe*, which were split from *Heptagenia* by Flowers in 1980 (*Florida Entomologist* 63: 296-307), have not been included. Both of these genera are found in Alberta. And there is an apparent typographical error in the key to limnephilid (Trichoptera) genera (in key E on page 338, the two options in the last couplet appear to be reversed). The list of specialists who have reviewed sections of this book should give one considerable confidence in the keys and other information.

There is no key to major groups or phyla, although the absence of a key to phyla is common to aquatic invertebrate guides and there is a key to the classes of arthropods. The numerous figures should be helpful for initial recognition of major groups; however, novices may still have difficulty here.

The 115 line drawings are all of excellent quality, as are most of the 203 color photographs. Except for the seven photographs of cladocerans, all photographs are in color. Many of the drawings occupy an entire page each. These figures are extensive, and should be of considerable aid in checking identifications. They also make the book very attractive.

The list of references to studies of aquatic invertebrates in Alberta is also extensive and very thorough.

An additional feature of Clifford's book, which I have not seen in similar books, are lists and brief descriptions of taxa not reported from Alberta. These lists include taxa known from other parts of North America, particularly from regions near Alberta. This prepares users for potential new discoveries from Alberta and increases the geographical area within which the book is useful.

This book is particularly well designed for those with little or no prior knowledge of aquatic invertebrates. It should be very useful for undergraduate courses in aquatic biology. It should also be useful to anglers, government biologists, private consultants, and high school teachers interested in the identification and biology of aquatic invertebrates. Although designed as a guide to Alberta, the book should also be useful in adjacent regions, particularly if used with caution and with reference to the "taxa not reported from Alberta" section. The price is perhaps a bit high for the interested amateur or student, but is certainly not unreasonable for a book of this size and with this many color photographs.

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Department of Biology,  
University of Saskatchewan,  
Saskatoon, Saskatchewan

**Collins, N. M. and J. A. Thomas (eds.) 1991. *The Conservation of Insects and Their Habitats*. Academic Press, Harcourt Brace Jovanovich, Ltd., London. ISBN 0-12-181370-3. xviii + 450 pp., figures and tables. Hard cover, \$(U.S.) 79.00.**

This book publishes the proceedings of the 15th Symposium of the Royal Entomological Society of London held on 14-15 September 1989; it lives up to the excellent reputation of the symposium volumes that precede it.

Insects are the most diverse group of organisms on earth. And yet, as Martin Holdgate, Director General of IUCN, notes in his Forward to the book, because of a lack of significant exploration and taxonomic resources we do not know what, or how many, species we are losing, or at what rate. Insects have great ecological importance and if the rates of species loss are high, as we suspect they are, then the conservation of this significant part of the world's biological diversity should be of concern to more than a handful of active entomologists.

How should action be taken? How can entomologists directly affect conservation strategies and approaches? This book looks at these issues and consolidates much useful information on the diversity of insect habits, the sensitivity of insects to environmental change, the value of insects to humans, and practical proposals for conservation.

The content and presentation of the 15 chapters are of consistently high quality. The book begins with a call to arms. This introduction stresses the difficulties of conserving insects and outlines the essentials of the scientific problem and the need for better communication among individuals and conservation organizations. Although the book is not formally divided into sections (each chapter stands on its own), the chapters can be grouped into several general categories. Discussions on the status, problems and perspectives of insect conservation in several geographical regions are treated. Included are chapters on North America, the Neotropics, Australia, Europe, and the Mediterranean basin.

Several particular environments are examined in their own detailed chapters: European woodlands, European grasslands (with special reference to Lepidoptera as indicators of change, arable farmland (in Britain), tropical forests, and aquatic and wetland habitats (special reference to beetles).

A chapter on the utilization and value of non-domesticated insects puts the potential loss of insect diversity into clear perspective. Chapters on insect conservation on islands; the creation of new and successional habitats for insects; and the fragmentation, isolation and mobility of insect populations - all unite ecological theory with practical conservation ideas. The book ends with outlines of the eight posters presented at the Symposium. These range from the conservation activities of the Amateur Entomologists' Society (Britain) to the utility of captive breeding, and from the management of plantation woodlands for insects to the long-term monitoring of conserved habitats on Krakatau (Indonesia).

The 36 contributors and the editors of this volume have created a balanced, detailed and worthwhile compendium of information on the threats to insect populations and the conservation of this diverse fauna. The mix of theory and practice is stimulating; the examples of conservation efforts and research are encouraging. The book is attractive and well designed, with dozens of clear and elegant figures and many useful references. This is, perhaps, the first book devoted to insect conservation and it is recommended to anyone interested in this vital endeavour. The problems facing conservationists are immense; there is much to be done. This book can be an impetus for action.

Rob Cannings  
Guelph

**Muirhead-Thomson, R. C. 1991. *Trap Responses of flying insects (The influence of Trap Design on Capture Efficiency)*. Academic Press, Toronto. xii + 298 pp. Hard cover, \$(U.S.) 63.00.**

Insect trapping is a central subject to the entomologist, be it professional or amateur. The abundant literature on insect trapping reflects the diversity of situations and objectives pursued by persons involved in trapping. The idea in writing *Trap Responses of flying insects* is certainly valuable. In my opinion R. C. Muirhead-Thomson achieved his objective of presenting a balanced treatment that reconciles the often non-overlapping literature of agricultural and medical entomology.

The format, 16 x 24 cm, is convenient and the typesetting is excellent. The binding of the hardcover copy I examined was of good quality. The figures have been redrawn in a unified, pleasant and efficient style. The author chose to cite the measurement units as they appeared in the original papers.

The book is divided into nine chapters, namely 1) Light traps, 2) Suction traps, 3) Pheromone-based and sex lure traps, 4) Light traps versus pheromone traps, 5) Flight traps and interceptor traps, 6) Plant pest responses to visual and olfactory 'sticky' traps, 7) Responses of blood-sucking flies to visual traps, 8) Animal-baited traps and animal odours, 9) Attraction of blowflies and their allies to carrion-based traps. An outline is conveniently presented at the beginning of each chapter and numbering of subheadings helps the reader to navigate easily within chapters.

The text is well written and exempt of grammatical error or typos. Admittedly, Muirhead-Thomson had to select articles to show his points. However, the treatment remains objective and the author avoided the pitfall of naming trade names. Historic background and fair judgements are presented so that information is easy to digest. The geographical scope of the book is wide, examples are drawn from the U.S.A. and Commonwealth countries, namely the U.K., a few English-speaking countries of Africa, India, Australia and Canada. Research works concerning subjects such as bark beetles, horse flies and the spruce budworm are discussed fairly thoroughly and, consequently, the work of many members of the Entomological Society of Canada is cited in the ca. 350 reference listed at the end of the book.

The major weakness of the book is that it ends with no conclusion or conclusive statement whatsoever. In fact, the book abruptly finishes with a table.

The reader looking for a balanced treatment on insect trapping should definitely consult this book. In doing so, the agricultural entomologists could benefit from more of the work by medical entomologists and vice-versa. It should be pointed out however that the title (and subtitle) is explicit. Therefore, information on trapping insects in non-flying situations, for instance pitfall trapping, is absent. I would certainly recommend *Trap Responses of flying insects* as a reference book in University or Research Station libraries.

Charles Vincent  
Station de recherches, Agricultural Canada  
430 boul. Gouin, Saint-Jean-sur-Richelieu  
Quebec, J3B 3E6

**Schuster, R. and P. W. Murphy (Eds.). 1991. *The Acari. Reproduction, development and life-history strategies*. Chapman and Hall, London, etc. 554 pp. Hardcover, \$(Can.) 262.00, \$(U.S.) 210.00.**

Mites comprise many tens of thousands of species, and they occupy a very wide range of habitats (predation, parasitism, phytophagy, saprophagy, etc.). Such diversity includes a range of fascinating biological features, not all of which have been fully realized by entomologists, partly because of the small size of most species of mites. For example, there are mites that feign death, that jump, and that are associated with plant exudates in providing a predator presence on plant surfaces (cf. ants). In recent years, however, as the taxonomy of mites has advanced, several broader treatments of the biology of the group have appeared.

The present volume results from a symposium of the European Association of Acarologists, held in Austria in August 1988. It consists of 7 invited papers (all except one of them 20-40 pages), and 51 mostly shorter sections derived from contributed papers. There are indexes to species (plant and animal), authors and subjects. The book is organized into five parts, dealing (with some overlap) with Life-history strategies (5 chapters), Reproduction (11 chapters), Diapause, development and trophic relations (9 chapters), Systematics, morphology, physiology and behaviour (13 chapters) and Field studies and applied aspects (20 chapters), though many of the latter are less directly relevant to the theme of the title. The 58 chapters are attributed to 84 authors from Europe, 4 from North America, and 1 from Israel.

The invited chapters usefully discuss and review life-history strategies in a broad framework (Lebrun et al; Salbelis), genetic polymorphism in *Lepidoglyphus destructor* (Knülle), spermatology (Alberti), parthenogenesis in oribatids (Norton and Palmer), indirect sperm transfer (White), and physiological aspects of diapause in plant-inhabiting species (Veerman). Here and in some contributed chapters features of interest well beyond acarology are explored. Among others, the persistent signals (threads, pheromones) associated with spermatophores that are deposited on the substrate independent of females, the broad range of sperm types in mites, the widespread occurrence of parthenogenesis in oribatids and its possible origins and explanations, and pseudoarrhenotoky (elimination of paternal chromosomes from the zygote to produce haploid males, in species with diploid females) are treated. Unfortunately, the titles of cited papers are omitted from the reference lists, reducing their value for the more general reader. This feature also makes it difficult to compensate for the occasional citation error (e.g. in chapter 7, "Norton et al. 1989" in the text, but no "1989" and two different "1988b" citations in the references).

The contributed chapters vary greatly in subject matter and quality. Some, in a variety of fields, provide interesting results about structural features, aspects of sex ratio and other topics. A number of the contributed chapters (and the invited paper by Knülle) simply summarize studies published elsewhere. Some such contributed papers occupy only a page or two or even consist simply of a short abstract, and are too brief to be very informative. Others focus on very narrow topics.

The work therefore is uneven. A further major weakness of the volume is lack of any overview or thematic development by the editors. A short paragraph in the preface briefly foretells the interest of subsequent chapters, but there are no sectional introductions nor concluding commentary that would make the book more cohesive and assist the reader to acquire a sense of the implications of some of the diverse information presented. The volume is well produced and attractively bound, but nonetheless is an assembly of pieces rather than a book.

Readers will find information of interest to them in many, but by no means all, of the individual chapters. In the absence of an overview, however, the lack of cohesion among chapters, a lack of originality in some contributions, and wide differences in the depth of treatment make the price of this volume unduly high for an individual purchaser. Nevertheless, some libraries will want a copy for reference, especially to make available some of the longer reviews, and to act as a partial introduction to the literature on many interesting biological features of mites.

H. V. Danks  
Biological Survey of Canada  
(Terrestrial Arthropods)  
Canadian Museum of Nature  
Ottawa

## **POSITIONS AVAILABLE**

### **Research Associate Insect Endocrinology/Biotechnology**

Applications are invited for a research associate position, available July 1, 1992. Ph.D. in Insect Biology/Entomology/Biotechnology and experience with biochemical regulation of insect endocrine systems by neuropeptides and second messengers required. Publications in insect endocrinology and training in insect microsurgery, cell culture, radioisotope techniques and HPLC. Strong background in insect behaviour and in UNIX- and MS-DOS-based computer applications relating to spreadsheets, graphics, electronic communications and statistics also required. Knowledge of plant secondary metabolism also helpful. Applicant must be able to work cooperatively in projects that will include the isolation and cloning of modulators of endocrine gland activity in insects and crustaceans. Salary commensurate with experience; minimum \$24,000. Application deadline: July 1, 1992. Send curriculum vitae, brief statement of research experience and names of three references to: Dr. S.S. Tobe, Department of Zoology, University of Toronto, 25 Harbord St., Toronto, Ontario, M5S 1A1.

This advertisement is directed to Canadian citizens and permanent residents of Canada. The University of Toronto encourages both women and men to apply for positions.

# SCHOLARSHIPS AND GRANTS

## Entomological Society of Canada - Postgraduate Awards 1992

### 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 1991 and 31 December 1992. 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 student 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 **12 June 1992**.

*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, 1992.

### 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 publication costs, etc., will not, under any circumstances, be authorised.

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

Dr. R. West, ESC Secretary  
Forestry Canada, Newfoundland and Labrador Region  
P.O. Box 6028  
St. John's, Newfoundland A1C 5X8  
Fax 709-772-2576

## Bourses pour Étudiants Post-Gradués 1992

### 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 1991 et le 31 décembre 1992, et effectué 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 attachés au statut d'étudiant gradué. Un étudiant qui n'a pu être admis à une École des Gradués, ou 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 **12 juin 1992**.

*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 ou ils recevront un certificat. Le paiement de la bourse aura lieu en octobre 1992.

### 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 aucune 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  
Forestry Canada, Newfoundland and Labrador Region  
P.O. Box 6028  
St. John's, Newfoundland A1C 5X8  
Fax 709-772-2576



## **NOTICE from the Department of National Defence**

The Department of National Defence (DND) is accepting review proposals for research projects relevant to biocontrol and other environmentally responsible methods for the management of pests relevant to DND operations.

Pest management of primary concern to DND includes biting arthropods in the Canadian environment (including personal protective or repellent systems), stored product and structural pests, and vegetation management in training areas. As well, forest and landscape pests may be considered.

The receipt of application does not constitute an agreement for funding. Proposals and requests for information can be forwarded to:

Mr. Robert Cretain, Natural Resources Management, Director General Environment, National Defence Headquarters, 101 Colonel By Drive, Ottawa, Ontario, K1A 0K2

### **AVIS**

La ministère de la Défense Nationale (MDN) accepte présentement pour fin d'examen des propositions de projets de recherche reliés à la lutte biologique et à d'autres méthodes de lutte contre les déprédateurs qui tiennent compte de la qualité de l'environnement, dans le cadre de ses opérations.

Les organismes nuisibles d'intérêt pour le MDN comprennent les insectes piqueurs (systèmes de protection personnelle ou de répulsifs seront aussi considérés), les parasites des produits comestibles et de batiments, et la végétation indésirable sur le terrain d'entraînement. Aussi, les programmes de lutte contre les déprédateurs en forêt et en terrain paysager peuvent être considéré.

Le fait de recevoir pour fin d'examen des propositions ne constitue pas une garantie de financement. Faire parvenir toute proposition ou demande de renseignements à l'adresse suivante:

M. Robert Cretain, Gestion des ressources naturelles, Direction général-environnement, Quartier général de la Défense nationale, 101, Promenade Colonel By, Ottawa, Ontario, K1A 0K2

## **UPCOMING MEETINGS / RÉUNIONS À VENIR**

### **84th Annual Meeting of the Quebec Society of Plant Protection**

June 4-5, 1992

Manoir du Lac Delage (near Quebec City)

The theme of the meeting will be Plant protection through manipulation of host-parasite-environment interactions. As some of the more traditional disease and pest control methods are faced with increasing scrutiny, the need for alternative, environmentally safe control strategies is becoming more and more important. The Quebec Society for the Protection of Plants (QSPP), now the oldest Society in the world devoted to the general protection of plants and still functioning under its original name, is organizing a symposium where internationally known speakers will present recent developments and future prospects in genetic improvement of plants and biological control of parasites.

CONTACT: Gaston Laflamme, Forestry Canada, Ste. Foy. Tel. (418) 648-4149

## **XIX International Congress of Entomology**

June 28-July 4, 1992

International Convention Centre (Asian Games Village), Beijing, China

CONTACT: Prof. Z.L. Zhang, 19 Zhongguancun Lu, Beijing, 10000080, China

## **52nd Annual Meeting of the Acadian Entomological Society**

July 28-29, 1992

Charlottetown, Prince Edward Island

CONTACT: Jeff Stewart, Agriculture Canada, Research Station, P.O. Box 1210, Charlottetown, P.E.I., C1A 7M8. Tel: (902) 566-6844; Fax: (902) 566-6821.

## **Annual Meeting of the Association of Systematics Collections**

August 9-11, 1992

Honolulu, Hawaii

The meeting of the Association of Systematics Collections is being held in conjunction with the American Institute of Biological Sciences.

CONTACT: 730 11th Street NW, 2nd Floor, Washington, D.C. 20001 or Tel. (202) 347-2850.

## **75th Annual Meeting of the Florida Entomological Society**

August 10-13, 1992

Stuart, Florida

The 75th annual meeting of the Florida Entomological Society will be held at the Indian River Plantation Resort and Conference Center, 555 N.E. Ocean Boulevard, Hutchinson Island, Stuart, Florida 34996. (Tel. 407-225-3700) The deadline for submission of papers and posters will be May 15, 1992.

CONTACT: Jorge E. Peña, Chairman Program Committee, FES, University of Florida, Tropical Research & Education Center, 18905 S.W. 280 Street, Homestead, Florida 33031. Tel. (305) 246-7048 or (305) 246-6340.

## **25th Annual Meeting of the Society for Invertebrate Pathology**

August 16-21, 1992

Heidelberg, Germany

The 25th Annual Meeting of the Society for Invertebrate Pathology will be held in Heidelberg, Germany. The scientific program will consist of organised symposia of invited papers, sessions of contributed papers, posters and workshops. Symposia are being organised on the following topics: *Bacillus sphaericus*; Microbial control of scarab beetles; *Serratia* infections in insects; Advances in formulation and application technology for microbial pesticides; Genetic engineering of microbials; Pathogens of locusts; Standardisation and quality control of *Bacillus thuringiensis* and other microbial pesticides; Immunology of invertebrates; Entomopathogenic nematodes; Marine invertebrate pathology; *Bacillus thuringiensis*: receptors and specificity; Mechanism of infection by entomopathogenic fungi: recognition, attachment, penetration, and post penetration responses; Mode of action of insect pathogens in the midgut; Bee pathogens; Microbial control of vectors.

The deadline for submission of Abstracts is 1 April, 1992. Registration and payment of fees should be made before June 30.

CONTACT: SIP Congress Secretariat, KABS, Kreisverwaltung Ludwigshafen, Europaplatz 5, P.O. Box 210 780, D-6700 Ludwigshafen, Germany. In Canada, information on registration and abstract preparation can be obtained from Mark Goettel, Agriculture Canada Research Station, P.O. Box 3000, Main, Lethbridge, Alberta, T1J 4B1. Tel: (403) 327-4561; Fax: (403) 382-3156.

## **119e Réunion annuelle de la Société d'entomologie du Québec**

15 et 16 octobre 1992

à l'Université du Québec à Chicoutimi

Cette année, le thème du colloque est *L'entomologie et l'informatique au service de la faunistique*. Les trois premiers conférenciers expliqueront le contenu de bases de données informatisées élaborées en Belgique, en France et au Québec. Destinés à plusieurs types d'intervenants, ces outils performants rassemblent des données de diverses natures (écologiques, géographiques, etc.) qui permettent une meilleure connaissance de la faune et de la flore d'une région ou d'un pays. Les deux autres conférenciers expliqueront des contextes plus spécialisés d'utilisation de l'ordinateur en biologie. Le dépliant ci-joint précise la nature exacte de ces interventions.

Cette réunion annuelle de la SEQ sera également l'occasion de faire une première démonstration du prototype de la Base de données sur les insectes du Québec (BADIQ). Cette base de données est développée au Centre de données faunistiques sur les invertébrés du Québec situé à l'UQAC.

Des stands de diverses compagnies (matériel informatique, appareils permettant l'analyse d'images, maison d'édition publiant des livres sur les sciences naturelles, etc.) seront sur les lieux pour présenter leur matériel aux participants. S'ajouteront quelques expositions à saveur entomologique.

Pour tout renseignement supplémentaire, communiquer avec le Professeur André Francoeur, Département des sciences fondamentales, Université du Québec à Chicoutimi, 555, boulevard de l'Université, Chicoutimi, Québec G7H 2B1.

## **Annual Meeting of the Entomological Collections Network**

December 5-6, 1992

USDA Beltsville Agricultural Research Station, Beltsville, Maryland

The meeting is hosted by the USDA-ARS Systematic Entomology Lab and Maryland Center for Systematic Entomology in cooperation with the Entomological Society of America. Planned sessions include: Materials conservation in entomological collections; Biodiversity sampling methods; Data security and ownership; Demonstrations of collections- & systematics-related software.

CONTACT: Margaret K. Thayer, Field Museum of Natural History, Roosevelt Road at Lake Shore Drive, Chicago IL 60605-2496 (Tel. (312) 922-9410, ext. 404; Fax. (312) 922-2572 or (312) 427-7269; Internet: thayer@fmnh785.fmnh.org) OR Richard L. Brown, Department of Entomology, Drawer EM, Mississippi State University, Mississippi State MS 39762 (Tel. (601) 325-2085; Fax. (601) 325-8837)

# MISCELLANEOUS

## University of Idaho Entomologists

20+ year REUNION at the University of Idaho: Entomologists (*s.l.*) associated with the Department of Entomology at the University of Idaho, 1967 to 1977, are invited to join friends and colleagues for a weekend of socializing and "catching up" on each other's careers, July 24, 25, and 26, 1992, in Moscow, Idaho. Activities planned include banquets, departmental tours, picnics and many opportunities to renew old friendships.

For more information and details, contact Howard Smith (Tel. (208) 882-5763) or Art Gittins (Tel. (208) 882-2430).

## Notice of Review on Animal Candidates

On November 21, 1991, the U.S. Fish and Wildlife Service published a notice in the *Federal Register* (56{225}:58804-58836) that included all candidate animal species, including insects, that are under consideration for possible listing under protection of the Endangered Species Act. Entomologists and other biologists are invited to comment on this proposal. Specifically, information is sought on the status of the enumerated candidates and information on species that might be included on future notices. Copies of the notice may be obtained from Fish and Wildlife Enhancement, U.S. Fish and Wildlife Service, Washington, D.C. 20240.

## *Newsletter for Senior Entomologists and Associates*

Ed Becker now has 303 names on the mailing list for the *Newsletter for Senior Entomologists and Associates*. He writes: "I alphabetized the mailing list by city (I lumped those within 30 miles of these cities) and discovered: Edmonton (6), Fredericton (19), Lethbridge (17), Ottawa (89), Saskatoon (17), Toronto (9), Vancouver (12), Victoria (22), and Winnipeg (15). These add up to 206 out of 303 names on the list!! If anyone is interested in knowing the names and addresses from a particular city, please let me know."

Anyone who knew Dr. Craighead (who worked for Agriculture Canada for a few years in the mid-twenties) is asked to contact Ed Becker. Mrs. F.C. Craighead is 101 years old and is living in Florida.

## Books & Reprints

Notre maison est spécialisée dans la vente par correspondance de livres & tirés-à-part dans le domaine des sciences naturelles. Nous serions heureux de diffuser nos catalogues auprès de vos membres.

Our firm is specialized in the sale of second-hand books and separates in the field of natural history. We should be interested in sending our catalogues to your members.

Ch. de Wyngaert  
Librairie & Collections d'Histoire Naturelle  
B.P. 13  
B-1030 Bruxelles (Belgique)

## NOTES

# NOTES

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